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An exploratory study into employee perceptions of knowledge management in two service units in the public sector

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The purpose of this study is to gain knowledge on, or insight into, employee perceptions about the factors that contribute to the strategies for managing knowledge, employee perceptions about knowledge management processes to convert tacit into explicit knowledge, employees' views regarding the implementation of knowledge management strategies and, perceptions about the ways in which knowledge management can contribute to organisational effectiveness and efficiency. This exploratory study seeks to investigate new strategies for knowledge management within the municipality concerned with the aim of promoting knowledge transfer. The census approach was used and data was collected using questionnaires which were administered to 80 employees, of which 66 questionnaires were suitably completed. Statistical analysis utilised included descriptive and inferential statistics because the total composition of employees did not respond and the study secured an 82.5% response rate. The psychometric properties of the questionnaire were established using statistical techniques. Results indicate that there exist significant relationships amongst the key variables of the study relating to knowledge management respectively and, that each of the areas of knowledge management studied need improvement. The findings have practical implications for local government, private organisations and academics as it emphasises, inter alia, the need for knowledge leaders/champions to align knowledge management to strategic plans, a well-developed technological infrastructure, compensation and reward systems, a competency framework that includes knowledge building and sharing behaviours which is linked to the performance management system.

Key words: Tacit knowledge, explicit knowledge, knowledge management strategies, knowledge management processes, impact of knowledge management.

INTRODUCTION

The management of knowledge is promoted as an important and necessary factor for organisational survival and the maintenance of competitive strength. Wiig (2002) argues that not enough attention has been paid to human capital and its role in the competitive advantage of business in today's knowledge economy. A vital aspect of society's success is that knowledge that its citizens possess, is made available to its public servants, and is embedded in structural and other intellectual capital assets that can be leveraged internally and in the global market. It becomes a new responsibility to manage knowledge to strengthen public service effectiveness and improve the society it serves (Lee and Lee, 2007). The concept of knowledge management is traced back to the 1950's which was the decade of electronic data processing. Gamble and Blackwell (2001) confirms that this decade was associated with quantitative management techniques such as project evaluation and review technique (PERT) and highly structured

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management approaches such as management by objectives (MBO).

Knowledge management is the process by which managers create mechanisms for exchanging knowledge and creating new knowledge (Cabrera and Cabrera, 2002). Knowledge management is "how distributed group members and their organisational colleagues, locate, store and retrieve the data, information and knowledge that they need for their individual and collective work" (Hollingshead et al., 2002). Effectively managing knowledge in organisations involves considerations of both knowledge acquisition and knowledge transmission (Lowendahl et al., 2001). Hence, knowledge management is the collective phrase for a group of processes and practices used by organisations to increase their value by improving the effectiveness of the generation and application of their intellectual capital. A firm's knowledge encompasses a mix of framed experience, values, contextual information and expert insight that makes the incorporation of new experiences and information possible (Davenport and Prusak, 1998). This same knowledge entails the domain-related skills needed to boost organisational effectiveness through innovation and the enablement of a flexible knowledge management infrastructure (Watad, 2002).

According to Boisot (1995), knowledge management processes are meta-processes which cannot be uniformly observed like physical processes and differ according to their means of creation, nature, recording, transmission and mode of use. The implication is that no two knowledge management implementations will be the same since socio-cultural contexts differ and more importantly because human beings with different perceptions and philosophies are central to all knowledge management applications. The effective management of a firm's knowledge assets is an essential factor to achieve a sustainable competitive advantage in today's market (Drucker, 2001). However, in the South African context, local governments such as the municipality concerned are failing to initiate and implement knowledge management programmes to all units. Conversely, in the South African private sector, organisations have invested in human capital and have reaped rewards in promoting the transfer of tacit to explicit knowledge which is mainly used for innovation and creativity thereby bringing about change and a high productivity rate.

Paradoxically, however, while the importance of these issues has been widely articulated, people management perspectives have yet to be fully developed, and the knowledge management literature has made only partial and limited use of human resource management concepts and frameworks (Afiouni, 2007). Furthermore, although knowledge management is typically defined as the holistic combination of measures for managing people, processes, and technology, the explicit integration of human resource management into

knowledge management initiatives is seldom examined. In addition, few researchers have studied the perceptions of employees on knowledge management and tacit and explicit knowledge within the public service. Spender (1996: 77) proclaims that tacit knowledge is acquired through experience. It is personal and, therefore, difficult to formalise, communicate and share with others. It consists of a technical dimension often referred to as know-how and a cognitive dimension that includes schemes, mental models and beliefs; in short, a conception of reality (Hussi, 2004).

On the other hand, explicit or codified knowledge (Polanyi, 1966) is transmittable through formal, systematic language, and may adopt the form of computer programs, patents, diagrams, or similar attributes (Hedlund, 1994). Explicit knowledge can be conceptualised and stored in information systems (Hussi, 2004). Much of organisational knowledge is tacit (Cook and Yanow, 1993), that is, it is generated through the experience that the daily work consists of. Knowledge management has emerged to create and leverage intellectual capital (IC) into the business equation and into the public (Allee, 1998; Böhme and Stehr, 1986; OECD, 2000; Reich, 1991; Wiig, 1994) and Information Technology is used extensively to support it. Therefore, this study aims to analyse current knowledge management strategies, tacit and explicit transfer processes, implementation strategies and the contribution of knowledge management to organisational effectiveness and efficiency. Furthermore, the study investigates the relationships amongst these dimensions of knowledge management. The study aims to provide recommendations with strategic direction for the improvement of knowledge management initiatives within the Skills Development and Management Services and Organisational Development Units.

Current knowledge management strategies

According to Tobin and Volvasek (2006), knowledge management in South Africa has been the focus of a number of research projects, with South African based authors having covered subjects such as surveying, measuring and valuing knowledge management practices (Botha, 2004; Botha and Fouché, 2002; Kruger and Snyman, 2005; Tobin and Volavsek, 2006); the role and influence of corporate culture (Davel and Snyman 2005; Ndlela and Du, 2000); knowledge management in South African law firms (Du and Du, 2005); leadership issues (Kok, 2003); organisational maturity and world-class performance in relation to knowledge management (Kruger and Snyman, 2005; Tobin and Snyman, 2004); strategic perspectives (Snyman and Kruger, 2004); knowledge management and organisational structure (Gichuru and Tobin, 2004; Tobin and Franze, 2005);

communities of practice (Van and Snyman, 2003); and knowledge management and the use of enterprise intranets (Van et al., 2004).

