

HARNESSING THE POWER OF KNOWLEDGE IN HIGHER EDUCATION

PROF GM STEYN

Faculty of Education

University of South Africa

PO Box 392

Pretoria 0003

Tel numbers:(27) (12) 429-4598 (Office)

Successful organisations are knowledge-creating organisations, which produce, disseminate and embody new knowledge in new products and services. To this end, knowledge management enables organisations to improve efficiency and effectiveness mainly by decoding tacit knowledge into explicit information. This article focuses on the role of knowledge management in the improvement of higher education institutions. Firstly, a distinction is drawn between data, information, knowledge and learning. Thereafter different models of knowledge management are discussed. The relationship between models of knowledge management, which focus on social construction and the creation and maintenance of a learning organisation is indicated. The importance of an explicit, systematic and comprehensive institutional approach to knowledge management is stressed. This implies an equal emphasis on people, technology and structures. Guidelines are proposed for implementing a knowledge management programme in higher education institutions. Finally, the benefits of knowledge management in higher education during a period of transformation are highlighted.

Introduction

Today the experiences, skills and abilities of people are coming increasingly under the spotlight and have emerged as the topic of an emerging academic discourse. The latter is aptly named knowledge management (KM) and has become one of the hottest issues in the literature on management. Consequently, the growing awareness of the value of the knowledge embedded in the experiences, skills and abilities of people is emerging as a significant challenge to improving organisations.

The management of knowledge in the organisation has to be adopted or adapted by organisations if they are to compete successfully in the twenty first century. Intellectual capital has therefore become one of the prime sources of a knowledge-based and knowledge-enabled organisation. KM accepts that staff members own the tools of development through the knowledge they possess. According to Bryans and Smith (2000, 229), Hicks (2000, 71) and Rossett (1999, 64), this personal knowledge requires transformation

into institutional knowledge that can be widely shared throughout the institution and applied appropriately to make it a meaningful developmental tool.

For the purpose of this article the following questions are posed:

- Is KM a management fad designed to keep consultants and conference organisers employed and to distract organisations from focussing on bottom line results and customer orientation? Or is KM a useful metaphor that supports organisations in the environment at the beginning of the 21st century?
- How can KM be implemented in higher education?
- Which challenges are faced by higher education who wish to implement KM?

Certain key concepts are explained to answer these questions.

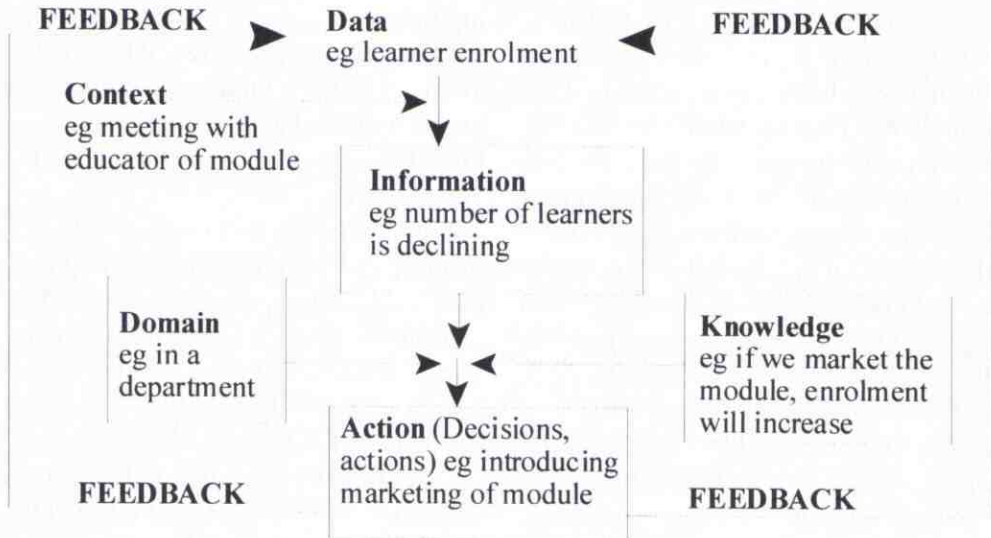
Data, information, learning and knowledge

