

Full Length Research Paper

Knowledge management as a strategic management tool at a South African enterprise

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The primary aim of this article was to explore the role of a knowledge management strategy to achieve a South African technology-oriented enterprise's business strategy. The linking between knowledge management and the business strategy was viewed as the crux for successful knowledge management in any enterprise. Knowledge plays a crucial role in the competitive nature of enterprises and hence constitutes a critical component of enterprise strategy. The purpose of the empirical survey was to determine the relationship between the knowledge management function and the business strategy at the enterprise. A questionnaire survey was conducted and 355 employees were randomly selected to form the sample. The majority of the respondents were of the opinion that knowledge management plays an important role in the enterprise's strategies, policies and practices. When implementing a knowledge management strategy, the prioritisation of knowledge management activities, as well as their integration with other business processes, should be an important management focus area and steps for the successful implementation of a knowledge management strategy were recommended.

Key words: Knowledge management strategy, business strategy, strategic management, case study.

INTRODUCTION

The value of knowledge for the modern enterprise is increasingly being recognized the world over (Benson and Brown, 2007), and more and more enterprises are explicitly attempting to manage this important asset. To be successful in the management of knowledge as an asset, it is of fundamental importance to recognise that knowledge assets, just as any other asset of the enterprise, should be managed in the context of the overall business (Massingham and Diment, 2009). The focus is therefore, not on knowledge per se, but rather on managing the business to include a knowledge perspective. This is achieved by recognising that knowledge is a valuable asset that should be managed explicitly in an enterprise (Alam, 2009).

The South African business environment has been turbulent and volatile in the past, with South African enterprises now required to compete internationally in a more regulated manner (Kruger, 2010). Globalisation

requires enterprises to stay a step ahead of their competitors. To achieve this, enterprises are facing many challenges and management need to make strategic decisions in order for them to compete (Alam et al., 2010a). By utilising knowledge management during the strategic management process, management could make effective decisions that will assist an enterprise to gain greater market share and to compete successfully against local and international competitors (Kruger, 2010). To be successful in the management of knowledge as an asset, it is of fundamental importance to recognise that knowledge assets, just as any other asset of the enterprise, should be managed in the context of the overall business (Tasmin and Woods, 2007). Maximum benefit can be derived from knowledge assets when they support the business objectives and core business processes (Singh, 2008).

Problem investigated

The aim of this article is to explore the role of a knowledge management strategy to achieve a South

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African technology-oriented enterprise's business strategy and to determine the relationship between the knowledge management function and the business strategy at the enterprise. The following research questions were generated:

1. Does knowledge management form a vital component of the strategic management process in the enterprise?
2. What value can a knowledge management strategy add to the business strategy of the enterprise?

Research objectives

Based on the above research questions the following objectives were identified:

1. To determine how knowledge management is used in the strategic management process within the enterprise.
2. To establish how a knowledge management strategy can add value to the business strategy of the enterprise.

The research investigated the knowledge management situation at one South African enterprise and this is a limitation, but the findings of the empirical survey and the recommendations may be relevant to any enterprise in an international context.

Knowledge management as a strategic tool

Traditionally many enterprises have taken an *ad hoc* approach to managing knowledge, resulting in work duplication, inconsistent work practices and loss of important organisational knowledge when employees retire or leave the company (du Plessis and du Toit, 2006). The linking between knowledge management and the business strategy is viewed as the crux for successful knowledge management in any enterprise. Thus Nonaka and Takeuchi (1995) state "the most crucial element of corporate strategy is to conceptualize a vision about what kind of knowledge should be developed and to operationalize it into a management system for implementation". Strategy can be viewed as an instrument that the enterprise must excel at to ensure its survival in a competitive environment (Kruger, 2010). According to Yang (2007) knowledge sharing and knowledge integration are key factors in achieving a competitive advantage. Yang argued that "companies can change from a situation where lost knowledge causes intellectual liabilities to a situation where shared knowledge results into intellectual assets". The question may be posed as to the importance of knowledge management and its contribution to the competitive position of enterprises and further to those of industries and beyond to that of nations (Alam et al, 2010c). There are a number of reasons, which collectively reflect the state of present-day knowledge management and the importance thereof (IBM, 2004),

namely:

1. Knowledge has become a primary factor of production supporting the traditional factors of labour, land and capital.
2. The delivery of services has become a major value driver.
3. Knowledge is a networked activity and thus utilises the efforts of many and is also able to capitalise on the collaborative effort of the participants.
4. The digitisation of knowledge has enhanced its distribution, storage and transfer.
5. Knowledge has the ability to cope with a dynamic environment and encapsulate innovation and technology in assisting it in the process.