Despite the fact that the literature includes numerous typologies for organisational knowledge which are scientific and practical (Hayek, 1945), objective and based on experience (Penrose, 1959), procedural (Winter, 1987), migratory and embedded (Badaracco, 1991), and are codified (Blackler, 1995), the most frequently used is the one that distinguishes between tacit and explicit knowledge, proposed by Polanyi (1966) and later utilised by other authors. Knowledge management is an important organisational consideration because it increases the organisation's viability, competitive success, and performance outcomes (Cabrera and Cabrera, 2002; Dyer and Singh, 1998; Palazzolo et al., 2006; Zhou and Fink, 2003). Trethewey and Corman (2001) link effective knowledge management practices to enhance creative potential, stating that effective knowledge management systems "may relieve individuals of the burden of 'reinventing the wheel,' freeing them to engage in more creative tasks". Furthermore, Intranet-based communal knowledge repositories are used to contain knowledge and make it accessible. Demarest (1997) characterised this type of knowledge management as information based and delineated four stages of knowledge management:

Discerning knowledge, choosing a container, disseminating the knowledge, and using the knowledge

Developing communities of practice (CoPs) is one example of a people-based knowledge management strategy. This theory considers knowledge-as-process, in which relationships among individuals are cultivated to enhance knowledge sharing (Demarest, 1997; Kuhn, 2002). CoPs recognise that "knowledge has to be continuously negotiated through interactive social networking processes" (Swan et al., 1999), and they highlight the role of communication and interaction to transform information into a useful resource in organisational sense-making and learning (Zorn and Taylor, 2004). Edvardsson (2003) is of the opinion that the tacit knowledge management process has fewer parts than the explicit one. Although the knowledge creation process is similar in both cases, the main differences lie in the distribution of knowledge. Distribution of tacit knowledge has been most successfully achieved by apprenticeship, communities of practices, dialogues, meetings, informal talks, conferences, lectures and mentorship.

The use of knowledge is also similar to that of the explicit one interpreted by McAdam and Reid (2005). Literature clearly outlines techniques and strategies of

creation and transferring new explicit knowledge. Nonaka (2004) confirms that explicit knowledge is discovered through combination, wherein the multiple bodies of explicit knowledge (also data or information) are synthesised to create new, more complex sets of explicit knowledge. Through communication, integration, and systemisation of multiple streams of explicit knowledge, new explicit knowledge is created either incrementally or radically (Nahapiet and Ghoshal, 1998). Existing explicit knowledge, data, and information are reconfigured, recategorised, and recontextualised to produce new explicit data, information, and knowledge embedded in prior proposals may be combined into a new proposal. Also, mining techniques may be used to uncover new relationships among explicit data that may lead to predictive or categorisation models that create new knowledge.

Explicit knowledge can be resultant of the converted tacit knowledge which is in documents, processes and databases. This is referred to as "decanting the human capital into the structural capital of an organisation" (Morey et al., 2002). Furthermore, enhancing tacit knowledge flow through better human interaction will ensure that knowledge is diffused around the organisation and not held in the heads of a few employees. Given the fact that knowledge can exist within people (individuals or groups), artefacts (tacit knowledge) (practices, technologies, or repositories), and organisational entities (explicit knowledge) (organisational units, organisations, or intergovernmental networks), it is of utmost importance to capture tacit knowledge from the individual's minds as well as the explicit knowledge from the manual, such that knowledge can be shared with others.

Nonaka (1994) defines knowledge capture as the process of retrieving either explicit or tacit knowledge that resides within people, artefacts, or organisational entities. Also, the knowledge captured might reside outside the organisation boundaries, including consultants, competitors, customers, suppliers, and prior employers of the organisation's new employees. Nonaka (1994) discusses the role of externalisation and internalisation which assists in capturing the tacit and explicit knowledge. According to Nonaka (1994), externalisation involves converting tacit knowledge into explicit forms such as words, concepts, visuals, or figurative language (for example, metaphors, analogies, and narratives). Externalisation also helps to translate individuals' tacit knowledge into explicit forms that can be more easily understood by the rest of their group and may be accomplished through the use of metaphor (for example, understanding and experiencing one kind of thing in terms of another). According to Nonaka (1994), internalisation is the conversion of explicit knowledge into tacit knowledge. It represents the traditional notion of 'learning'.

Explicit knowledge may be embodied in action and practice so that the individual acquiring the knowledge can re-experience what others have gone through. Nonaka and Takeuchi (1995) state that alternatively individuals could acquire tacit knowledge in virtual situations, either vicariously by reading manuals or others' stories, or experientially through simulations or experiments. Tacit knowledge can also be acquired through sharing ideas, debates, interview processes, as well as conflict handling and resolutions.

Current processes for managing knowledge management

The combination of domain, community, and practice is what enables communities of practice to manage knowledge. Domain provides a common focus; community builds relationships that enable collective learning; and practice anchors the learning in what people do. Cultivating communities of practice requires paying attention to all three elements. These same elements provide the structure underlying the doughnut model of knowledge management (Wenger, 2004). Heaton and Taylor (2002) have recently argued that most organisational knowledge is embedded in the processes of CoPs. In CoPs, more sophisticated information sharing can take place because tacit knowledge is not easily transmitted simply through technology. Technology makes differences in local practices and culture within an organisation hard to transmit (Swan et al., 1999). Embodied, and encultured ways of knowing are linked to CoPs and the process perspective of knowledge management (Blackler, 1995).

According to Fong, Love and Irani (2005), in order for knowledge management to be successful, an organisation must have a strategy and individuals must be persuaded to contribute to its formulation and implementation. The knowledge management strategic plan has greater focus on the knowledge needs of the organisation and an evaluation of capabilities. Apostolou and Mentzas (2003) developed the Know-Net KM approach, which includes the interplay among strategy, assets, process, systems, structure, individuals and teams, across organisations and within the organisation itself. Knowledge acquisition is about recruiting outstanding people and about helping them learn and grow as individuals and as professionals. It is also about encouraging employees to participate in professional networks and communities of practice that extend beyond organisational boundaries (Wenger, 2002). Knowledge creation is achieved by creating a supportive environment, through requisite human resource management, for individuals, groups and teams in order to be challenged by the organisational problems, to search for the problems' solutions and to innovate.

Wenger (2004) proclaims that knowledge management is a strategic activity. It starts with strategy and ends with strategy. It connects strategy to performance through knowledge. Performance management identifies who or what delivers the critical performance with respect to the business strategy and objectives (Roberts and Fusfeld, 2001), and ensures that performance is successfully carried out. O'Brien (2005) further says that successful knowledge management creates techniques, technologies, systems, and rewards for getting employees to share what they know and to make better use of accumulated workplace and enterprise knowledge. Communities of practice create value by improving the performance of their members when they apply their knowledge in the performance of their job. Involving practitioners in knowledge management is also important for bringing back knowledge from the field. The work of an organisation produces two kinds of results which are business results and knowledge results. Business units will apply the business results to serving customers. Communities of practice, for their part, need to manage the knowledge results from the work of their members and feed this knowledge back into the organisation. Thus, the management of knowledge assets closes the loop connecting strategy and performance through a full "knowledge doughnut" (Wenger, 2004).