With the growth in information technology a clear operational distinction can be drawn between data, information, learning and knowledge. Information is viewed as data in context and is currently believed to be captured, stored and transmitted in digital form. Information is not static or distinct but continues through a value-added phase as part of the internal processes by which individuals interpret their meanings of people, objects and events (O'Connell, 1999, 33). According to Rowley (2000(b), 9), this process is known as learning. Learning leads to knowledge, which is either tacit (embedded in people's

minds) or explicit (stated as in formal communication or in documents). Knowledge supports and informs decisions, behaviour and actions. The final stage is the feedback from those actions, which may lead to further information and forms the basis for further learning. For example, the number '13' on its own is data. If a word is added like '13 learners', it is still data. Once context is added, such as '13 learners enrolled compared with 200 last year', the statement becomes information. Since information can be interpreted as data in context, such as 'fewer learners are enrolled for this module than other modules in the faculty', knowledge allows one to predict the future, such as 'learners enrolling for the module should be concerned about its phasing out' (Kock, McQueen & Baker, 1996, 2). Knowledge is therefore an understanding about a domain. A person with knowledge about a situation can interpret the implications of incoming information and data and use it to either take action or ignore it.

Figure 1 illustrates where data (e.g. learner enrolment) is interpreted by the model in a context (e.g. meeting with the educator) as information (e.g. the number of learners is declining). This information is combined with the knowledge (e.g. if marketing of the module is introduced, enrolment will increase) and leads to effective action (e.g. introducing marketing of module).

O'Connell (1999, 33), Martensson (2000, 208) and Shariq (1998, 11) state that knowledge results when people personally transform information into their personal knowledge store and create new knowledge. Knowledge is therefore viewed



as the personal ability to interpret information through a process of giving meaning to the information and an attitude of wanting to do so.

The question of the nature of knowledge is very challenging since knowledge is not static and changes continuously. The old knowledge equation was: *knowledge is power, so collect it*. Currently, this has been replaced by: *knowledge is power, so share it in order for it to multiply* (Allee, 1997, 71). Hicks (2000, 71) maintains that intellectual capital and knowledge of people are the most important assets of an organisation and therefore constitute the competitive resource in organisations. According Robinson and Ellis (1999, 27),

some organisations have unfortunately been misled by the technology explosion to believe that technology can replace the skills and knowledge of an experienced person. However, technological developments have made the sharing, storing, distribution and access to information cost effective and user friendly.

Katz (1998, 50) and Bagshaw (2000, 182) emphasize the importance of realising that knowledge for its own sake cannot be used systematically and has little advantage for the organisation unless it is put into action. It needs to be transformed into structured, intellectual capital before it can become an asset. This clearly refers the crucial role of individuals in the knowl-

edge creation process.

Characteristics of knowledge creation

New knowledge always starts with individuals and knowledge creation commences when these individuals share their internal tacit knowledge by socialising with other people or by obtaining it in digital or analogue form. The shared knowledge is then internalised by others, which creates new knowledge. This newly created knowledge is again shared with other people and the process begins again (Bassi, 1997, 26; Martensson, 2000, 209).

The central activity of knowledge creating organisations is making intellectual capital available to other people in the organisation (Nonaka, 1993, 43). People have to question their beliefs: how they create knowledge instead of simply performing tasks and how they transfer the useful knowledge. Knowledge creation has to be managed in such a way that knowledge is created, embodied, disseminated and used to contribute to organisational effectiveness and ensure that the organisation can demonstrate what has been learnt through its actions and decisions (Bassi, 1998, 512). Unfortunately, it takes time to build a culture of shared knowledge and shared development of ideas.

What is KM?

Authors differ in the classification of the two different theoretical perspectives of KM. According to Rossett (1999, 64), McAdam and McGreedy (1999, 93) and Martensson (2000, 213), the one perspective includes theories that focus on the knowledge of people and knowledge construction. The second perspective involves

theories that emphasise information and information technology. In the latter case the focus is on creating databases for storing information and making information available, the so-called explicit knowledge. What is missing in this approach is how the information can be used and translated into knowledge that can be utilised by the organisation.