Knowledge plays a crucial role in the competitive nature of enterprises and hence constitutes a critical component of enterprise strategy (Minguela-Rata et al., 2010). However, Bateman and Snell (2007) define knowledge management as practices to discover and harness the intellectual resources of an enterprise embodied by the individuals employed by the enterprise (Alam et al., 2010b). The aim of such a knowledge management definition is to find, unlock, share and capitalise on the expertise and skills of employees (Arsenijević et al., 2009). Snowden (2000) defines knowledge management as "the identification, optimisation and active management of intellectual assets, either in the form of explicit knowledge held in artefacts or as tacit knowledge possessed by individuals or communities". Stähle (2000) postulates that all enterprises have a mechanistic, organic and dynamic nature that influences how the knowledge is exchanged between the participants in the enterprise. The important thing is the recognition, that the enterprise environment plays a major role in knowledge exchange and should be accepted as a characteristic in the process of attempting to define knowledge management. Snowden (2000) states that, to actively manage intellectual assets, management needs to bring together, in a sustainable and appropriate environment, the explicit knowledge artefacts and the tacit knowledge communities.

The management of an enterprise exerts wide influence on its strategic behaviour and thus the performance of the enterprise (Lyles and Schwenk, 1997). This influence is exerted via top management's view of the enterprise environment and their perception of the capacities and capabilities of the enterprise. It is necessary to have a clear understanding of the objectives of the enterprise (Omerzel, 2010). If there is no clear and quantifiable objectives, all attempts to manage knowledge assets will be fruitless (Chong et al., 2007). The objectives of the enterprise should direct all the knowledge management actions of the enterprise. It is also necessary to have a clear understanding of the core business processes and how they support the business objectives and strategies (Minguela-Rata et al., 2010).

To survive the dynamics of the marketplace, enterprises should focus on strategic imperatives such as flexibility, continuous improvement and the development of core competencies (Smith and McKeen, 2003). The role of knowledge management in the strategy formulation process appears to have evolved over time to its present status rather than being the result of a direct and conscious effort by management to integrate it as a functional input into the process. Truch and Bridger (2002) attribute this to a number of factors:

1. A shift by management to a more flexible strategic orientation away from overtly prescriptive models to models, which are more sensitive to constant change and uncertainty.
2. The complexity of dealing with a number of approaches to strategic planning and then to try and view all of these approaches as part of a single process.
3. The inability to measure the real contribution of knowledge management on strategic outcomes.

Zack (1999) founds in his research among 25 firms the most important element for guiding knowledge management in the enterprise is its strategic orientation, planning and formulation. He postulates that an enterprise's strategy assists in identifying the knowledge management issues which assist and support the enterprise's competitive position and thus shareholder value. Yet, according to Zack, this link between knowledge management and strategy is widely ignored in practice (Zack, 1999). This in itself plays a major role in the acceptance of the role of knowledge management at strategic level by senior management.

Davenport and Prusak (1998) state that for most knowledge managing enterprises it is of critical importance to establish a link between knowledge management and fundamental business strategy. They propose two approaches to this requirement:

1. Make knowledge the product of the enterprise by redefining existing products and services based on knowledge assets or augmenting their application with knowledge.
2. Implement a business strategy with an integrated knowledge management programme ensuring that the key business drivers are supported.

Davenport and Prusak (1998) express their concern that while the linking of business strategy and knowledge management is critical, companies have not really achieved this. The enterprises that implement this approach are those that are in the business of selling knowledge, for example consulting houses, software developers and similar undertakings. In other business sectors there is a dearth of examples – they do acknowledge that there are knowledge management initiatives that do bring about a measure of efficiencies, but the real long-term sustainable quantum improvement results have not been achieved

yet (Arsenijević et al., 2009).

Wiig (2002) lists a number of problems, which is characterised by a lack of understanding of the fundamental processes and practices of business functionality:

1. Knowledge management systems implemented in isolation from senior management and thus by implication is not integrated with the enterprises strategic practices and objectives.
2. Unrealistic expectations in respect of the deliverables and functionalities of knowledge management systems have been created.
3. High failure rates of knowledge management systems.
4. Long internal lead times prior to knowledge management systems contributing to bottom-line results.

