

Conceptualising knowledge management in higher education

Deseré Kokt
Research Professor: Leisure Management
School for Tourism, Hospitality and Sport
Central University of Technology, Free State
Private Bag X20539
BLOEMFONTEIN 9301

Tel: (051) 5073114, Fax: (051) 5073363
koktd@cut.ac.za

Opsomming

Die reuse vooruitgang in rekenaar- en kommunikasietegnologie het 'n nuwe betekenis aan die beskikbaarheid van kennis gegee. Dit het die lewens van die moderne mens onomkeerbaar verander en die kennis-eeu ingelyf. Die geïndustrialiseerde wêreld van die 1900s sou nooit die impak van kennis op die funksionering van organisasies in die 21ste eeu kon voorspel nie. Organisasies, insluitend universiteite, is soms nie ten volle toegerus om die eise en die uitdagings van die kennis-eeu te bowe te kom nie. Universiteite vervul 'n sleutelrol in die skepping, kodifisering en verspreiding van kennis, wat beteken dat kennisbestuur 'n integrale deel van hulle strategieë behoort te wees. Die artikel stel 'n raamwerk voor vir die konseptualisering van kennisbestuur binne hoëronderrys, wat as vertrekpunt kan dien vir die implementering van 'n kennisbestuurstelsel.

1. Introduction

Knowledge is almost universally considered to be a public good and something that, according to Sörlin & Vessuri (2007:1), should be developed and supported. In this sense knowledge has normative value that extends far beyond a single discipline and could therefore contribute to the notion of Christian scholarship. The normative value of knowledge is based on its orderly development of concepts and constructs. Knowledge is fundamental in upholding the development of people and their world and essential to address societal challenges and needs.

Knowledge is therefore not only the art of knowing how things work, but it can be considered as an “act of care and mercy” to keep societies going. Knowledge is also core to man’s calling to meaningfully develop, exploit and care for the world. A special contribution from man’s calling is to use knowledge effectively in all walks of life. Dealing with knowledge and its characteristics demand an understanding of how knowledge should be managed.

The Knowledge Age has brought about a paradigm shift in the way organisations should view knowledge and the management thereof. Where capital and labour were the main components of the Industrial Age, knowledge is the main component of the Knowledge Age. This shift in focus from the Industrial Age to the Knowledge Age has meant that in order for organisations to be competitive, they need to consider knowledge as a vital component of their competitive advantage (Montequin, Fernández, Cabal & Gutierrez, 2006:526). This is especially applicable to universities, which could be regarded as the ‘custodians’ of knowledge and the catalysts for new knowledge creation through their research-related activities. Universities could further be regarded as the ‘reservoirs of knowledge’ (Aliba, 2008:74) and they have a huge responsibility towards society in terms of creating, codifying, sharing and disseminating knowledge (Jing, Nakamori & Wierzbicki, 2009:76).

In this sense, universities have a threefold mission: to be involved in teaching and learning, research and community engagement. Teaching and learning could be regarded as knowledge transmission, research as knowledge creation and community engagement as knowledge application. In this outset research is the crux, as it informs teaching and learning (through the development of novel techniques and methods), community-related issues (through community-based programmes like entrepreneurial/financial skills workshops, service learning, etc.) and assists business and industry to grow and become more profitable (through industry-related research and projects). New knowledge creation through research is thus THE crucial activity, as it impacts on all activities that universities associate themselves with. Creating new knowledge is only the beginning – once it has been created, universities need to manage it as a resource (Beesley, 2008:i). It should be kept in mind that Knowledge Management is not a separate management function, but that it should be imbedded strategically into the academic and support units of a university. In this regard, this discussion provides a framework that could serve as an inception point for implementing a Knowledge Management system in university context.

2. Knowledge management: unpacking the layers

It has been established that new knowledge is created through the research-related activities of universities and that new and existing knowledge needs to be

managed to be of optimal use to universities. Knowledge could be viewed as an intangible asset and intangible assets are often difficult to quantify and therefore to manage (Ramirez, Lorduy & Rosjias, 2007:732). In this sense, intangible assets could also be termed ‘tacit knowledge’ as it resides within individuals (their experiences, competencies, etc.). Tacit knowledge could be made explicit, making the management thereof more tangible. This will be elaborated upon in the next sections. It should, however, be noted that managing intangible assets in business and industry have received more emphasis than managing intangibles in universities (Warden, 2004), which is where the importance of this discussion comes in.

What are data, information and knowledge?