Bassi, Cheney and Lewis (1998, 52) maintain that the information age is already at or past the midpoint of its cycle. This explains the growing interest in knowledge as the new source of competitive advantage, the so-called knowledge era. In this new approach KM has shed its former pre-occupation with information technology (McElroy, 2000, 199). The fundamentally new approach to KM now regards organisational learning as its best companion. According to the new enlightened view KM has been given a new name: second generation KM, which should not be confused with its first-generation, technology-centered heritage.

According to McElroy (2000, 200), a first-generation KM practitioner asked to characterise the role of KM in business will give something like the following as an example.

A knowledge worker is sitting at her desk performing a task, and then suddenly develops a need for information to complete her work. Where does she turn? Is the knowledge readily available? How long does it take to get it? Has technology been effectively placed at her disposal? Was the task successfully carried out? These are the kinds of ques-

tions we wrestle within KM - it's all about getting the right information to the right people at the right time so that they can do their jobs more effectively.

This is an example of first-generation thinking in action. First-generation KM looked at the individual staff member and the extent to which he or she has access to and can control information required. Organisational learning is not mentioned in this proposition. Only with the emergence of second-generation KM an implementation strategy for knowledge creation and learning becomes evident.

Considering the two perspectives, McAdam and McGreedy (1999, 93) believe that people and learning issues are central to KM and that KM is not situated in the technology domain. The issue is therefore not information and information technology, but psychology of and marketing of knowledge to people. Although faster data transfer is possible due to recent advances in technology, technology is regarded as a useful enabler and not a central tenet at the heart of KM. I therefore agree with McElroy (2000, 200) who states that both first- and second generation KM are increasingly realising the importance of a balanced approach in which the creation of new knowledge and its effective dissemination and use throughout the organisation are recognised as parts of the same continuous cycle.

According to Bassi et al (1998, 54), KM has several benefits. It increases the amount of learning that is taking place; makes work less frustrating; makes the learning organisation a reality and creates knowledge,

insight and understanding that can assist people in their daily lives outside the workplace. These benefits are succinctly summarised by Todd (1999, 13) in the following chain:

Greater and easier access to knowledge - knowledgeable people motivated to use knowledge - value-added decisions and value-added learning at personal level - enhanced organisational effectiveness.

For the purpose of this paper, KM is therefore defined as the collective knowledge of an organisation. It is an integrated approach to identify, manage, share and capitalise on the know-how, experience and intellectual capital of staff in an organisation. Theorists have developed the knowledge category and socially constructed models of KM to explain this phenomenon.

Different models of KM

Knowledge category models

As was mentioned earlier, there is a clear distinction between data, information and knowledge. Nonaka and Takeuchi (1995, 58) view KM as a knowledge creation process. The process shows that knowledge is considered as consisting of tacit or implicit knowledge and codified or explicit knowledge. The relationship between tacit and explicit knowledge is complex and contributes to the dynamic nature of knowledge. Hargreaves (1999, 127) and others maintain that explicit knowledge is similar to information and can be stored outside the human mind, for

example in a data base. It is packaged, easily codified, communicable and transferable. Rowley (2000 (a), 327) and Smith (2000, 237) state that tacit knowledge on the other hand is oral and may be regarded as context-specific, internalised and subjective, difficult to communicate and more difficult to transfer.

The instruments of KM are categorised according to the kind of interaction between tacit and explicit knowledge that is socialisation, externalisation, combination and internalisation. According to the model of knowledge creation (top two boxes of figure 2), tacit knowledge can be transferred through a process of socialisation into tacit knowledge in others.

