EMPLOYEE PERCEPTIONS OF KNOWLEDGE MANAGEMENT IN TWO SERVICE UNITS: A CASE STUDY OF MANAGEMENT SERVICES AND ORGANISATIONAL DEVELOPMENT (OD) AND SKILLS DEVELOPMENT UNITS

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Abstract

The main objective of knowledge management in organizations is its "use" or "benefit". A comprehensive review of the literature has revealed a rapidly increasing and eclectic body of knowledge relating to knowledge management by both practitioners and academics. Knowledge management initiatives adopted within eThekwini Municipality are technologically oriented and lack deeper analyses of knowledge. 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, to gain knowledge on, or insight into, employee perceptions about knowledge management processes to convert tacit into explicit knowledge, to explore employees' views regarding the implementation of knowledge management strategies and employee' perceptions about the ways in which knowledge management can contribute to organisational effectiveness and efficiency. Furthermore, this study investigates the interrelations between the four dimensions that impact on knowledge management (current knowledge management strategies, current processes for managing knowledge, implementation of knowledge management strategies and perceptions of the impact of knowledge management effectiveness) respectively.

This study seeks to investigate new systematic strategies for knowledge management within eThekwini Municipality and international knowledge management initiatives and strategies in the public sector are to be explored with the aim to promote knowledge transfer. The study was undertaken at Skills Development and Management Services and Organisational Development (MS&OD) Units within eThekwini Municipality. A knowledge management survey used census and questionnaires were administered to 80 employees, of which 66 questionnaires were suitably completed. The survey took place during June to July 2009.

Statistical analysis of the questionnaire included descriptive (measures of central tendency and dispersion) and inferential t-test, ANOVA and intercorrelations statistics. The validity and reliability of the questionnaire was established using factor analysis and Cronbach's Coefficient Alpha, respectively. The hypothesis of the study was tested using inferential statistics to determine whether significant relationships exist among the variables. Interpretation of results indicated that there exists a significant relationship amongst the key variables of the study relating to knowledge management respectively.

It is argued that these findings have practical implications for human resource management discipline, local government, private organisations and academics as it proposes and suggests strategies and recommendations that may be implemented to overcome barriers of implementing knowledge management. The limitations of the study as well as directions for further research are also discussed.

Keywords: Tacit knowledge, explicit knowledge, community of practice, census, case study

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Introduction

There is a growing interest and concern from organisations pertaining to skills and knowledge that employees have which is not captured and recorded with the aim of inventing the knowledge wheel Wiig (2002:224) 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 the society's success is the 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. The broad field of knowledge management (KM) introduces new options, capabilities, and practices to assist public administration to great advantage. It becomes a new responsibility to manage knowledge to strengthen public service effectiveness and improve the society it serves (Lee, Y. C. and Lee, S.K. 2007:28).

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. The effective management of a firm's knowledge assets is an essential factor to achieve a sustainable competitive advantage in today's market (Drucker, 2001:18). A firm's knowledge encompasses a mix of framed experience, values, contextual information and expert insight that makes possible the incorporation of new experiences and information (Davenport and Prusak, 1998:45). 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, 2002:45). According to Boisot (1995:23), 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. According to the definition, 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.

In the South African context, local governments such as eThekwini Municipality are failing to initiate and implement knowledge management programmes to all units. Whilst, in the South African private sector, organisations have invested on human capital with rewards in promoting transfer of tacit to explicit knowledge which is mainly used for innovation and creativity which brings change and high productivity rate or level. 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, 2007:124). The idea is that the success of any knowledge management initiative is likely to be critically dependent on having suitably motivated people taking an active role in the process (Robertson and O'Malley Hammersley, 2000:33). Few researchers have studied the perceptions of employees on knowledge management within the public service units focussing on the knowledge management strategies, processes, implementation and the impacts to organisational effectiveness.