Before formulating a knowledge management strategy, it is important to establish the importance of knowledge management in the overall objective of the enterprise (Chong et al., 2007). Depending on the outcome of the analysis of the enterprise's current position with regard to knowledge management orientation, a strategy should be formulated to address opportunities and threats (Minguela-Rata et al., 2010). The knowledge management strategy is essentially a matrix that depicts knowledge management as a set of processes, which are defined through the application of the management functions to each of the organisational knowledge processes (Ndlela and Du Toit, 2001). In addition to defining a complete set of knowledge management processes, the strategy also addresses the link between knowledge management practice and business strategy. The knowledge management strategy should be aligned to the business strategy and support core business processes and key strategic decisions (Snyman and Kruger, 2004).

METHODOLOGY

The purpose of the empirical survey was to determine the relationship between the knowledge management function and the business strategy at Eskom. Eskom, an electricity utility in South Africa can be described as a technology-oriented enterprise with emphasis on the quality of electricity supply, the concomitant development of its employees and a corporate desire to remain at the forefront of many areas of the electricity energy business, for example cost of generation, safety and development of appropriate as well as cutting edge technology. To this end, Eskom has innovation as one of its core corporate values. In 2008 the enterprise employed 30 000 employees and had an annual turnover of R36 307 million. In the empirical survey, a case study was used to determine the relationship between the knowledge management function and business strategy at Eskom.

According to Eisenhardt (1989), a case study of "a research strategy which focuses on understanding the dynamics present within single settings". A case study methodology is normally adopted when a holistic and an in-depth investigation is needed. Data analysis in a case study consists of examining, categorising, tabulating, or otherwise recombining the evidence to address the initial propositions of a study (Yin, 1994). 355 Eskom employees

were randomly selected to form the sample of this study. A questionnaire was compiled using the research by Carrillo et al. (2004), Sarnoff and Winner (2003); Jacobson and Prusak (2006). From this research, questions were identified that covered the theoretical constructs of knowledge management and the implementation of a knowledge management strategy. A draft questionnaire was given to a number of respondents for comment as to their understanding of the questions, length of the questionnaire in terms of time required to complete and ease of returning the completed response via e-mail. The questionnaire was e-mailed on 4 October 2009 and the 355 respondents were given until 14 October 2009 to respond. A follow-up exercise was conducted on non-respondents in an endeavour to improve the response rate. Of the 355 addresses on the list, sixteen were returned as undeliverable, with reasons ranging from the contact being on leave or the employee having recently left Eskom, leading to the suspension of the user's e-mail address for security reasons in terms of company policy. Eight questionnaires were also physically handed to Eskom employees for completion. Thus 363 (355 + 8) questionnaires were distributed and 16 requests were not responded to for valid reasons, yielding 347 (363 - 16) valid questionnaires issued. Hundred and twenty two questionnaires were completed and returned in time, which represents a response rate of 36.16%.

All responses received were collated centrally and forwarded to the statistical consultation service (Statcon) at the University of Johannesburg for further analysis. The data was put into spreadsheets, with statistical graphs for a visual representation of the results. The questionnaire yielded a Cronbach alpha of 0.783 indicating acceptable reliability.

RESULTS

Biographical information

The majority of respondents (31.1%) were older than 30 years and younger than 39 years with 29.5% of the respondents in the age group 50 - 59 years. Only 4.9% of the respondents did not have a post-matriculation qualification with 27.9% of the respondents in possession of a Masters or Doctoral degree. The above results support the findings of Wagner (2006) that employees in the knowledge economy should be highly qualified.

Evolution of the role of knowledge management in the enterprise's strategy formulation process

Out of the total population, 84.3% of the respondents agreed, to one extent or another, with the statement that a knowledge management strategy is the result of an evolutionary process rather than the result of a direct and interventionist approach by senior management. This reflects a lack of co-ordinated effort by management or a situation where non-integrated and uncoordinated pockets of knowledge management initiatives exist within the enterprise. The results of the analysis indicated general consensus that knowledge management came about via evolution rather than direct management intervention. The finding is confirmed by Mostert (2006) who stated that, formal knowledge management is still in a process of evolution and that a knowledge management

strategy is of little benefit unless it is used in the enterprise. Singh (2008) founded that certain leadership styles had a significant relationship to the knowledge management of an enterprise. Bryant (2003) and Crawford (2005) also stated that there is an apparent relationship between transformational leadership and knowledge management.

Knowledge management reflected in the enterprise's strategies, policies and practices

This question requested a view on the respondent's perception of whether the enterprise is in fact subscribing to the principle of having knowledge management as an integral part of its planning, strategies and work practices. As illustrated in Figure 1, the overall results of this question indicated that the majority of respondents viewed the role of knowledge management in the enterprise's strategies, policies and practices as being of importance. A tendency or manifestation of a situation, which supports this view, as the result in fact indicated, facilitates a major contribution to the potential of successfully introducing suitable and/or appropriate knowledge management systems. This is consistent with du Plessis' (2007) argument that the knowledge management strategy should be tied to the business strategy for it to be successful.