Socialisation is therefore an exchange of experience whereby personal knowledge is created in the form of mental models, such as mentoring, training and the exchange of ideas which generate tacit knowledge (Hargreaves, 1999,127; Rossett, 1999,64). When experienced practitioners act as mentors and facilitators of learning, they are compelled to struggle with the task of transferring their tacit knowledge (process of socialisation) and of making their tacit knowledge explicit so that they can talk about the relevant knowledge and practice (externalisation). The transfer of tacit knowledge between individuals can be done when individuals learn by watching one another (Rowley, 2000 (b), 11). In externalisation tacit knowledge is made explicit by means of dialogue and collective reflection among staff members (McAdam & McGreedy, 1999, 96; cf Riley, 1998, 152). Combination is the kind of knowledge creation usually found in education and training

and can be regarded as a powerful tool to transfer knowledge (Bassi, 1997, 29; Robinson & Ellis, 1999, 28). When knowledge is shared with the mentor or facilitator in the form of internal networking, new ideas from the learner bounce with established ideas in the mentor or facilitator (combination) (Hargreaves 1999,132). Knowledge is also combined through meetings, documents and networking when people exchange knowledge. In internalisation explicit knowledge becomes tacit knowledge through learning-by-doing, although documented knowledge can also play a role in this process (Hargreaves, 1999,127; Roelof, 1999, 100). By sharing experiences and learning by doing under the supervision of the mentor or facilitator, the learner acquires professional knowledge (internalisation).

Considering the above, it is a great challenge to convert the great wealth of tacit knowledge in people's heads and make it easily available to other staff members in the organisation. This endeavour to decode tacit knowledge into explicit information is regarded as the major contribution from KM.

Socially constructed models of KM

Socially constructed models of KM view knowledge as intrinsically linked with the social and learning processes in the organisation. McAdam and McGreedy (1999, 98) developed a model based on Demerest's work, which focuses on the construction of knowledge including the social construction of knowledge in an organisation. The model identifies four phases of KM in the organisation: knowledge construction, knowledge

dissemination, knowledge use and knowledge embodiment. The constructed knowledge is embodied in the organisation through both explicit programmes and a process of social interchange. A process of dissemination of the espoused knowledge then follows throughout the organisation (McAdam & McGreedy, 1999, 98). Finally, the knowledge is seen as useful to both the organisation and staff member. According to McAdam and McGreedy (1999, 98), the model shows that KM is not a simple sequential process. This model allows KM to be associated with the emerging social constructivist paradigm.

Models of KM which focus on social construction share common ground with theories on learning organisations and organisational learning (Martensson, 2000, 213; Rowley, 2000 (b), 11). KM recognises that part of the information base of a learning organisation is the human knowledge that the organisation possesses. Managing this knowledge can play a significant role in enhancing learning and growth (Todd, 1999, 12).

Rowley (2000 (c), 1) argues that higher education institutions are recognised to be in the knowledge business and increasingly exposed to pressures in the market. It is therefore reasonable to consider that KM has something to offer higher education institutions.

KM in higher education

Higher education's prosperity is becoming increasingly dependant on the intellectual capital of staff and their capacity to grow and survive in a dynamic

environment (Du Toit, 2000, 187). Rowley (2000 (c), 4) expands on this by mentioning that higher education institutions and staff need to recognise and respond to their changing role in society. This requires the involvement of all staff and learners in higher education institutions and not only senior management. Instead of inventing a new paradigm, the significant level of KM activities in higher education institutions, which should be used as foundation for further development should be acknowledged.

Conventionally the university has developed the individual learner. Depending upon the nature and extent to which the learning material is also vocational preparation, explicitly or implicitly it has also contributed to the intellectual capital of a future-employing organisation (Garnett, 2001, 80). Recently the emphasis on the university's role as provider of continuous professional development has extended this link, but has not fundamentally influenced the role of the university as knowledge provider. The real challenge to the university is to meet the needs of the employees who are also learners as well as employers who are also developers and users of the high level knowledge incorporated and generated by the work-based programme. The learning material is not only 'transported' to the workplace, but 'translated' for use in the workplace (Garnett, 2001, 80). By doing this, the university is drawn beyond the area of human capital into the less understood areas of structural and client capital.