While organisational leaders and managers must manage as knowledge leaders, they must be aware of the relationship between knowledge and those who possess it. Obtaining individual cooperation and motivation to be part of teams and groups is essential to making knowledge sharing the core of effective knowledge management. Knowledge workers are so-called because they possess valuable knowledge that drives organisational performance and success (McFarlane, 2008). As such, they can refuse to share their knowledge depending on perceptions of responsibilities and rewards within the organisation. If knowledge workers feel that organisational rewards are not congruent with their knowledge levels and inputs, then perhaps there will be a decreased tendency or inclination toward knowledge sharing on a person-to-person basis. Thus, it is important that knowledge leaders align compensation and reward systems, as well as organisational strategies and tasks to knowledge workers' needs.

Serenko et al. (2007) maintain that three major obstacles to knowledge-sharing include individual, organisational, and technological barriers.

Implementation of knowledge management strategies

Evans (2003) stresses the role of human resource managers in helping the organisation to develop an organisational culture that supports knowledge building

and sharing. The steps necessary in such a transformation process include agreeing on strategic priorities and areas for change, helping to demystify knowledge management by linking knowledge management activity to established business processes and human resource management practices, and engaging others in knowledge management dialogue. Maybury and Thuraisingham (2002) discuss two thrusts of strategy of which the first focuses on making known and accessible knowledge that already exists, for example, by sharing best practices. This thrust is best paraphrased as, "if only we knew what we knew"; too frequently, people in one part of an organisation reinvent the wheel or fail to solve customer problems because the knowledge they need is elsewhere in the company but not known or accessible to them. The second major thrust of knowledge focussed strategies is that of innovation, the creating of new knowledge and commercialising it as valuable products and services. This is sometimes referred to as knowledge innovation. Maybury and Thuraisingham (2002) found that there is no shortage of creativity in organisations.

The real challenge is to convert ideas into products and services or improved business processes, doing it faster and better than competitors. Morey et al. (2002) argues that there are seven levers that organisations commonly use to exploit knowledge which are customer knowledge, knowledge in people, knowledge in products, knowledge in processes, organisational memory, knowledge in relationships and knowledge asserts. Entrepreneurs are considered to be the main catalyst for economic growth and a key factor in organisational innovation, especially in the market. Scholars have described entrepreneurship in different terms, such as, entrepreneurial proclivity (Pellissier and Van, 1996:78), entrepreneurial management (Stevenson and Jarillo, 1990), and entrepreneurial orientation (Lumpkin and Dess, 1996). This research employs the last definition, which examines the process of entrepreneurship itself by describing how it leads to new ideas or knowledge through risk taking, pro-activeness, autonomy, and competitive aggressiveness (Lumpkin and Dess, 1996).

The aim of entrepreneurship is to bring something "new" to the market, with most of the newness being derived from the unique combination of existing knowledge and new knowledge (Ahuja and Lampert, 2001). Organisations should identify and acquire special information and knowledge (Teece, 2000; Zahra and George, 2002) in order to improve their competitive advantage. Before the combining of knowledge, organisations should 'convert' all external knowledge into the organisation that can then be used to generate innovations. This suggests that an entrepreneurial-oriented organisation can enhance its capabilities to convert and combine knowledge to develop new products or processes. When an organisation has more of an

entrepreneurial orientation, its processes of 'innovation conversion' and of frequently upgrading or improving its competencies should be better and it ought to be more generally effective as an organisation as a result.

Perceptions of the impact of knowledge management effectiveness

Innovation on the part of an organisation should contribute to improvements to the innovations, to a reduction in diffusion and to a greater distribution of knowledge as well as enhance responsiveness to market changes (Gold et al., 2001). This suggests that organisational effectiveness can be gained through product and process innovations. In order to respond to market changes quickly, organisations should be proactive in combining existing and new knowledge and anticipating changes in a better way. Consequently, organisations must be able to identify and disseminate new knowledge internally, throughout the organisation (Liao et al., 2003). Through social capital, redundancy in information and the extent of knowledge diffusion tends to decrease (Burt, 1992). Some members voluntarily 'fill up the hole' in the organisation to obtain and disseminate more resources or information. This suggests that social capital can moderate the effects of entrepreneurial orientation on innovation, improvements in competence and organisational effectiveness.

Companies with a diverse, multicultural workforce tend to rely on workshops to develop knowledge management skills among people from different backgrounds. These training sessions may emphasise ways to shorten the amount of time it takes to solve problems and explore alternative courses of action. However, these sessions usually lack a very important component, which is focusing on building mechanisms for knowledge sharing and converting tacit to explicit knowledge. Diversification of the workforce provides companies with access to different ideas, skills, and it enhances the company's competitive edge (Elmuti, 2001). However, management has to provide mechanisms and adjust structural arrangements in order to reap the benefits that accompany a diversified workforce. One may assume that, given that members of different cultures have different kinds of frames of reference, a team composed of members from different cultural backgrounds would be interested in knowing the way of solving problems and sharing knowledge in their own as well as in their host cultures. On the other hand, cultural diversity may impede the sharing of knowledge, as there is a lack of personal compatibility and common language.

Knowledge sharing helps in organisational learning (Ford and Chan, 2003) and the development of domain related skills (for example, expertise), a pre-condition to organisational innovation. Knowledge sharing, which

involves the process of disseminating knowledge within the firm, is susceptible to the effects of cultural differences (Ford and Chan, 2003). Trust, common languages and beliefs are critical to effective knowledge sharing (Simonin, 1999). More specifically, knowledge sharing within heterogeneous cultural groups tends to be difficult, requiring more time and effort than in homogeneous cultural groups (Ford and Chan, 2003). Therefore, management should promote knowledge sharing along formal structures that exhibit a formal reward system and incentives. A commonly used practice entails moving from rewarding individuals to rewarding groups, or devising incentives that promote sharing at both the divisional and firm levels (Watard and Peres-Alvares, 2007).

Hansen et al. (1999) argues that there are basically two strategies for managing knowledge. They term these strategies 'codification' and 'personalisation'. The former refers to the codification of knowledge and its storage in databases where it can be accessed and used readily by anyone in the company. Such organisations invest heavily in information computer technology (ICT) for projects like the intranet, data warehousing and data mining, knowledge mapping (identifying where the knowledge is located in the firm), and electronic libraries. This increases effectiveness and growth. Hansen et al. (1999) emphasises that "the reuse of knowledge saves work, reduces communications costs, and allows a company to take on more projects". It is thus closely related to exploitative learning, which tends to refine existing capabilities and technologies, forcing through standardisation and reutilisation, and is risk-averse (Clegg and Clarke, 1999).