Importance attached to knowledge management in the strategic planning process

This question was asked to determine the importance attached to the role of knowledge management in the strategic planning process by the different divisions. The two divisions with the highest overall scores are also the two divisions most extensively involved in the planning and execution of new capacity development, acquisition and construction, whereas the balance of the divisions are more in a mode of pattern maintenance and related developments (Figure 2). External consultants, especially those involved in supply chain management or energy consulting, are in a constant mode of strategic planning due to the nature of their contributions.

The higher incidences recorded in the Resources and Strategy (RandS) and the enterprises (ED) divisions need to be viewed in terms of the expected outputs of these two divisions and their role in terms of future planning and planned construction activities for the new build programme. The overall focus and emphasis of these two divisions are future oriented whilst in a number of the other divisions it is a case of being in an operational and maintenance mode.

Internal processes geared to future demand of knowledge

Respondents were asked to indicate to what extent they

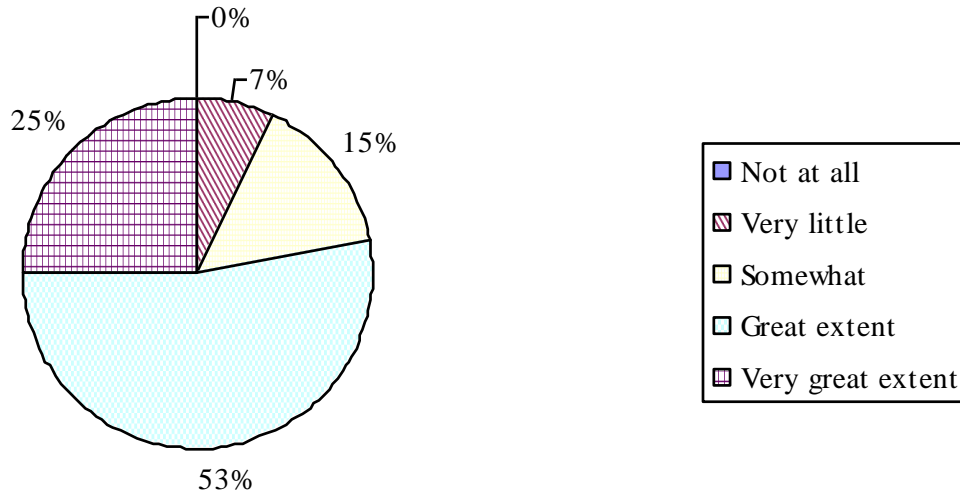


Figure 1. Knowledge management reflected in the enterprise's strategies.

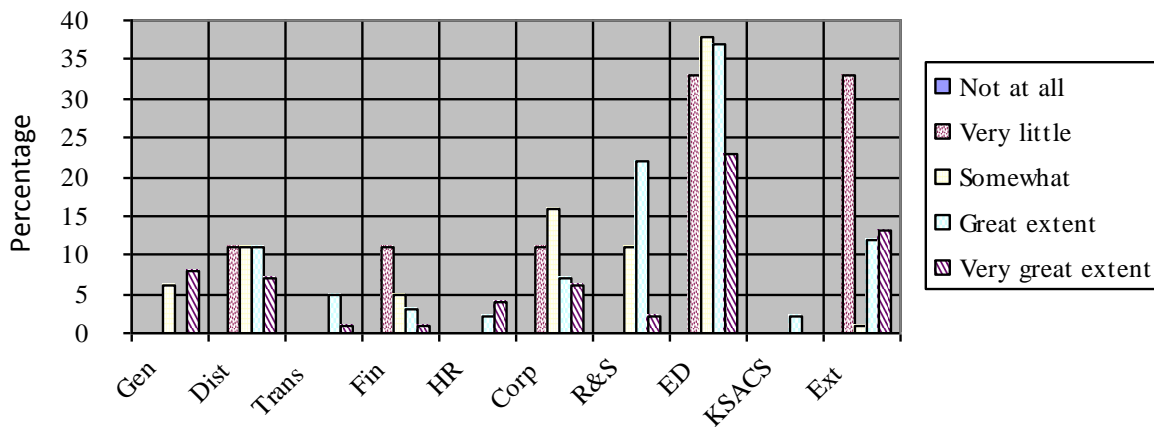


Figure 2. Importance of knowledge management in the strategic planning process.

agree with the statement: "There are internal processes geared to providing the enterprise with a view as to the potential future demand for knowledge, both internal and external to the enterprise". The question not only relates to an employee's present work situation, but can also reflect a perspective on the enterprise's approach to the importance of knowledge management in the business strategy.