In delineating knowledge, one can distinguish between data, information and knowledge. Data consists of the raw facts that become information once it has been put into context and/or combined with other data. Once meaningful information is combined with experience and judgment, it can be referred to as knowledge (Jing *et al.*, 2009:76). In this regard, data is the prerequisite for information and information the prerequisite for knowledge. The *Little Oxford Dictionary* (1988) defines knowledge as “a person’s range of information” and “the sum of what is known”. These descriptions have wider implications for universities and the terms have different meanings and interpretations for people of different cultures and societies. It is important to note that knowledge is part of human culture (part of what individuals need to know in order to survive and fit in as a member of a particular cultural group) and “the sum of what is known” will be interpreted differently by people from different cultural groups. Knowledge is constructed by members of a cultural group to benefit the group and aid members in making sense of the world around them (Kinicki & Williams, 2006:240).

Demarcating the components of Knowledge Management would be incomplete without examining its interconnectedness with national culture and organisational culture. Every society has its own work ethics developed and influenced by the environment and individual attitudes over the course of generations. This is referred to as national culture and could be defined as “the collective programming of mind which distinguishes one national group or category of people from another, (thus) the interactive aggregate of common characteristics that influences the human group’s response to its environment” (Hofstede, 1980). It could also be explained as intra-country differences and similarities prevailing in a certain country (Robbins, Judge, Odendaal & Roodt, 2009:426). National culture is a stable force that changes very little over time and is bound to influence the culture of organisations that operate within its parameters (Anwar & Jabnoun,

2006:273). Organisational culture is profoundly influenced by national culture and involves shared beliefs, expectations, values, norms and work routines that characterise relationships in organisational context (George & Jones 2006:60; Schein, 1992:12; DuBrin, 2000:221; Muller, 2004:1; Hsieh, Lin & Lin, 2009:4087).

Knowing and understanding the norms, values and symbols in organisational context is crucial for employees to be able to operate as productive members of an organisation. Knowledge is a component of organisational culture (Lee & Yu, 2004:341), together with the following components: *behavioural patterns*, which consist of behavioural norms, beliefs and values; *language*, which involves jargon, shared stories, heroes, ceremonies and celebrations associated with an organisation; and *artefacts and symbols*, which include structures, procedures, rules and other physical aspects of the organisation, such as the wearing of uniforms and the layout of offices (Lussier, 2000:228). Knowledge is furthermore a resource locked in the human mind (Kim & Mauborgne, 1998), emphasising its tacit components. Knowledge has to be communicated to be transferred – then it becomes explicit or known. Explicit knowledge could be captured by rules, regulations and other organisational documentation. If knowledge is rare, valuable and difficult to imitate, it could be valued as being sustainable and could provide the organisation with a competitive advantage (Moss & Kubacki, 2007:301). Organisations could gain significant learning benefits by stimulating the transfer of knowledge between units and people. This improves the competencies of all the individuals involved, and importantly knowledge does not leave the owner or diminish his/her skills in any way – the value of knowledge grows each time transfer takes place. The significance of Knowledge Management lies in how effectively knowledge is captured, codified, shared and disseminated in organisational context (Zaim, 2006:4).

What is Knowledge Management?

Knowledge Management has gained wide support and Knowledge Management programmes have been implemented in many prominent and successful organisations like DaimlerCrysler, Hewlett Packard and Ernst & Young, (Grossman, 2007:31). Knowledge Management is specifically aimed at organising the availability and use of existing knowledge and is a comprehensive term for the full range of processes involved in disseminating knowledge (Moss *et al.*, 2007:297; Burstein, 2009:1). Knowledge Management enables the organisation to accurately ascertain employee skills and abilities and to provide training where skills are lacking. It further assists organisations with performance reviews, to manage benefits and to improve employee morale. Essentially it

allows organisations to continuously up-date their information regarding the skills and abilities they have at their disposal, which means managerial decision making could be enhanced. According to Burstein (2009) Knowledge Management is a broad concept that addresses the full range of processes whereby organisations deploy knowledge. This includes, as indicated before, the acquisition, retention, storage and distribution of knowledge. Information communication technology (ICT), like internet, cellular phone technology, wireless connections and so forth, facilitates the sharing and dissemination of organisational knowledge, and is a vital facet of the Knowledge Management system (Hellriegel, Jackson, Slocum, Staude, Amos, Klopper, Louw & Oosthuizen, 2008:183).

3. Components of knowledge management

Authors like Montequin *et al.*, (2006) and Hsieh *et al.*, (2009), as well as KPMG Consulting (2000) agree that human capital (or people), structural capital (or processes) and ICT are the most important components of a Knowledge Management system. These aspects served as departure point for conceptualising Knowledge Management in universities. It should ideally culminate in the design of a comprehensive Knowledge Management system (which is not the aim of this article). The section below disseminates the three components.