The research objectives of the study are to examine and analyse current knowledge management strategies, tacit and explicit transfer processes, and knowledge management's contribution to organisational effectiveness and efficiency and implementation strategies. Furthermore, to provide recommendations with strategic direction and improvements as far as knowledge management is concerned. The importance and value of the study is to contribute to the formulation of knowledge management strategies and initiatives within Skills Development and Management Services and Organisational Development (MS and OD) Units. Furthermore, to enable aforementioned units assigned to drive knowledge management to be effective and efficient in its implementation; and to add value to the body of knowledge in knowledge management research in South African local government as there are limited numbers of researchers who have contributed to the study.

From this, the present study will explore current knowledge management strategies employed by Skills Development and MS and OD. In addition, this study will investigate whether knowledge management has a significant relationship with its aforementioned dimensions.

Synthesis and Critical evaluation of the literature

The concept of knowledge management is traced back to the 1950's which was the decade of electronic data processing. Gamble and Blackwell (2001:5) confirms that this decade was associated with quantitative management techniques such as Project Evaluation and Review Technique (PERT) and highly structured management approaches such as Management by Objectives (MBO). Nonaka (1994:76) defines knowledge discovery as the development of new tacit or explicit knowledge from data and information or from the synthesis of prior knowledge. The discovery of new explicit knowledge relies most directly on combination, whereas the discovery of new tacit knowledge relies most directly on socialisation.

Knowledge management is the process by which managers create mechanisms for exchanging knowledge and creating new knowledge (Cabrera and Cabrera, 2002:34). 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, Fulk and Monge, 2002: 335). Effectively managing knowledge in organisations involves considerations of both knowledge acquisition and knowledge transmission (Lowendahl, Revang, and Fosstenlokken, 2001:55).

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. The idea is that the success of any knowledge management initiative is likely to be critically dependent on having suitably motivated people taking an active role in the process (Robertson and O'Malley Hammersley, 2000:33). 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, 2004:77). On the other hand, explicit or codified knowledge (Polanyi, 1966:16) is transmittable through formal, systematic language, and may adopt the form of computer programs, patents, diagrams, or similar attributes (Hedlund, 1994:49). Explicit knowledge can be conceptualised and stored in information systems (Hussi, 2004:11). Much of organisational knowledge is tacit (Cook and Yanow, 1993:67), 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; Bohme and Stehr, 1986; OECD, 2000; Reich, 1991and Wiig, 1994, 1997). IT is used extensively to support knowledge management, although many information management tools are marketed as being "knowledge management" tools, which they arguably are not knowledge, it must be realised, is distinctly different from information, and knowledge management and information management are not the same.

According to Tobin (2006:1), 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 2005a; Tobin and Volavsek 2006:33); the role and influence of corporate culture (Davel and Snyman 2005; Ndlela and Du Toit, 2000:38); knowledge management in South African law firms (Du Plessis and Du Toit, 2005:87); leadership issues (Kok 2003:29); organisational maturity and world-class performance in relation to knowledge management (Kruger and Snyman 2005b; Tobin and Snyman 2004:16); strategic perspectives (Snyman and Kruger 2004:44); knowledge management and organisational structure (Gichuru and Tobin, 2004; Tobin and Franse, 2005:20); communities of practice (Van den Berg and Snyman 2003:34); and knowledge management and the use of enterprise intranets (Van der Walt, Van Brakel and Kok, 2004:1).

Despite the fact that the literature includes numerous typologies for organisational knowledge which are scientific and practical (Hayek, 1945:66), objective and based on experience (Penrose, 1959:4), procedural (Winter, 1987:77), incorporate (Suboff, 1988:99), migratory and embedded (Badaracco, 1991:122), and are codified (Blacker, 1995:8) - the most frequently used is the one that distinguishes between tacit and explicit knowledge, proposed by Polanyi (1966:88) and later utilised by other authors.

Knowledge management is an important organisational consideration because it increases organisations' viability, competitive success, and performance outcomes (Cabrera and Cabrera, 2002; Dyer and Singh, 1998; Palassolo, Serb, She, Su, and Contractor, 2006 and Shou and Fink, 2003). Trethewey and Corman (2001:622) tied effective knowledge management practices to enhance creative potential, stating "effective knowledge management systems that may relieve individuals of the burden of 'reinventing the wheel,' freeing them to engage in more creative tasks". Furthermore, Intranet-based communal knowledge repositories, hereinafter referred to as repositories, are used to contain knowledge and make it accessible. Demarest (1997:98) 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.