According to Figure 3, the majority (69%) of the respondents indicated that in their view the internal processes in the enterprise are not geared to respond to future demand for knowledge. Only 30% of the respondents indicated that the enterprise is prepared either to a "great extent" (22.1%) or to a "very great extent" (2.5%) to use knowledge in preparing for the future. In the categories "not at all" (6.6%) and "very little" (38.5%) the enterprise is viewed as unprepared for whatever knowledge demand requirements the future

may impose on it. These findings are in contrast with the findings of Kulkarni et al. (2007) at a technical institution that the organisational support structure was a contributing factor to the success of knowledge management.

Inability to measure the real contribution of knowledge management

Respondents were asked to compare the following statement with their present work situation: "The inability to measure the real contribution of knowledge management on strategic outcomes is an inhibiting factor to acceptance of its role in strategic planning". The basis of the question relates to the saying, "what gets measured gets done". More than 95% of the respondents agreed that because knowledge management, in general, does not get measured, this is an inhibitor to its acceptance

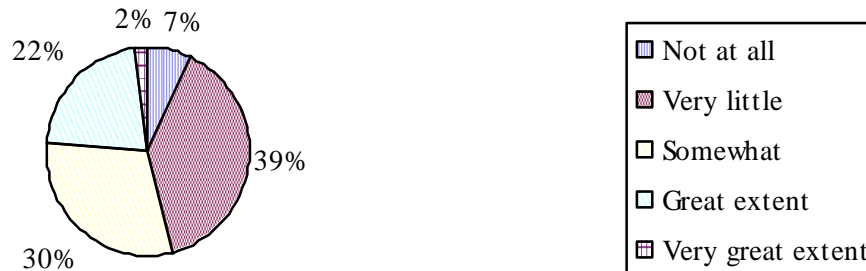


Figure 3. A view as to whether internal processes are geared to future demand for knowledge.

and thus effective deployment in the enterprise.

The lack of metrics and thus the inability of measuring the bottom-line impact of knowledge management are viewed as an important factor inhibiting its acceptance as playing a role in strategic planning. The view was expressed that the enterprise is not really geared to future demand for knowledge and that the knowledge workers are sensitive to this shortcoming. Alam and Hoque (2010) also explored findings of this nature in Southern Asia.

Knowledge contribution and hierarchical position

This question relates to the opportunity to contribute knowledge created by a knowledge worker's hierarchical position in the enterprise. The question is based on the belief that people who know more tend to be more powerful than those who know less (Du Plessis, 2007). More than 84% of the respondents were of the opinion that a worker's hierarchical position contributed to the opportunity of the worker for making knowledge contributions. This view should be considered in relation to the perception that the higher an employee is on the "organisational ladder", the more knowledgeable that employee is and thus the greater his or her contribution. This finding supports the findings of Mostert and Snyman (2007) that senior management has an impact on knowledge management practices in an enterprise. This is a perception that will need to be managed, hence the requirement that the importance of knowledge management must be demonstrated and executed by senior management. It should be addressed in any knowledge management initiative via methods such as Communities of practice, workshops, seminars and conference attendance and task group assignments.

DISCUSSION

The analysis of the responses indicates an overwhelming view that in terms of their present work situation the

respondents regard it as essential for management to recognise and incorporate knowledge management into its strategic planning process and then evolve it further down in terms of the enterprise's policies and practices.

The view of Furlong (2003) is that knowledge management is a business activity with two principal elements, one which is directed at being encapsulated in the enterprise's strategies and secondly, an acceptance that knowledge management contributes to the enterprise's bottom line. The logical conclusion is that knowledge management can only contribute to the success of the business if it is allowed to influence the bottom line and an approach to ensure that it does so is engaging knowledge management at the highest levels of the enterprise.

From a knowledge management strategy perspective, this problem can only be addressed if the enterprise is aware of its future knowledge requirements and hence, can plan, to the most accurate extent possible, what its knowledge requirements will be (Wang and Abdul-Rahman, 2010). It is accepted that the enterprise environment is dynamic, but to a large extent the requirements for a two or three year strategic business plan for example are known and the gap between existing knowledge and the required knowledge can be assessed and attempts made to mitigate the situation. This is not difficult per se and such an endeavour complies with the concept of having the right knowledge available when needed.