RESEARCH DESIGN

Research approach

Based on the literature review, an exploratory study was designed using a survey approach that addressed the dimensions of knowledge management in terms of processes, strategy implementation and its impact on organisational effectiveness and efficiency within the concerned municipality's Skills Development and Management Services and Organisational Development Units. This study followed a quantitative research tradition and descriptive statistics, namely, measures of central tendency and measures of dispersion were used to condense the data into a few summary measures.

The aim of these techniques was to identify essential characteristics of a random variable and to produce a profile of its behaviour through summary measures. Inferential statistics using the Pearson Product Moment Correlation was undertaken as a 100% response rate was not achieved.

Research participants

This exploratory study adopted a census approach, which was considered to be suitable because it was considered possible to obtain data from every member of the population of interest (McDaniel and Gates, 1998; Saunders et al., 2003) due to the small employee composition under the ambit the two public service units. From a population size of 80 employees from the Skills Development and Management Services and Organisational Development Units, a sample of sixty six (66) respondents correctly completed the administered questionnaires thereby generating a response rate of 82.5%. This sampling approach was considered to be suitable because (1) the study is an exploratory study, (2) the aim is to assess perceptions of knowledge management in the two departments that relate to knowledge management and therefore, should be most concerned about knowledge sharing, implementing knowledge management strategies and the ways in which knowledge management can contribute to organisational effectiveness and efficiency and (3) similar studies will be replicated in other departments in this public sector organisation as well.

Appropriate questions were designed based on the challenges, gaps and recurring themes that surfaced while reviewing the literature. This study used ten participants to whom questionnaires were administered as a pilot and its main intention was to obtain some assessment of the questions' validity and the likely reliability of the data that was considered.

Measuring instruments

The self-developed, closed-ended questionnaire using the Likert scale was designed to assess the key dimensions of knowledge management. It required participants to respond to the items using a five point scale ranging from (1) strongly disagree, (2) disagree, (3) undecided, (4) agree to (5) strongly agree. Whilst numerous scales exist, the Likert scale was adopted because it was believed that a forced compliance scale may skew results, that the 5 point scale will allow the participants more specific options and that the existence of a central tendency assesses the potential lack of perceptions/knowledge on the dimensions being measured. The self-administered questionnaires were administered during the months of June to July 2009.

Research procedure

Subsequent to consent being given by the municipality's Skills Development Units Head, 80 questionnaires were distributed to the respondents and 66 of the questionnaires were received.

Statistical analyses

The nature of the study required the researcher to use widely available software such as Microsoft excel and statistical packages for social scientists (SPSS) for data capturing, analysis and interpretation. Descriptive and inferential statistics were used for data analysis and interpretation. Under the ambit of descriptive statistics, frequencies and percentages were presented in the form of tables. In this study the product moment correlation was used to determine whether the sub-dimensions of knowledge management (current knowledge management strategies, current processes for knowledge management, implementation of knowledge management strategies and perceptions of the impact of knowledge management effectiveness) correlate significantly with each other. Furthermore, the psychometric properties of the questionnaire were statistically assessed using Factor analysis and Cronbach's coefficient alpha respectively.

A principal component analysis was conducted to generate the initial factors and a principal factor analysis using SPSS and

Table 1. Descriptive statistics – key dimensions of knowledge management.

Statistic	Current knowledge management strategies	Current processes for managing knowledge management	Implementation of knowledge management strategies	Perceptions of the impact of knowledge management effectiveness
Mean	2.98	2.970	2.75	2.99
Lower bound	2.78	2.54	2.7907	2.82
Upper bound	3.17	2.96	3.1941	3.21
Median	3.05	3.125	2.88	3.20
Variance	0.654	0.520	0.719	0.673
Std. deviation	0.808	0.7213	0.848	0.821
Minimum	1	1.0	1	1.00
Maximum	4	4.3	5	4.80

orthogonal varimax rotation was used which generated four separate factors with latent roots greater than unity (13.13, 18.48% of total variance; 12.91, 18.24% of total variance; 11.69, 16.57% of total variance; 8.50, 8,38% of total variance), which represented the four dimensions of the study (perceptions of the impact of knowledge management effectiveness, implementation of knowledge management strategies, current knowledge management strategies, current processes for knowledge management) respectively. The questionnaire, therefore, validly determines the aforementioned dimensions. In terms of reliability, the Cronbach's alpha values for individual dimensions were high:

Current knowledge management strategies (Alpha = 0.878), current processes for managing knowledge management (Alpha = 0.840), implementation of knowledge management strategies (Alpha = 0.889) and perceptions of the impact of knowledge management effectiveness (Alpha = 0.876).

RESULTS

Descriptive and inferential statistics were used to analyse the data.

Descriptive statistics

The respondents were required to respond to the items of the questions relating to the key dimensions of the study using a 1 to 5 point Likert scale. Descriptive statistics were computed for each of the key dimensions (Table 1). The mean score values reflected in Table 1 indicate that employees have differing views on the sub-dimensions of knowledge management, which in descending level based on mean scores are as follows:

i) Perceptions of the impact of knowledge management effectiveness (Mean = 2.99).
ii) Current knowledge management strategies (Mean = 2.98).
iii) Current processes for managing knowledge management (Mean = 2.97).
iv) Implementation of knowledge management strategies

(Mean = 2.75).

These values reflect that on a scale from 1 to 5, respondents generally were below 3. This indicates that a high proportion of responses ranged from strongly disagree/disagree to being undecided about the questions relating to each dimension. This further reflects a negative perception with regards to each of the dimensions relating to the knowledge management within the Skills Development and Management Services and Organisational Development Units of the municipality concerned. This implies that improvement is needed with regards to knowledge management. A frequency analysis was undertaken and the research findings indicated that 25.8% of the respondents strongly disagreed and 15.2% disagreed that knowledge management incentive systems were satisfactory. Furthermore, 34.8% of the subjects strongly disagreed and 24.2% disagreed on the existence of knowledge management rewards system which acquaint to the effort the employees have contributed into knowledge creation. Moreover, a disproportionately high percentage of 30.3% of the respondents strongly disagreed and 13.6% disagreed that employees are rewarded in groups.

Current processes for managing knowledge management is another area for improvement as reflected in the study findings. A frequency analysis was undertaken and the research findings indicate that 13.6% of the respondents strongly disagreed and 16.7% disagreed that these units recategorises and recontextualises existing explicit knowledge, data and information to produce new explicit data, information and knowledge. The research results further indicate that 19.7% strongly disagreed and 22.7% disagreed that these units use mining techniques to uncover new relationships among explicit data that may lead to predictive or categorization models that create new knowledge. Moreover, 16.7% of the subjects strongly disagreed and 19.7% disagreed that tacit

Table 2. Intercorrelations amongst the key dimensions of knowledge management (N= 66).