Hypothesis development

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.

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; Iverson, Liedtka, Haskins, Rosenblum and Weber, 1997; Kuhn, 2002 and McPhee, 2002:31). CoPs recognise that "knowledge has to be continuously negotiated through interactive social networking processes" (Swan, Newell, Scarbrough and Hislop, 1999:5), and they highlight the role of communication and interaction to transform information into a useful resource in organisational sense-making and learning (Sorn and Taylor, 2004:76).

Edvardsson (2003:5) 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 (2005:34). Literature shows clearly techniques and strategies of creation and transferring new explicit knowledge. Nonaka (2004:98) 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, 1998:143). 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 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.* 2005:71). Furthermore, enhancing tacit knowledge flow through better human interaction such 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 as that knowledge that can be shared with others. Nonaka (1994:98) 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 (1994:156) discusses the role of externalisation and internalisation which assists in capturing the tacit and explicit knowledge.

According to Nonaka (1994:34) 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 translate individuals tacit knowledge into explicit forms that can be more easily understood by the rest of their group. Nonaka (1994:36) suggested that externalisation may be accomplished through the use of metaphor (for example, understanding and experiencing one kind of thing in terms of another). According to Nonaka (1994:38) 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, 1995:54) state 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, interviews processes, as well as conflict handling and resolutions.

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, 2004:3).

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 which is hard to transmit (Empson, 2001; Swan *et al.* 1999). Embodied, and enculturated ways of knowing are tied to CoPs and the process perspective of knowledge management (Blackler, 1995:65).

According to Fong *et al.* (2005:6) cited in Apostolou and Mentzas, (2003); Liebowitz and Megbolugbe (20003), for knowledge management to be successful, an organization 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 organization and an evaluation of capabilities. Apastolou and Mentzas (2003) cited in Fong *et al.* (2005:6) developed the Know-Net KM approach, which includes the interplay among strategy, assets, process, systems, structure, individuals and teams, across organisations and within the organization 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 *et al.* 2002:45). 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 (2004:3) 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, and ensures that performance is successfully carried out (Roberts, 2001:1). Evans (2003:98) points out that the basis of what gets measured normally gets done it is important that firms consider the knowledge component in their performance management systems. O'Brian (2005:56) 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 returning 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."

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 in 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, 2008:5). 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 a there will exist 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 with knowledge workers' needs. Serenko, Bontis, and Hardie (2007) understand this process as they describe three major barriers to knowledge-sharing: individual, organisational, and technological.

Evans (2003) stresses the role of human resource managers in helping their organisation to develop an organisational culture that supports knowledge building and sharing. The steps necessary in such transformation process include agreeing strategic priorities and areas for change, helping demystify knowledge management by linking knowledge management activity to establish business processes and human resource management practices, and engaging others in knowledge management dialogue.

Maybury and Thuraisingham (2002:64) discuss two thrusts of strategy of which the first thrust 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. These researchers have found that in their research 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.* (2002:66-68) 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 Buer, 1996:78), entrepreneurial management (Stevenson and Jarillo, 1990:123), and entrepreneurial orientation (Lumpkin and Dess, 1996:44). This research employs the last definition, which examine 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, 2000:56).

The aim of entrepreneurship is to bring something "new" to the market, with most of the newness deriving from the unique combination of existing knowledge and new knowledge (Ahuja and Lampert, 2001:24). Organisations should identify and acquire special information and knowledge (Teece, 2000; Sahra and George, 2002:123) 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.

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.* 2001:76). 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, organisation must be able to identify and disseminate new knowledge internally, throughout the organisation (Liao et al., 2003:156). Through social capital, redundancy in information and the extent of knowledge diffusion tends to decrease (Burt, 1992:145). 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 companies' competitive edge (Elmuti, 2001:45). 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, 2003:134) 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, 2003:14). Trust, common languages and beliefs are critical to effective knowledge sharing (Simonin, 1999:56). 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, 2003:33). 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 (Watad and Peres-Alvares, 2007:49).