Employees and senior management of the enterprise are aware of the importance of knowledge management. However, the empirical results show that without formal implementation of a knowledge management strategy, knowledge-sharing processes are not practised to their full potential. Many knowledge management frameworks for the implementation of a knowledge management strategy are available, for example the Skandia-Navigator, Wiig's framework and Hedlund and Nonaka's framework. However, it is the opinion of the authors that, it is difficult to sell these frameworks to senior management. Mostert (2006) confirms the opinion that formal frameworks are of little benefit unless they are usable by people in enterprises

enterprises. Senior management in the enterprise understands commonly accepted management theory and a knowledge management strategy based on theory relating to a SWOT analysis was recommended as a good starting point to formulate a knowledge management strategy. A knowledge management strategy can be seen as a long-term plan aimed at managing knowledge for competitive advantage in the enterprise (Carpenter and Sanders, 2009). The formulation of the strategy involves the following four steps:

Step 1: External analysis

External analysis is important from a knowledge management point of view, since the knowledge management strategy must take cognisance of the competitors' actions and knowledge management strengths and weaknesses (Robbins and Coulter, 2009). When analysing the external environment, the following questions can be asked:

1. What opportunities does our current strategy present that can be exploited using a knowledge management approach?
2. What knowledge management opportunities does the external environment offer that the study can exploit in the enterprise?
3. How can the study help the enterprise through knowledge management with its opportunities (time to market, improved design, differentiation)?
4. Are the competitors exploiting a specific knowledge management strategy? If not, can the study use knowledge management to gain a specific strategic advantage?
5. What threats are present in the competitors' strategies in terms of knowledge acquisition?
6. Are there any general knowledge management threats that could affect the competitive position?
7. How can the study counter these threats?
8. Can knowledge-based actions negate a business threat by:

- i. Acquiring a knowledge asset?
- ii. Sharing knowledge?
- iii. Changing strategic posture?
- iv. Negating a competitor's strength?

Step 2: Self-analysis

Self-analysis aims to provide a detailed understanding of strategically important knowledge assets, including an assessment of its organisational culture (Robbins and DeCenzo, 2008). It is important to determine what the strengths and weaknesses of the enterprise are in terms of:

1. Knowledge assets;

2. Enablers (processes, infrastructure, people and technology)

Employees in the enterprise have specific knowledge that enables them to pursue options that achieve competitive advantages for both the enterprise and employees and the knowhow and experience inherent in the enterprise's memory bank. Core business processes should be designed to support the strategic direction of knowledge management. Questions that managers might consider as they identify the enterprise's key internal factors as strengths or weaknesses and as a basis for the enterprise's knowledge management strategy are the following:

1. What are the enterprise's strengths and weaknesses in terms of:

- i. Knowledge assets?
- ii. Enablers?

2. How can the enterprise exploit the strengths and negate the weaknesses (know the market needs, what other knowhow and skills should be developed)?
3. How can the enterprise strengthen strengths and counteract weaknesses through knowledge management (new assets, improved asset utilisation)?
4. How can knowledge management support the strengths?
5. How can knowledge management strengths help develop business strategy?

Step 3: Strategy formulation

A knowledge management strategy results from the managers' awareness of and responses to virtually imperceptible trends in the marketplace. The formulation of a knowledge management strategy depends on the availability of a knowledge management culture (Wang and Adcul-Rahman, 2010). The knowledge management strategy should align to business strategy and support core business processes and key strategic decisions that will lead to the achievement of the most desirable options (Pearce and Robinson, 2005). In formulating a knowledge management strategy, the following questions can be asked (Ndlela and Du Toit, 2001):

1. How can knowledge management contribute to the attainment of the functional and eventually strategic goals of the enterprise?
2. Is knowledge on par with other enterprise resources, such as capital, natural resources, labour and entrepreneurship?

Step 4: Implementation and evaluation

When implementing a knowledge management strategy, the prioritisation of activities, as well as their integration

with other business processes, should be an important management focus area (Arsenijević et al., 2009). Special notice should be taken of respondents' positive attitude to the potential applications of knowledge management in the strategic planning process of the enterprise. An evaluation of the knowledge management strategy compares performance with objectives and measures the overall efficiency and effectiveness of the enterprise's attempts to attain its stated aims and objectives (Omerzel, 2010). The evaluation process is used as a feedback mechanism for refining the strategy. Without an ongoing evaluation process, knowledge management will not become institutionalised, but become a random exercise, which does not correspond to principles of good management.