Dimensions	Current knowledge management strategies	Current processes for knowledge management	Implementation of knowledge management strategies	Perceptions of the impact of knowledge management effectiveness
Current knowledge management strategies, r	1.000			
Current processes for knowledge management, r	0 .786	1.000		
P	0.000*			
Implementation of knowledge management r	0.725	0.673	1.000	
Strategies, p	0.000*	0.000*		
Perceptions of the impact of knowledge, r	0.696	0.658	0 .770	1.000
Management effectiveness, p	0.000*	0 .000*	0 .000*	

* $p < 0.01$.

knowledge is captured from individual's minds. Also the results indicate that there is room for improvement for the implementation of knowledge management strategies. This implies that the implementation of knowledge management strategies should be taken into consideration when enhancing team effectiveness. The total percentage of 19.7% of the respondents strongly disagreed and 28.8% disagreed that these units have implementation strategies to convert tacit to explicit knowledge.

The research findings indicate that 21% of the respondents strongly disagreed and 27.3% disagreed that these units have knowledge that is codified and stored in databases where it is accessible and readily used by anyone in the organisation. Furthermore, the results indicate 18.2% of employees strongly disagreed and 31.8% disagreed that managers develop a system that encourages people to write down what they know and to get those documents into the electronic repository. The employees do not believe (supported by the research findings whereby 21.2% strongly disagreed and 27.3% disagreed) that the level and quality of employees' contributions to the document database and knowledge creation are part of their annual performance measurements (reviews). In addition, in these units the study findings depict a highest percentage of 24.2% of the employees who strongly disagreed and 19.7% who disagreed that there are techniques, technologies, systems and rewards for getting employees to share what they know.

Also, the results indicate that there is room for improvement for the perceptions of the impact of knowledge management effectiveness. The research findings show that 16.7% of the respondents strongly disagreed and 13.6% disagreed that employees participate in professional networks that extend beyond organisational boundaries. However, the high disproportionate percentage of 16.7% of the respondents strongly disagreed and 9.1% disagreed that these units apply knowledge assets. Finally, the total percentage of 16.7% of the respondents strongly disagreed and 15.2% disagreed that the role of human capital in these units contributes to the competitive advantage of business in today's knowledge economy.

Inferential statistics

Inferential statistics were computed to make decisions on the hypothesis of the study.

H₁: There exists significant intercorrelations amongst the dimensions of the study (current knowledge management strategies, current processes for managing knowledge management, implementation of knowledge management strategies and perceptions of the impact of knowledge management effectiveness) respectively.

Table 2 indicates that there exist significant and direct correlations amongst the dimensions of knowledge management respectively. Hence, hypothesis 1 may be accepted. The implication is that an improvement in one

dimension of knowledge management has the potential to enhance another dimension thereby having a rippling effect.

DISCUSSION

The key variables investigated in this study form the basis of the discussion of the results of the survey. The interpretation of the results indicated that there exists significant intercorrelations amongst the dimensions of the study (current knowledge management strategies, current processes for managing knowledge management, implementation of knowledge management strategies and perceptions of the impact of knowledge management effectiveness) respectively.

Current knowledge management strategies

The descriptive statistics results show a low mean value of 2.98 indicating that there is a significant room for improvement for current knowledge management strategies. While there have been inconclusive results in linking the relationship between knowledge management strategies and organisational performance (Choi et al., 2008), there is clearly a relationship between knowledge management strategies and a tendency toward organisations become learning centres for managing knowledge dealing with change as competitive exercises that affect survival. Knowledge-based systems are the major platforms upon which these competitive networks are established as knowledge workers utilise cognitive skills to devise new and innovative strategies to give products and services leaps over their competitors. Choi et al. (2008) communicate the relationship between knowledge management strategy and organisational performance as one of "non-complementary", "non-critical symmetric complementary" and "asymmetric complementary."

The relationship between knowledge management strategies and organisational performance is one which is obvious in consideration of the fact that we are living in an information-based economy where knowledge is a key resource input into productivity and competitive processes (Choi et al., 2008).

Current processes for managing knowledge

The descriptive statistics results indicate that there is a significant room for improvement for current processes for managing knowledge management with the low mean value of 2.970. Knowledge management is defined as the collective phrase for a group of processes and practices used by organisations to increase their value by

improving the effectiveness of the generation and application of their intellectual capital. Knowledge management processes are meta-processes which cannot be uniformly observed like physical processes and differ according to their means of creation, nature, recording, transmission and mode of use (Boisot, 1995). Marr et al. (2003) conducted a research building on the complexities of organisational knowledge creation. This research explored the alignment of knowledge management practices with the epistemological beliefs of individuals or groups in organisations.

A pan-European research project investigated individual's philosophy about truth, knowledge and the optimum approach of knowledge creation. These viewpoints and requirements are then contrasted with the knowledge management practices implemented in organisations. The results highlight significant misalignment between knowledge management requirements in epistemological terms and individual's perception of organisational knowledge management activities. The research found that these differences lie at the heart of problems companies experience with extracting value from knowledge management initiatives. This research further suggested ways of identifying and evaluating resource transformations in organisations, in order to understand and manage knowledge creation to grow the intellectual capital of organisations (Marr et al., 2003).

Implementation of knowledge management strategies

A low mean value of 2.75 depicted in the descriptive statistics results implies that implementation of knowledge management strategies requires room for improvement. Knowledge construction and creation is a key element of effective knowledge management. This aspect of knowledge management identifies what is constituted as knowledge and how such knowledge is developed in the organisation and its employees. Nonaka and Takeuchi (1995) refer to this part of knowledge management as "organisational knowledge creation", referring to the creation and development of knowledge within the organisation. Stenberg and Horvath (1999) indicates that successful medium sized enterprises (SME) are characterised by creating new knowledge within the process of innovation. The study conducted by McAdam and Reid (2001) looking at the SME and large organisation perceptions of knowledge management revealed that knowledge transfer, organisational learning, knowledge capture and dissemination and organisational knowledge, are considered key elements of knowledge and knowledge management. The most pronounced SME-large organisational differences shown in this research is in organisational knowledge and to a lesser degree in organisational learning, knowledge capturing

and dissemination and knowledge transfer. In all these cases, a higher percentage response was recorded for the large sector organisations.

The qualitative social constructionist workshops attributed this finding to large organisations having more resources to develop strategic knowledge management systems and to explore the social interaction aspect of knowledge within a wider populace of employees. The research revealed that SMEs have higher scores on 'tools and methodologies', where mechanised approaches to knowledge are used. These findings are consistent with SME-large organisation comparisons with regard to other management philosophies, for example, total quality management (TQM) (Wilkes and Dale, 1998) and reengineering (Francis and MacIntosh, 1997).