Hansen (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 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, 1999:110) indicates '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, 1999:21).

RESEARCH DESIGN

Research approach

Based on the literature review and hypothesis developed in the previous section, a methodology to guide the study was developed. This study treats knowledge management as an independent variable that is expected to influence knowledge management dimensions (current knowledge management strategies, current processes for managing knowledge management and perceptions of the impact of knowledge management effectiveness) respectively. A combination of factors is predicted to influence the service units' current strategies, processes in place, implementation strategies as well as its impacts to organisational effectiveness and efficiency. As indicated earlier, the study also examines the effectiveness of knowledge management strategies and its implementation within eThekwini Municipality's Management Services and Organisational Development (MS and OD) and Skills Development Units.

This study followed 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 charectestic of a random variable and to produce a profile of its behaviour through summary measures. This study focussed on the census which the data is obtained from or about every member of the population of interest (McDaniel and Gates, 1998: 302). Saunders *et al. (*2007:204) indicate that it may be possible to collect and analyse data from every possible case or group member, this is termed a census.

McDaniel *et al.* (1998:302) state that census is not often used in marketing research; there are instances where they are appropriate and feasible. For example, census may be appropriate and feasible in industrial products settings where a particular firm may have a small number of customers for the highly specialised products it sells. Under the ambit of Skills Development and M S & O D Units, it was possible to obtain information from the entire population of employees taking into cognizance the organisation's population of less than 100. Inferential statistics, such as, correlation, t-test and ANOVA have been undertaken, the purpose of which was to generalise sample findings to the broader population.

Research method

Research participants

This study used a census with the population size of 80 employees from which a sample of sixty six (66) respondents completed the interviewer-administered questionnaires thereby generating a response rate of 82.5%. Appropriate questions were designed based to the challenges and gaps identified while reviewing the literature. This study used ten questionnaires 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 scale used in this study was the Likert or Interval scale. Sekaran (1992:254) argues that the Likert or Interval scale enables certain arithmetical operations to be performed on the data collected from the respondents. Sekaran (1992:259) attests that statistics could be divided into parametric and non-parametric statists. In using parametric statistics, which includes vertical and ratio scales, assumptions or hypotheses distributed, can be made. In using non-parametric statistics, which includes nominal or ordinal data, no explicit assumption or hypothesis regarding the normality in the population can be made. In order to verify the constructs of this study, a number of tests (hypothesis testing and inferential statistics components) were conducted, including using correlation, the t-test, analysis of variance (ANOVA), factor analysis and cronbach's coefficient's alpha analysis.

A likert scale was used for all sections B to E (in a questionnaire) to rate the responses. The Likert scale that was utilized was a five point scale ranging from strongly disagree (1), disagree (2), undecided (3), agree (4) and strongly agree (5). The questionnaires were self-administered by the researcher to the aforementioned units during the month of June-July 2009. Prior to the consent from the eThekwini Municipality's Skills Development Units Head, a population of 80 was distributed to the respondents and 66 of the questionnaires was received.

Research procedure

The questionnaire was structured into five Sections, for which Section A is the biographical data and Sections B, C, D and E are actual items relating to the dimensions of knowledge management being assessed. The questionnaire for this study was structured according to the six specific research objectives. The questionnaire comprised of five sections, namely, biographical data, current knowledge management strategies, current processes for managing knowledge management, implementation of knowledge management strategies and perceptions of the impact of knowledge management effectiveness. The study used primary data through structured questionnaires for data collection. Furthermore, to generate data for the study, a questionnaire was developed, using appropriate coding for statistical purposes. The questionnaire was constructed by obtaining information from published journals by authors such as Wenger (2004), Lee and Sukoro (2007), Aflouni (2007), Teasley and Robinson (2005), Watad and Alvarez (2007) and Marr, Gupta, Pike and Roos (2003).