At the familiar level of the individual learner it is rather easy to conceive that an individual work-based programme might

influence the immediate domain of the learner employee (Garnett, 2001, 80). The intellectual capital lens of KM, however, focuses on the structures and procedures required in the organisation to ensure that meaningful learning is made explicit and available where needed. The university can therefore play an important role in contributing not only to human but also the structural capital by acting as a source of client capital. The essence is learning partnerships. These should offer added value to both partners through the development of joint provision, which is unique to that particular partnership and makes a genuine contribution to the intellectual capital of each of the partners.

To be successful in managing knowledge, higher education institutions have to manage knowledge assets just as all other facets (Du Toit, 2000, 188). They have to take a wider perspective of the role of knowledge. The focus should be on managing the university to include a knowledge perspective, instead of on knowledge as such. This implies the recognition that knowledge is a valuable asset that the university should manage explicitly.

For KM to be successful it is necessary to understand how people in organisations learn, how they implement what they learn and how they share their knowledge in order for a learning organisation to be created.

Creating a learning organisation

The concept 'learning organisation' has become another buzz word in management and human resource development (Garavan, 1997, 18). The demand for organisations to cope with a changing envi-

ronment has led to the development of the concept 'learning organisation'. A learning organisation is characterised by the ability to transform itself by acquiring new knowledge, skills and behaviours among all its staff members (Bassi, 1997, 29; Robinson & Ellis, 1999, 28; Rowley, 1998, 16).

Doherty (1998, 605) and Drafke and Kossen (1998, 156) characterise a learning organization as essentially a philosophy, a way to operate an organisation. A learning organisation searches for new ideas, problems and opportunities for learning to succeed in a competitive environment. The ability to learn faster than other organisations may be the only competitive advantage an organisation has (Bassi, et al., 1998, 51; McElroy, 2000, 199).

Organisations that comply with the learning organisation definition do so by design and not by chance. An analysis of distinctive policies and practices typifies these organisations. They include the following (Robinson & Ellis, 1999, 28, 29):

- 1 *Attitude Learning* only occurs in an accessible environment. The approach should be that there are always new things to learn and that learning is an essential, continuous part of growth and survival.
- 2 *Shared vision* With a greater uncertainty about the future, the need for a shared vision, mission and direction becomes more important. A shared vision provides the focus and energy for knowledge sharing. Management on its own may not always be sufficient to provide the vision and energy to stimulate and sustain effective KM practices. Senge (1990, 206) and Non-

aka (1993, 55) also argue that collective thinking helps to create a shared thinking of the future which will foster commitment.

- 3 *Systems thinking* It means to see the whole rather than the parts. Many organisations suffer from 'learning disabilities' because of their lack of 'joined up thinking' (Robinson & Ellis, 1999, 29). Senge (1990, 18-26) identifies seven such learning disabilities in organisations:

- a 'I am the position' The focus is here on the individual's work rather than on purpose of the whole organisation.

- b 'The enemy is out there' In this case others are blamed when things go wrong. 'In here' and 'out there' are part of the same system.

- c 'The illusion of taking charge' Individuals need to consider how problems arose before appropriate solutions can be identified.

- d 'The fixation on events' If the focus is on short term events, the slow gradual processes which occur over the long term are not recognised.

- e 'The parable of the boiled frog' In this case subtle changes in the environment are not detected until it is too late. A frog placed in a bowl of water at room temperature will stay in the water. If the water is hot, he will jump out. If the temperature is gradually increased from room temperature, the frog will stay there. Frogs are geared to sudden changes not slow gradual changes.

- f 'The delusion of learning from experience'. People learn from experience and their decisions have an influence on others. When individuals, however,

act in isolation and fail to share experiences with others, unintended consequences occur of which they will be ignorant.

- g 'The myth of the management team' Although teams may appear coherent and function well when performing routine tasks, they are full of internal conflicts and can crumble under pressure.