Perceptions of the impact of knowledge management effectiveness

The descriptive statistics results indicate that the perceptions of the impact of knowledge management effectiveness with the mean value of 2.99 signify a need for room of improvement. Research was conducted by Lee and Sukoco (2007) around the effects of entrepreneurial orientation and knowledge management capabilities on innovation, competence upgrading and organisational effectiveness among companies in Taiwan, listed in the Top 100 firms. The research also examined whether social capital moderates the effects of orientation and knowledge on effectiveness. It was found that entrepreneurial orientation has a positive influence on the capability of the organisation, on the upgrading of their competence as well as organisational effectiveness. Furthermore, knowledge management capabilities have a significant impact on innovation and organisational effectiveness.

This research produced certain findings which were consistent with the results of other researchers. Results indicated a significant relationship amongst the key variables of the study relating to the employee perceptions on knowledge management respectively. Employee perceptions of the four dimensions of knowledge management in descending order are:

i) Perceptions of the impact of knowledge management effectiveness.
ii) Current knowledge management strategies.
iii) Current processes for managing knowledge management.
iv) Implementation of knowledge management strategies.

All four dimensions (current knowledge management strategies, current processes for managing knowledge management, implementation of knowledge management strategies and perceptions of the impact of knowledge

management effectiveness) required improvement in order to achieve greater level of knowledge management (tacit and explicit knowledge). This is imperative as research conducted by Connelly and Kelloway (2003) reveal that knowledge sharing has been identified as a positive force in creating innovative organisations, but the organisational and individual factors that promote or discourage knowledge sharing among colleagues are poorly understood.

Organisations investing in knowledge management gain an effectiveness and efficiency advantage over their competitors or they try to negate the competitive advantages of others. Since a lack of these factors seemed to be a hindrance to knowledge management creation, processing, implementation and improvement in effectiveness, it is important to consider the ways in which these factors or problems can be rectified with a view of intensifying intervention efforts so as to achieve higher levels of performance and effectiveness as a result of enhanced employee competence, productivity and satisfaction.

RECOMMENDATIONS

This study aims to provide recommendations for the organisation with regard to the findings of this study as well as recommendations for future research.

Current knowledge management strategies

In this study, respondents mentioned that in these units reward or incentive systems for knowledge management are absent which results in dissatisfaction. Based on the results of the study, the following recommendations are proposed:

i) The municipality concerned should develop an encompassing knowledge management strategy which has both technical and cultural attributes.
ii) The performance measurements agreements of all employees should include knowledge management as the strategic focus area during all financial years.
iii) Knowledge management must be fully aligned and integrated into the municipality's strategy, plans, and unit's strategic plans as well as to department's business plans.
iv) Indigenous knowledge through public-participation should be extracted and used in order to play a tremendous role in organisational effectiveness.
v) The municipality concerned must invest in human capital with rewards in promoting the transfer of tacit to explicit knowledge which is mainly used for innovation and creativity which brings change and a high productivity rate.

The municipality's knowledge leaders must align compensation and reward systems, as well as organisational strategies and tasks with knowledge workers' needs.

Current processes for managing knowledge

This study revealed that in the units studied, namely, Skills Development and Management Services and Organisational Development there are no processes in place to convert tacit to explicit knowledge, to recategorize and recontextualise existing explicit knowledge, data and information to produce new explicit data, information and knowledge. In order to respond to such challenges, the following recommendations are proposed:

i) Knowledge focus within the municipality concerned must be shifted from being on the individual to being integrated into the systematic considerations of broader work processes.
ii) The municipality concerned must govern knowledge management-related processes and relationships by providing enterprise-wide support, infrastructure, and leadership.
iii) The municipality concerned must have knowledge management systems to be designed to collect, disseminate and use project-generated knowledge, for the benefit of the entire organisation.
iv) The municipality concerned should employ suitably and motivated people to take an active role in the process of knowledge creation, storing and dissemination thereof.

v) Communities of practice must be established within the municipality concerned as they create value by improving the performance of their members when they apply their knowledge in the performance of their job; hence, involving practitioners in knowledge management is also important for bringing back knowledge from the field.
vi) The municipality concerned must introduce a competency framework that includes knowledge building and sharing behaviours, and which is linked to the performance management system.

Implementation of knowledge management strategies

In this study, respondents mentioned that in these units there are no strategies in place to convert tacit to explicit knowledge, as a result, the absence of techniques, technologies, systems and rewards makes it difficult to share what they know. To respond to such challenges the following recommendations are proposed:

i) Explicit knowledge within the municipality   concerned must be conceptualised and stored in information systems.
ii) The municipality concerned must convert ideas into products and services or improved business processes.
iii) The municipality concerned should create knowledge leadership and champions, a well-developed technological infrastructure ('hard') and knowledge enriching culture.
iv) The municipality concerned should establish knowledge management agents in all units.

Perceptions of the impact of knowledge management effectiveness

In this study, respondents mentioned that employees in these units do not participate or network with the knowledge management community of practice and professionals. Moreover, employees do not see the role of human capital as playing any role in these units. Therefore, the following recommendations are proposed to counter the aforementioned challenges:

i) Employees should increase the use of the organisational intranet system in order to increase knowledge.
ii) The municipality concerned should diversify the workforce in order to provide the organisation with access to different ideas, skills and thereby enhance the organisation's competitive edge.
iii) The municipality concerned must put in place multicultural communications tools to overcome language and cultural barriers. In fact, the cultural trait of not being outspoken, for example, can be remedied by a collaboration system that includes anonymous features, which are useful for idea generation and feedback.
iv) The municipality concerned must embark on a commonly used practice which entails moving from rewarding individuals to rewarding groups, or devising incentives that promote sharing at both the divisional and organisational levels.

Recommendations for future research

Research is something that people undertake in order to find out things in a systematic way, thereby increasing their knowledge. However, research must take cognisance of the barriers and limitations present in the research design and during the data collection phase of the research process, for example, in this study resistance was met from senior management to access information. For future research it is suggested that:

i) Future research focus on all units within the municipality concerned rather than two small units.

ii) Future research focus on employees within district and local municipalities throughout KwaZulu-Natal.

iii) While the study only focussed on four dimensions of knowledge management (current knowledge management strategies, current processes for managing knowledge management, implementation of knowledge management strategies and perceptions of the impact of knowledge management effectiveness), future research can look at other factors, such as diversity, team building, stakeholder participation, organisational structure, business processes, intellectual capital and communication.

REFERENCES

Afiouni F (2007). Human resources management and knowledge management: A road map toward improving organisational performance. J. Am. Acad. Bus., 11: 1-22.

Ahuja G, Lampart M (2001). Entrepreneurship in the large corporation. A longitudinal study of how established firms create breakthrough inventions. Strateg. Manage. J., 22: 521-543.

Allee V (1998). The Knowledge Evolution. Butterworth-Heinemann, Boston, MA.