Statistical analyses

The nature of the study required the researcher to use widely used 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. Moreover, three measures of central tendency which includes mean, median and mode as well as the measures of dispersion which includes the range, variance and standard deviation were used. 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 managing knowledge management, implementation of knowledge management strategies and perceptions of the impact of knowledge management effectiveness) correlate significantly with each other. Factor analysis

examined the basic structure of the data, the internal consistency of each dimension was measured by item-to-total correlations, while the reliability of the measures was examined by Chronbach's alpha, using his generally accepted guideline for being internally consistent of 0.70 (Hair, *et al.* 1998).

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 1-5 point Likert scale. Descriptive statistics were computed for each of the key dimensions (Table 5.1).

Table 1. Descriptive statistics – key dimensions of the study

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
95% Confidence Interval for Mean - Lower Bound	2.78	2.54	2.7907	2.82
Upper Bound	3.17	2.96	3.1941	3.21
5% Trimmed Mean	3.01	3.004	2.76	3.03
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
Kurtosis	-0.318	0.621	-0.138	0.469

The mean scores 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:

- Perceptions of the impact of knowledge management effectiveness (Mean = 2.99).
- Current knowledge management strategies (Mean = 2.98).
- Current processes for managing knowledge management (Mean = 2.97).
- 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 respondents generally answered strongly disagree/disagree or was 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 Units and M S & OD. This implies that improvement is needed in the current knowledge management strategies.

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% 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 knowledge is captured from individual's minds.

Also the results indicate that there is a 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 unit 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 hypotheses of the study.

Hypothesis 1

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. Intercorrelations amongst the key dimensions of knowledge management

Dimensions		Current knowledge management strategies	Current processes for managing knowledge management	Implementation of knowledge management strategies	Perceptions of the impact of knowledge management effectiveness
Current knowledge management strategies	**Pearson Correlation**	1.000			
Current processes for managing knowledge management	**Pearson Correlation** **p** **N**	0 .786** 0.000 66	1.000		
Implementation of knowledge management strategies	**Pearson Correlation** **P** **N**	0.725** 0.000 66	0.673** 0.000 66	1.000	
Perceptions of the impact of knowledge management effectiveness	**Pearson Correlation** **p** **N**	0.696** 0.000 66	0.658** 0 .000 66	0 .770** 0 .000 66	1.000

*p< 0.05
**p< 0.01

Table 2 indicates that there exists a significant correlation amongst the dimensions of knowledge management respectively. Hence, hypothesis 1 may be accepted.

DISCUSSION

The key variables investigated in this study include current knowledge management strategies, current processes for managing knowledge management, implementation of knowledge management strategies and perceptions of the impact of knowledge management effectiveness and, will 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

While there have been inconclusive results in linking the relationship between knowledge management strategies and organisational performance (Choi, Poon and Davis, 2008:13), there is clearly a relationship between knowledge management strategies and 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.* (2008:14) 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 (McFarlane, Britt, Weistein and Johnson, 2007:11) where knowledge is a key resource input into productivity and competitive processes.

Current processes for managing knowledge

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, 1995:34).

Marr, Gupta, Pike and Roos (2003:771) 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, Gupta, Pike and Roos, 2003:771).

Implementation of knowledge management strategies

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 (1995:34) refer to this part of knowledge management as "organisational knowledge creation", referring to the creation and development of knowledge within the organisation. Sternberg (1999:8) 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 (2001:3) 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 as 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 in regard to other management philosophies (for example, TQM, Wilkes and Dale, 1998 and reengineering, Francis and MacIntosh, 1997).

Perceptions of the impact of knowledge management effectiveness

Research was conducted by Lee and Sukoco (2007:1) 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 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.

The results of the research indicate employee perceptions of the various dimensions of knowledge management, namely, current knowledge management strategies, current processes for knowledge management, implementation strategies and the impact of knowledge management effectiveness in the eThekwini Municipality's Skills Development and MS and OD units. In the interests of both the employers and employees, it is imperative that factors impacting negatively on the effectiveness of these units be thoroughly re-investigated with a view of intensifying intervention efforts so as to attain optimal levels of performance.