Conclusion

In this article the relationship between a knowledge management strategy and the business strategy of a technology-oriented enterprise was discussed. An empirical survey was conducted to determine whether knowledge management forms a vital component of strategic management in the enterprise. The majority of the respondents are of the opinion that currently the knowledge management strategy is the result of an evolutionary process and that knowledge management plays an important role in the enterprise's strategies, policies and practices. However, the fact that knowledge management is not measured is an inhibitor to its acceptance and effective deployment and the internal processes in the enterprise are not geared to respond to the future demand for knowledge. When implementing a knowledge management strategy, the prioritisation of knowledge management activities, as well as their integration with other business processes, should be an important management focus area and steps for the successful implementation of a knowledge management strategy were recommended.

REFERENCES

- Alam GM (2009). Can Governance and Regulatory Control Ensure Private Higher Education as Business or Public Goods in Bangladesh? *Afr. J. Bus. Manage.*, 3(10): 890-906.
- Alam GM, Hoque KE (2010). Who Gains from "Brain and Body Drain" Business-developing/developed World or Individuals: A Comparative Study between Skilled and Semi-unskilled Emigrants. *Afr. J. Bus. Manage.*, 4(4): 534-548.
- Alam GM, Hoque KE, Ismail L, Mishra PK (2010a). Do Developing Countries Need Education Laws to Manage its System or are Ethics and a Market-driven Approach Sufficient? *Afr. J. Bus. Manage.*, 4(15): 3406-3416.
- Alam GM, Hoque KE, Oloruntegbe KO (2010b). Quest for a Better Operation System in Education: Privatization, Teacher Educationalization or Voucherization: Glimpsing from Consumer and Product Perspectives. *Afr. J. Bus. Manage.*, 4(6): 1202-1214.
- Alam GM, Hoque KE, Rout GK, Priyadarshani N (2010c). Who gains from EFA – state business of education or private higher education business in developing nation: A study to understand the policy impact in Bangladesh? *Afr. J. Bus. Manage.*, 4(5): 770-789.
- Arsenijević J, Tot V, Nešić LG, Andevski M, Arsenijević D (2009). Correlation of Experimenting Culture and Process of Knowledge Management in the University Environment. *Afr. J. Bus. Manage.*, 3(10): 521-532.
- Bateman TS, Snell SA (2007). *Management: Leading and Collaborating in a Competitive World*. New York: McGraw-Hill Irwin.
- Benson J, Brown M (2007). Knowledge Workers: what keeps them committed; what turns them away. *Work. Employ. Soc.*, 2(1): 121-141.
- Bryant SE (2003). The Role of Transformational and Transactional Leadership in Creating, Sharing and Exploiting Organizational Knowledge. *J. Leader. Organ. Stud.*, 9(4): 32-44.
- Carpenter MA, Sanders WM (2009). *Strategic Management: A Dynamic Perspective: Concepts and Cases*. 2nd edition. Upper Saddle River, N.J.: Pearson/Prentice Hall.
- Carrillo P, Robinson H, Al-Ghassani A, Anumba C (2004). Knowledge Management in UK Construction: Strategies, Resources and Barriers. *Proj. Manage. J.*, 35(1): 46-56.
- Chong CW, Chong SC, Wong KY (2007). Implementation of KM Strategies in the Malaysian Telecommunication Industry. *J. Inform. Knowl. Manage.*, 37(4): 452-470.
- Crawford CB (2005). Effects of Transformational Leadership and Organizational Position on Knowledge Management. *J. Knowl. Manage.*, 9(6): 6-16.
- Davenport TH, Prusak L (1998). *Working Knowledge: How Organizations Manage what they Know*. Boston: Harvard Business School Press.
- du Plessis M (2007). Knowledge Management: What makes Complex Implementations Successful? *J. Knowl. Manage.*, 11(2): 91-101.
- du Plessis T, du Toit ASA (2006). Knowledge Management in the Practice of Law. *Int. J. Inform. Manage.*, 26(4): 360-371.
- Eisenhardt KM (1989). Building Theories from Case Study Research. *Acad. Manage. Rev.*, 14(4): 532-550.
- Furlong G (2003). Knowledge Management and the Competitive Edge. [online] URL: <http://www.gre.ac.uk/schools/business/Dissertation/index.html> (accessed 20 December 2009).
- IBM (2004). *Business Knowledge Management: a Study on Market Prospects, Business Needs and Technological Trends*. Basingstoke: European Commission.
- Jacobson A, Prusak L (2006). The Cost of Knowledge. *Harv. Bus. Rev.*, 84(11): 34.
- Kruger JP (2010). A Study of Strategic Intelligence as a Strategic Management Tool in the Long-term Insurance Industry in South Africa. M Com dissertation. Pretoria: University of South Africa (unpublished).
- Kulkarni UR, Ravindran S, Freeze R. (2007). A Knowledge Management Success Model: Theoretical Development and Empirical Validation. *J. Manage. Inform. Syst.*, 23(3): 309-347.
- Lyles AA, Schwenk CR (1992). Top Management, Strategy and Organizational Knowledge Structures. *J. Manage. Stud.*, 29(2): 155-174.
- Massingham P, Diment K (2009). Organizational Commitment, Knowledge Management Interventions, and Learning Organization Capacity. *Learn. Organ.*, 16(2): 122-142.
- Minguela-Rata B, López-Sánchez JI, Rodríguez-Benavides MC (2010). Knowledge Transfer Mechanisms and the Performance of Franchise Systems: an Empirical Study. *Afr. J. Bus. Manage.*, 4(4): 396-405.
- Mostert JC (2006). A Knowledge Management Framework for the CSIR National Metrology Laboratory. MIT Dissertation. Pretoria: University of Pretoria (Unpublished).
- Mostert JC, Snyman MMM (2007). Knowledge Management Framework for the Development of an Effective Knowledge Management Strategy. *S. Afr. J. Inform. Manage.*, 9(2). [online] URL: <http://www.sajim.co.za> (accessed 23 October 2009).
- Ndlela LT, Du Toit ASA (2001). Establishing a Knowledge Management Programme for Competitive Advantage in an Enterprise. *Int. J. Inform. Manage.*, 21(2): 151-165.
- Nonaka I, Takeuchi H (1995). *The Knowledge-creating Company*. Oxford: Oxford University Press.
- Omerzel DG (2010). The Impact of Knowledge Management on SME