Apostolou D, Mentzas G (2003). Experiences from knowledge management implementations in companies of the software sector. Department of Electrical and Computer Engineering, National Technical University of Athens, Zografou, Greece. Business Process Manage. J., 9(3): 354-381.

Badaracco J (1991). The knowledge link: Competitive advantage through strategic alliances. Harv. Bus. School Press, Boston, MA.

Blackler F (1995). Knowledge work and organisations: An overview and interpretation. Org. Stud., 16: 1021-1046.

Böhme G, Stehr N (1986). The knowledge society: The growing impact of scientific knowledge in social relations. Reidel, Dordrecht, The Netherlands.

Boisot MH (1995). Information space: A framework for learning in organizations, institutions and culture. Routledge, London.

Botha DF (2004). Towards an instrument for surveying knowledge management practices. South Afr. J. Bus. Manage., 36(1): 1-6.

Botha DF, Fouché B (2002). Knowledge management practices in the South African business sector: preliminary findings of a longitudinal study. South Afr. J. Bus. Manage., 33(2): 13-19.

Burt RS. (1992). The contingent value of social capital. Admin. Sci. Q., 142(2): 339.

Cabrera A, Cabrera EF (2002). Knowledge-sharing dilemmas. Org. Stud., 23: 687-710.

Choi B, Poon SK, Davis JG (2008). Effects of knowledge management strategy on organisational performance: A contemporary theory-based approach. Oxford: Omega, 36(2): 236.

Clegg S, Clarke T (1999). Intelligent organisations? In SR Clegg, E Ibarra-Colado and L Bueono-Rodriquez (eds.) Global Management: Universal Theories and Local Realities. Sage, London.

Connelly CE, Kelloway K (2003). Predictors of employees' perceptions of knowledge sharing cultures. Leadersh. Org. Dev. J., 24: 294-301.

Cook S, Yanow D (1993). Culture and organizational learning. J. Manage., 2(4): 373-390.

Davel R, Snyman M (2005). Influence of corporate culture on the use of KM techniques and technologies. South Afr. J. Inf. Manage., (7)2: 18-21.

Davenport TH, Prusak L (1998). Working knowledge: how organisations manage what they know. Harv. Bus. School Press, Boston, MA.

Demarest M (1997). Understanding knowledge management. Manage. Commun. Q., 16: 374-384.

Drucker P (2001). The next society: A survey of the near future. Economist, 3(1): 2-20.

Du Plessis T, Du Toit ASA (2005). Survey of information and knowledge management in South African law firms. South Afr. J. Inf. Manage., 7(1): 34-70.

Dyer J, Singh H (1998). The relational view: Cooperative strategy and sources of interorganisational competitive advantage. Acad. Manage. Rev., 23(4): 660–679.

Edvardsson IR (2003). Knowledge management and SMEs: The case of Icelandic firms. Knowl. Manage. Res. Pract., 4(4): 275-282.

Elmuti D (2001). Preliminary analysis of the relationship between cultural diversity and technology in corporate America. Equal Oppor. Int., 20(8): 1-16.

Empson L (2001). Fear of exploitation and fear of contamination: Impediments to knowledge transfer in mergers between professional service firms. Hum. Relat., 54: 839-862.

Evans C (2003). Managing for Knowledge: HR's strategic role. Butterworth-Heinemann, Amsterdam.

Fong P, Love P, Irani Z (2005). Management of Knowledge in Project Environments. Butterworth Heinemann, New York.

Ford DP, Chan YE (2003). Knowledge sharing in a multi-cultural setting: A case study. Knowl. Manage. Res. Pract., 1: 11-27.

Fransis A, MacIntosh R (1997). The market, technological and industry context of business process reengineering in the UK. Int. J. Opt. Prod. Manage., 17(4): 344-364.

Gamble, P, Blackwell (2001). Knowledge Management: A State of the Art. Kogan Page Limited, New York.

Gichuru P, Tobin PKJ (2004). Problems encountered diffusing tacit knowledge at Eli Lilly SA. South Afr. J. Inf. Manage., 6(4): 4-45.

Gold AH, Malhotra A, Segars AH (2001). Knowledge management: An organisational capabilities perspective. J. Manage. Inf. Syst., 18(1): 185-214.

Hansen MT, Nohria N, Tierney T (1999). What is your strategy for managing knowledge? Harvard Bus. Rev., 77(2): 1-60.

Hayek FA (1945). The uses of knowledge in society. Am. Econ. Rev., 35: 1-18.

Heaton L, Taylor JR (2002). Knowledge management and professional work: A communication perspective on the knowledge-based organisation. Manage. Commun. Q., 16: 210-236.

Hedlund G (1994). A model of knowledge management and the N-form Corporation. Strateg. Manage. J., 15: 73-90.

Hollingshead A, Fulk J, Monge P (2002). Fostering intranet knowledge-sharing: An integration of transitive memory and public goods approaches. In PJ Hinds and S Keisler (Eds.). Distributed work: New research on working across distance using technology. MIT Press, Cambridge, MA, pp. 335-355.

Hussi T (2004). Reconfiguring knowledge management - Combining intellectual capital, intangible assets and knowledge creation. J. Knowl. Manage., 8(2): 36-52.

Kok G (2003). Insights from KPMG's European knowledge management survey. KPMG White Paper.

Kruger CJ, Snyman MMM (2005). Determining the value of knowledge management. Mousaion, 23(2): 165-179.

Kuhn T (2002). Negotiating boundaries between scholars and practitioners: Knowledge, networks, and communities of practice. Manage. Commun. Q., 16: 106-112.

Lee LT, Sukoco, BM (2007). The effects of entrepreneurial orientation and knowledge management capability on organisational effectiveness in Taiwan: The moderating role of social capital. Int. J. Manage., 24(3): 549-620.

Lee YC, Lee SK (2007). Capabilities, processes, and performance of knowledge management: A structural approach: Research Articles. Hum. Factors Ergonom. Manuf., 17(1): 21-41.

Liao J, Welsch H, Stoica M (2003). Organisational absorptive capacity and responsiveness: An empirical investigation of growth-oriented SMEs. Entrep. Theory Pract., 28(1): 63.

Lowendahl BR, Revang O, Fosstenlokken S (2001). Knowledge and value creation in professional service firms: A framework for analysis. Hum. Relat., 54(7): 911-931.

Lumpkin GT, Dess GG (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. Acad. Manage. Rev., 21(1): 135-172.

Marr B, Gupta O, Pike S, Roos G (2003). Intellectual capital and knowledge management effectiveness. Manage. Decis., 41(8): 771-781.

Maybury M, Thuraisingam B (2002). Knowledge management: Classic and contemporary works. MIT Press, Cambridge, MA.

McAdam R, Reid R (2001). SME and large organisation perceptions of knowledge management: Comparisons and contrasts. J. Knowl. Manage., 5(3): 231-241.