- 4 *Personal mastery* The building block of the learning organisation is the self-developing individual. Van der Westhuizen (1998, 93) and Senge (1990, 147) further state that although individual learning does not automatically lead to organisational learning, organisations cannot learn without individuals who are in a continuous process of learning and questioning. In learning organisations the purpose is for each individual to become self-managing and self-developing in a flexible, adaptive environment.

- 5 *Systematic problem-solving* It is important for individuals to push beyond obvious symptoms in order to identify main causes. This requires the use of facts and data to prevent sloppy reasoning.

- 6 *Learning from past experience* Organisations have continuously to review their successes and failures openly and systematically.

- 7 *Learning from others* An individual's experience is not the only source of learning. Benchmarking, feedback and externally focussed training programmes are techniques to learn from others (Duke, 1999, 27).

- 8 *Transferring knowledge* Transferring knowledge is a vital feature of a learning organisation because knowledge has to spread efficiently and quickly through an organisation. Education and training are powerful means to transfer knowledge. Other techniques include the use of technology, meetings, conferences, written projects, tours and staff transfers. Feedback loops between departments, teams and individuals need to be commonplace. Teams play a crucial role in creating knowledge because they provide a shared context where individuals can interact and engage in dialogue (Argyris, 1993, 55; Senge, 1990, 10). Argyris (1993, 178) postulates that the success of learning organisations is the result of the know-how embedded in the groups working together.

All contributions to knowledge identify two essential features: the way knowledge is created and the way it is controlled and managed to add value (Martensson, 2000, 214). The learning organisation's concepts focus mostly on the way in which knowledge is created. Higher education has been concerned about creating a learning environment in which staff and learners learn through their experience in teaching and learning, coupled with exposure to research and scholarships (Rowley, 1998, 16). The culture in higher education should therefore be appreciative of the creation of a learning organisation. How can higher education extend this learning culture to develop a learning organisation that learns from its environment and adapts accordingly?

Learning organisations in higher education

Education systems throughout developed countries are being subjected to increased levels of scrutiny. This explains why the transformation debate in higher education concerning the production of learners who are skilled in lifelong learning and who take responsibility for their own learning, has put pressure on institutions to adopt different teaching and learning strategies (Roberts, 2001, 107; Van der Westhuizen, 1998, 111). According to Duke (1999, 25), metaphors and analogies such as the 'learning university' and the 'adult university' are characteristic of the attempt to capture the nature of the change.

In addition, Roberts (2001, 108) maintains that mechanisms to qualify and codify the knowledge learners acquire, such as learning outcomes, together with systems to validate the content of courses at national level, have become widespread. What is happening is the standardisation of the provision of courses and content in higher education. The knowledge transferred through higher education is increasingly codified knowledge. The drive to codify knowledge has led to the exploitation of the opportunities offered by technology, for example e-mail tutoring and computer-mediated learning. These forms of learning should be viewed as complementary to traditional forms because the social context cannot be replicated in electronic form and is a crucial element in the learning process.

Although higher education institutions have a learning culture, the creation of a learning organisation depends upon instilling learning in the management processes

of the organisation. It means to extend the focus on learning from tuition and research to the wider organisation so that the organisation creates and disseminates knowledge that informs the development of the organisation.

The learning organisation has to include a sense of developing the potential of all staff members through staff development and self-development. It must also promote the concepts of learning on the job, in and through the work situation so that the organisation can develop the capacity for self-renewal and for adaptation to survive and prosper (Duke, 1999, 22). Argyris (1999, 67) indicates that it is not organisations that perform the actions that produce learning, but rather individuals who act as agents of the organisation who produce the behaviour that leads to learning.

Individual learning and the learning organisation

A learning organisation interests itself with individual learning, which has to be harnessed to create organisational learning. Garavan (1997, 18) argues that, although there is no organisational learning without individual learning, individual learning is still an essential but inadequate prerequisite for organisational learning. Senge (1990, 140) supports this by emphasising that organisations only learn through individuals who are learning. Individual learning, however, does not guarantee organisational learning and is also much more than the sum of individual learning. Furthermore, according to Garavan (1997, 18), it is insufficient for individuals to have

a learning orientation to be called a learning organisation. The idea is that individuals learn together in a collective system where the learning of one person or group is likely to have an effect on the learning of another. The way in which organisations seek to improve the capacity of learning opportunities is regarded as the essential ingredient in the learning organisation.