- Growth and Profitability: A Structural Equation Modelling Study. *Afr. J. Bus. Manage.*, 4(16): 3417-3432.
- Pearce JA, Robinson RB (2005). *Strategic Management: Formulation, Implementation and Control*. 9th edition. New York: McGraw-Hill.
- Robbins SP, Coulter M (2009). *Management*. Upper Saddle River, N.J.: Pearson/Prentice Hall.
- Robbins SP, DeCenzo DA (2008). *Fundamentals of Management: Essential Concepts and Applications*. 6th edition. Upper Saddle River, N.J., Pearson/Prentice Hall.
- Sarnoff A, Winner T (2003). Knowledge Management and Intranet: putting People First. [online] URL: http://www.intranetjournal.com/articles/200304/pij_04_23_03b.html (accessed 5 August 2009).
- Singh SK (2008). Role of Leadership in Knowledge Management: a Study. *J. Knowl. Manage.*, 12 (4): 3-15.
- Smith HA, McKeen JD (2003). Valuing the Knowledge Management Function. Queen's Centre for Knowledge-Based Enterprises. [online] URL: http://business.queensu.ca/centres/monieson/docs/working/working_03-10.pdf. (accessed on 18 September 2009).
- Snowden D (2000). Liberating Knowledge. In Rock, S (Ed). *Liberating Knowledge*. London: IBM/CBI, pp. 7-15.
- Stähle P (2000). New Challenges of Knowledge Management. In Rock, S (Ed). *Liberating Knowledge*. London: IBM/CBI, pp. 35-40.
- Tasmin R, Woods PC (2007). Relationship between Corporate Knowledge Management and the Firm's Innovation Capability. *Int. J. Tech. Pol. Manage.*, 8(1): 103-110.
- Truch E, Bridger D (2002). The Importance of Strategic Fit in Knowledge Management. ECIS. June 6 – 8, Gdańsk, Poland. [online]. URL: <http://csrc.lse.ac.uk/asp/aspecis/20020024.pdf> (accessed on 19 September 2009).
- Wagner A (2006). Measuring up Internationally: Developing Skills and Knowledge for the Global Economy. [online]. URL: <http://www.highereducation.org/reports/muint/index.shtml> (accessed on 14 September 2009).
- Wang C, Abdul-Rahman H (2010). Decoding Organizational Culture: a Study of Malaysian Construction Firms. *Afr. J. Bus. Manage.*, 4(10): 1985-1989.
- Yang J (2007). The Impact of Knowledge Sharing on Organisational Learning and Effectiveness. *J. Knowl. Manage.*, 11(2): 83-90.
- Yin R (1994). *Case Study Research: Design and Methods*. (2nd edition). Thousand Oaks, CA: Sage Publishing.
- Zack MH (1999). Developing a Knowledge Strategy. *Calif. Manage. Rev.*, 41(3): 125-145.