McAdam R, Reid R (2005). SME and large organisation perceptions of knowledge management: comparisons and contrasts. J. Knowl. Manage., 5(3): 1-27.

McDaniel C, Gates R (1998). Marketing research essentials. Second edition. South-Western College Publishing, Cincinnati-Ohio.

McFarlane DA (2008). Organisational training programs (OTPs) as long-term value investments (LVIs): Evaluation criteria, considerations, and change. Leadersh. Org. Manage. J., 1(4): 96-98.

Morey D, Maybury M, Thuraisinghan B (2002). Knowledge management: Classic and contemporary works. First edition. MIT Press, New York.

Nahapiet J, Ghoshal S (1998). Social capital, intellectual and the organisational advantage. Acad. Manage. Rev., 23(2): 242-266.

Ndlela LT, Du Toit ASA (2000). Corporate culture as a foundation for successful knowledge organisations. Proceedings of the 15th Annual Conference of the Association of Researchers in report. Pretoria: Department of Public Works. Mousaion, 24(1).

Nonaka AY (1994). A dynamic theory of organisational knowledge creation. Org. Sci., 5: 14-37.

Nonaka I (2004). The knowledge creating company: How Japanese companies create the dynamics of innovation. Oxford University Press, New York.

Nonaka I, Takeuchi A (1995). The knowledge-creating company. Oxford University Press, New York.

O'Brien AJ (2005). Management Information Systems: A Managerial End User Perspective. Irwin: Burr Ridge, IL.

OECD (2000). Knowledge Management in the Learning Society. OECD, Paris.

Palazzolo ET, Serb DA, She Y, Su C, Contractor NS (2006). Coevolution of communication and knowledge networks in transactive memory systems: Computational models for theoretical development. Commun. Theory, (16): 223-250.

Pellisier JM, Van Buer MG (1996). Entrepreneurial proclivity and the interpretation of subjective Probability Phrases. J. Appl. Bus. Res., 12(4): 129.

Penrose ET (1959). The Theory of the Growth of the Firm. Wile, 16: 374-384.

Polanyi M (1966). The Tacit Dimension, Anchor Day. New York.

Reich RB (1991). The Work of Nations: Preparing Ourselves for 21st Century Capitalism. Vintage Books, New York.

Roberts EB, Fusfeld AR (2001). Staffing the Innovative Technology-Based Organisation. In E.B. Roberts (ed.). Generating Technological Innovation. Oxford University Press, Oxford.

Saunders M, Lewis P, Thornhill A (2003). Research Methods for Business Students. Third Edition. Prentice Hall, Harlow, FT.

Serenko A, Bontis N, Hardie T (2007). Organisational size and knowledge flow: A proposed theoretical link. J. Intellect. Capital, 8(4): 1469-1930.

Simonin BL (1999). Transfer of marketing know-how in international strategic alliances: An empirical investigation of the role and antecedents of knowledge ambiguity. J. Int. Bus. Stud., 30(3): 463–490.

Snyman MMM, Kruger CJ (2004). The interdependency between strategic management and strategic knowledge management. J. Knowl. Manage., 8(1): 5-19.

Spender JC (1996). Making knowledge the basis of a dynamic theory of the firm. Strateg. Manage. J., (17): 45-62.

Stenberg R, Horvath J (1999). Tacit Knowledge in Professional Practice. Lawrence Erbaum, London.

Stevenson HH, Jarillo JC (1990). A Paradigm of Entrepreneurship: Entrepreneurial management. Strateg. Manage. J., 11: 17-27.

Swan J, Newell S, Scarbrough H, Hislop D (1999). Knowledge management and innovation: Networks and networking. J. Knowl. Manage., 3: 262-275.

Teece DJ (2000). Strategies for managing knowledge assets: The role of firm structure and industrial context. Long Range Plan., 33(1): 35-54.

Tobin PKJ, Franze MH (2005). Organisational structure and knowledge management: A case study. Mousaion, 23(2): 149-164.

Tobin PKJ, Snyman MMM (2004). World-class knowledge management: A proposed framework. South Afr. J. Inf. Manage., 6(3): 1-18.

Tobin PKJ, Volavsek P (2006). Knowledge management measurement in South African Organisations. Mousaion, 24(1): 96-118.

Trethewey A, Corman S (2001). Anticipating k-commerce: E-commerce, knowledge management, and organisational communication. Manage. Commun. Q., 14: 619-628.

Van den Berg H, Snyman MMM (2003). Managing tacit knowledge in the corporate environment: Communities of practice. South Afr. J. Inf. Manage., 5(4): 34-54.

Van der Walt C, van Brakel PA, Kok JA (2004). Knowledge sharing via enterprise intranets – Asking the right questions. South Afr. J. Inf. Manage., 6(2): 1-56.

Watad M (2002). Knowledge management: Building a flexible information technology infrastructure. Proceedings of World Multiconference on Sytemics, Cybernetics and Informatics, SCI2002. Orlando, Florida, pp. 14-18.

Watard MM, Perez-Alvarez C (2007). Knowledge sharing and cultural diversity among its people: Implications on knowledge management initiatives. Allied Academics International Conference, Proc. Acad. Inf. Manage. Sci., 11: 1-6.

Wenger E (2004). Knowledge management as a doughnut: Shaping your knowledge strategy through communities of practice. Ivey Bus. J., 3(2): 1-9.

Wenger P (2002). Communities of Practice: the Organisational Frontier. Harv. Bus. Rev. 1(2): 139-145.

Wiig KM (1994). Knowledge management: The central management focus for intelligent-acting organizations. Schema Press, Arlington, TX.

Wiig KM (2002). Knowledge management in public administration. J. Knowl. Manage., 6(3): 224-239.

Wilkes N, Dale BG (1998). Attitude to self assessment and quality awards: A study in small and medium-sized companies. Total Qual. Manage., 9(8): 731-739.

Winter SG (1987). Knowledge and competence as strategic assets. DJ Teece (ed). The Competitive Challenge: Strategies for Industrial Innovation and Renewal. Belliner, Cambridge, Mass.

Zahra SA, George G (2002). Absorptive capacity: A review, reconceptualization, and extension. Acad. Manage. Rev., 27(2): 185–203.

Zhou AZ, Fink D (2003). Knowledge management and intellectual capital: An empirical examination of current practice in Australia. Palgrave Macmillan, 1(2): 86-94.

Zorn TE, Taylor JR (2004). Knowledge management and/as organisational communication. In D Tourish and O Hargie (Eds.), Key issues in organisational communication. Routledge, London, pp. 96-112.

Zorn TE, Taylor JR (2004). Knowledge management and/as organisational communication. Manuscript for the ICA 2004 Annual Conference in New Orleans, pp. 27–31.