Rowley (1998, 17) feels strongly that every staff member should be involved in individual learning and management should view this as a central responsibility. A formidable challenge is to encourage individual learning across the different professional groups and to include non-academic staff such as librarians and administrators.

In a learning organisation learning is the core component of all operations and its learning strategy includes more than a human resource or staff development strategy. Only a focus on both individual and organisational learning can attain this. Although higher education institutions are devoted to individual learning, participative decision-making and the support of individual learning, other necessary aspects are less developed, such as a corporate learning strategy.

In order to become a learning organisation the following conditions are required: a learning strategy; participative policymaking; information technology in order to inform and empower people to ask questions and make informed decisions; internal exchange; enabling structures; inter-organisational learning; a learning climate and self-development for all; and the extension of learning to organ-

isations which are suppliers, customers or even competitors (Dale, 1994, 22; Rowley, 1998, 17).

One can never say: 'We are a learning organisation' because the more a person learns, the more he or she becomes aware of his or her ignorance' (Senge, 1990, 11). Moreover, an organisation cannot become excellent in the sense of arriving at a state of permanent excellence, since it is always in the state of practising learning, of becoming better or worse.

Being part of a learning organisation can be challenging. For those people who are excited about learning and development and pursue change and growth, the idea of continuous learning is attractive. However, others are content to go to work and do the same work throughout their career. According to Dale (1994, 27), statements such as: 'We can't do that, we have never done it before' may lead to paralysis and an inability to change. There is a general assumption that as people grow older, they tend to become less experiential and prefer the known to the unknown. If this assumption is correct, the aging workforce may influence the organisation's ability to learn, develop and transform unless appropriate action is taken to address the issue. It is therefore critical for organisations to learn how to learn.

Returning to KM, some guidelines are offered in implementing a KM programme in higher education.

Guidelines for implementing a KM programme

The real personal relevance of adopting and valuing KM in higher education lies

in the clarity it brings to individuals in focussing their activities for the sake of maximum individual and organisational benefit and emphasising those ideas that will enhance their personal influence in the organisation (Bailey & Clarke, 2001, 59).

The top management of the university plays a crucial role in managing the intellectual assets. The following serve as guidelines to implement a KM programme at a higher education institution (Du Toit 2000, 190, 191):

- ◆ Understand the value of knowledge in the higher education institution and its competitive advantage.

Knowledge plays a crucial role in a university and is an important factor for economic growth. The important role of KM for competitive advantage should first be understood by top management before the necessary decisions can be made to position deliverables of the function.

- ◆ Understand the economic consequences of KM practice in a higher education institution.

KM can provide economic growth in two ways. KM practices are firstly important levers by which the intellectual capital and individual efficiency and innovation are developed in the university. Secondly, KM practices assist in developing knowledge-enabled staff members who are willing to make value-added decisions towards attaining the objectives of the higher education institution.

- ◆ Understand how KM practices in the higher education institution compare to those in competing educational institutions.

The KM practices of competitors need to be examined to gain an understanding of the KM practices that define the current market edge. The following questions may be asked in this regard:

- How do KM skills of the higher education institution compare to those of competitors?
- How does the commitment of top management to KM compare to that of competitors?
- What unique aspect of the university allows it to enhance or sustain high quality KM practices?
- What KM practices have to be enhanced or sustained to capitalise on these unique aspects of the university?
- *Understand the role of the KM function in building capacity for the future.*

Planning is crucial for the effective use of knowledge. It is therefore important that management should ensure that KM practices assist the short-term and long-term planning.