Research by Connelly and Kelloway (2003:1) 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.

The study revealed significant relationships among the 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) respectively. Significant differences were found between the biographical variables (age, gender, education, race, tenure and job level) and the 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) respectively. In descending level of employees differing views, the four dimensions of knowledge management are perceptions of the impact of knowledge management effectiveness, current knowledge management strategies, current processes for managing knowledge management and implementation of knowledge management strategies.

Organisations investing in knowledge management gain an effectiveness and efficiency advantage over their competitors or they try to negate the competitive advantages of others.

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.

Recommendations based on findings of the study

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:

- Perceptions of the impact of knowledge management effectiveness.
- Current knowledge management strategies.
- Current processes for managing knowledge management.
- 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).

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 so as to achieve higher levels of effectiveness which result in employee competence, productivity and satisfaction.

Current knowledge management strategies

In this study, respondents mentioned that in these units reward or incentive systems for knowledge management are absent which results to dissatisfaction. Arising from the literature study of chapters two and three, the research methodology of chapter four and the empirical evidence (chapter five) and discussion of results (chapter six), the following recommendations are proposed:

- eThekwini Municipality should develop an encompassing knowledge management strategy which has both technical and cultural attributes.
- eThekwini Municipality should formulate a knowledge management policy that rewards employees in order to drive knowledge management initiatives.
- The performance measurements agreements of all employees should include knowledge

management as the strategic focus area during all financial years (at the senior management level).
- 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.
- Indigenous knowledge through public-participation should be extracted and used in order to play a tremendous role in organisational effectiveness.
- eThekwini Municipality must invest on 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 or level.
- eThekwini Municipality's knowledge leaders must align compensation and reward systems, as well as organisational strategies and tasks with knowledge workers' needs.

Current process for managing knowledge

This study revealed that in these units Skills Development and MS and OD 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:
- Knowledge focus within eThekwini Municipality must be shifted from being on the individual to be integrated into the systematic considerations of broader work processes.
- eThekwini Municipality must govern knowledge management-related processes and relationships by providing enterprise-wide support, infrastructure, and leadership.
- eThekwini Municipality must have knowledge management systems to be designed to collect, disseminate and use project-generated knowledge, for the benefit of the entire organisation.
- eThekwini Municipality should employ suitably and motivated people to take an active role in the process of knowledge creation, storing and dissemination thereof.
- eThekwini Municipality should invest in constant training and development of employees to perform work processes and procedures that are specific to the organisation.
- A balance scorecard approach must be adopted within eThekwini Municipality if employees are to realise that the firm is taking knowledge management seriously.
- Communities of practice must be established within eThekwini Municipality 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 returning knowledge from the field.
- eThekwini Municipality 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 absent of techniques, technologies, systems and rewards makes it difficult to share what they know. To respond to such challenges the following recommendations are proposed:
- Explicit knowledge within eThekwini Municipality must be conceptualised and stored in information systems.
- eThekwini Municipality must convert ideas into products and services or improved business processes.
- eThekwini Municipality should create knowledge leadership and champions, a well-developed technological infrastructure ('hard') and knowledge enriching culture.
- eThekwini Municipality 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:
- Employees should increase the use of the organisational intranet system in order to increase knowledge.
- eThekwini Municipality must upgrade innovation and competence as the strategy for managing knowledge effectively, by integrating existing knowledge and new information in order to develop new knowledge that will improve innovation.
- eThekwini Municipality should diversify the workforce in order to provide the organisation with access to different ideas, skills and thereby enhance the organisations' competitive edge.
- eThekwini Municipality 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.

- eThekwini Municipality 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. There are multiplicities of possible purposes for the research which include describing, explaining, understanding, criticising and analysing. However, several barriers and limitations were present in the research design and during data collection phase of the research process caused by the resistance from senior management to access information. For future research it is suggested that:

- The study focussed on two small units, thus future research can focus on all units within eThekwini Municipality.
- Furthermore, this research has focussed on employees within eThekwini Municipality, thus future research can focus on employees within district and local municipalities throughout KwaZulu-Natal.
- 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.

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