Kidwell, Van der Linde and Johnson (2000, 31) argue strongly that the use of KM techniques in higher education is vital. Where this is effectively done, better decision-making abilities, reduced 'product' development cycle time (e.g. curriculum development and research) and improved academic and administrative services take place. Many faculty members possess institutional knowledge. For example, which

higher education institution does not have a faculty member who has led a successful curriculum design team or a researcher who has informal connections to the National Research Foundation? Sole reliance on the institutional knowledge of specific individuals can hinder the responsiveness and flexibility of any institution. It is a challenge to convert the information and skills currently residing in individuals and make them widely and easily accessible to all faculty members.

An institution wide approach to KM can lead to considerable improvements in sharing explicit and tacit knowledge and the subsequent growth benefits.

An example of KM applied in a faculty in a higher education institution

KM Application	Benefits
<ul style="list-style-type: none">. Repository of curriculum revision efforts that includes research conducted, best practices, lessons learnt, et cetera.. Repository of content arranged to facilitate interdisciplinary curriculum design and development.. Access to information related to teaching and learning with technology, outcomes tracking, lessons learnt, best practices, et cetera.. Hubs of information in each disciplinary area, including updated materials, recent publications, applicable research, et cetera.. Repository of instructional and assessment techniques, including best practices, outcomes tracking, and research.. Repository of analysed learner evaluations updated each semester or year for lessons learnt and best practices for the faculty.. Access for new educators to guides for developing curriculum, working with senior staff members, establishing effective teaching styles, advising do's and don'ts supervising Master's and Doctoral students, et cetera.. Repository of relationships to identify curriculum design task teams, guest speakers, case study sites, et cetera.	<ul style="list-style-type: none">. Improved quality of curriculum and programmes and leveraging best practices and monitoring outcomes.. Improved speed of curriculum revision and updating.. Improved faculty development efforts, especially for new faculty members.. Improved administrative services related to teaching and learning with technology.. Improved responsiveness by monitoring and including lessons learnt from the experiences of colleagues, student evaluations or other role player input.. Interdisciplinary curriculum design and development facilitated by moving across boundaries.

Considering the above KM challenges higher education in certain ways.

Challenges of KM for higher education

A socially-technical view of KM has implications for overall management practices. A great challenge for organisations is to create and maintain a knowledge entrepreneurial culture continuously whereby staff members feel comfortable with knowledge and are motivated, rewarded and entrepreneurial (Pan & Scarborough, 1999, 372). The value and the success of KM depend on the active participation of each individual. An equal emphasis on people, technology and structures may provide answers to this challenge and assist management in identifying the facilitating and inhibiting factors which impact the success of KM.

Even though the idea of distributing the knowledge of individuals and sharing it widely has immediate appeal to most managers, some individuals and constituents will be put off by the concept. How will the organisation protect individual property and answer staff members' concerns that KM will capture their ideas in order to replace them?

Conclusion

For both knowledge-based organisations and higher education institutions knowledge is power, because the employability of individuals is directly related to their knowledge. The management of knowledge-based organisations, however, differs in one respect from traditional higher education institutions. Organisations that have adopted KM are global organisations, which include international communities irrespective of state, national and cultural agendas. To become organisations like these, higher education

institutions have to move from predominantly collegially networked institutions with a limited international learner base and/or knowledge base towards the creation of a shared, extensive, global knowledge base. This has implications for the role of the state, the sharing of knowledge as basis of learning and the funding of higher education across national boundaries.

Higher education concerns itself with knowledge and hence knowledge creation, dissemination and learning are regarded as core activities. These institutions have traditionally been defined by their diversity and their role in relation to knowledge and learning across a range of different, clearly defined academic disciplines. Unfortunately a lack of focus in some cases and an extremely narrow focus in others make it difficult for higher education institutions to lead in all areas of knowledge and knowledge creation.

In the areas of knowledge access and knowledge repositories progress in higher education institutions has taken place, although perhaps not enough. However, considerable progress is required in the creation of a knowledge environment and the recognition of knowledge as intellectual capital. To excel in future, higher education institutions have to manage explicitly, systematically and comprehensively from a knowledge perspective. Sound KM will secure the collective and individual knowledge within the university to optimum effect. The creation of true knowledge managing cultures will, however, depend on all managers being able to see the relevance and action ability of KM.

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