3.1 Human capital (people)

Human capital (or people) is the set of tacit and explicit knowledge that university personnel acquired formally and informally through the educational and acculturation process of the university (Ramirez *et al.*, 2007:732). This includes the skills of staff at all levels. A great deal of an organisation's knowledge resources resides in the minds of its employees as tacit knowledge (Zaim, 2006:9). Tacit knowledge could be regarded as 'know how' individuals possess, as well as the information, competencies, experiences, advice and best practices employees bring to an organisation. Some authors (like Kesti & Kesti, 2009; Chilton & Bloodgood, 2007) emphasize not only the importance of tacit knowledge, but even links it with firm performance (Harlow, 2008). Kesti & Syväjärvi, (2009:213) note that when organisations are committed to the development of their employee's tacit knowledge, the more successful they are in the long term. A focus on tacit knowledge implies that individual competencies are continuously developed, contributing to organisational success.

3.2 Structural capital (or processes)

Knowledge has to be communicated to be transferred, then it becomes explicit (clear and obvious). Explicit knowledge is rational and could be visualized by

documents and pictures (like organisational rules, regulations and charts) (Kesti *et al.*, 2009:213). This involves the explicit knowledge related to the internal processes of dissemination, communication and management of scientific and technical knowledge within a university (Ramirez *et al.*, 2007:732). Structural capital is involved with the formal processes that should be followed in university context, emphasizing the prevalence of order and structure.

3.3 Information Communication Technology (ICT)

The massive changes in the development of ICT have to a great extent been responsible for the advancement of Knowledge Management (Hsieh *et al.*, 2009:4089). As mentioned before, ICT is the key enabler for Knowledge Management, as it contains the electronic means for the sharing and dissemination of knowledge in an organisation. This could include data processing, storage, communication and information management that could be regarded as explicit organisational knowledge. It is however important that the ICT component of Knowledge Management is never overemphasised and it should be kept in mind in an organisational context, people use ICT to their advantage in managing knowledge and not vice versa (Montequin *et al.*, 2006:527; Zaim, 2006:9).

4. Conceptualising knowledge management in higher education

As knowledge is the vehicle that drives the Knowledge Age, it is imperative that knowledge should be strategically managed. Figure 1 provides an inception framework on how this could be achieved in a university setting. The components of Knowledge Management, namely human capital, structural capital and ICT are coupled with the main focus areas within universities, grouped for the sake of this discussion into teaching and learning, research/ partnerships/community engagement, and management. Within each area the human capital (the people that are responsible for the actions), the structural capital (the processes and procedures) and the information that should be conveyed via the ICT system, have been identified.

The human capital component of teaching and learning consists of lecturing staff (like junior lecturers, lecturers, senior lecturers and professors) and their support structures (like lecturer's assistants, student assistants, supplementary instruction facilitators and departmental administration, which could involve secretaries). It could also include the skills and expertise of academic heads, heads of support units, deans and the involvement of top management – in essence the totality of the competence that enables and supports teaching and learning. This is translated into the structural capital, which could include course information, student admission information and related forms, registration information and forms and

student rules and regulations. Structural capital also includes the documentation (like learning guides) that students receive per subject. Other aspects that structure teaching and learning include financial policies and procedures, assessment policies and procedures, the availability of student services (like food services on campus) and other matters that relate to student life like hostels, recreation and wellness programmes. ICT, should disseminate information like the contact details of academic departments, course information, admission requirements and forms, registration costs, procedures and forms, student rules and regulations, maps and directions, service available and matters that pertain to student life (like hostels), financial policies and procedures and assessment policies and procedures. Stakeholders also need to be informed of aspects like year programmes, e-learning facilities and on-line support, news and events, academic centres and activities relating to the alumni.

Regarding the second area research/partnerships and community engagement, human capital consists of postgraduate students, their study leaders/promoters, as well as novice and established researchers and mentors. It also includes research partners and the individuals who are involved in community engagement and service learning and ultimately heads of academic and support units, deans and top management. The structural capital includes information on postgraduate programmes, admission and registration information and forms, as well as internal and external funding and forms. Research plans form part of the structuring of research, as well as postgraduate assistance programmes like seminars and workshops and documented assistance like manuals. Research, partnerships and community engagement should be characterised by both formal and informal agreements with the parties involved.

ICT should distribute the following aspects: Research policies and procedures, the university's research plans and focus areas and relevant information (like course, application, registration and funding information) and the applicable forms that need to be completed. Seminars, workshops and other assistance to researchers should also be communicated via various ICT channels to ensure that they are adequately utilized. Social networks, like facebook and twitter could also be used in this regard. Stakeholders should also be informed on how to access the library and academic sites. It is imperative that activities relating to research, partnerships and community engagement should be published in the local and regional media to enhance the university's public image and also to inform prospective and existing stakeholders.

The third component involves management, specifically strategic management where top management comprehensively integrates the different academic and support units in achieving the university's goals and objectives. This involves the

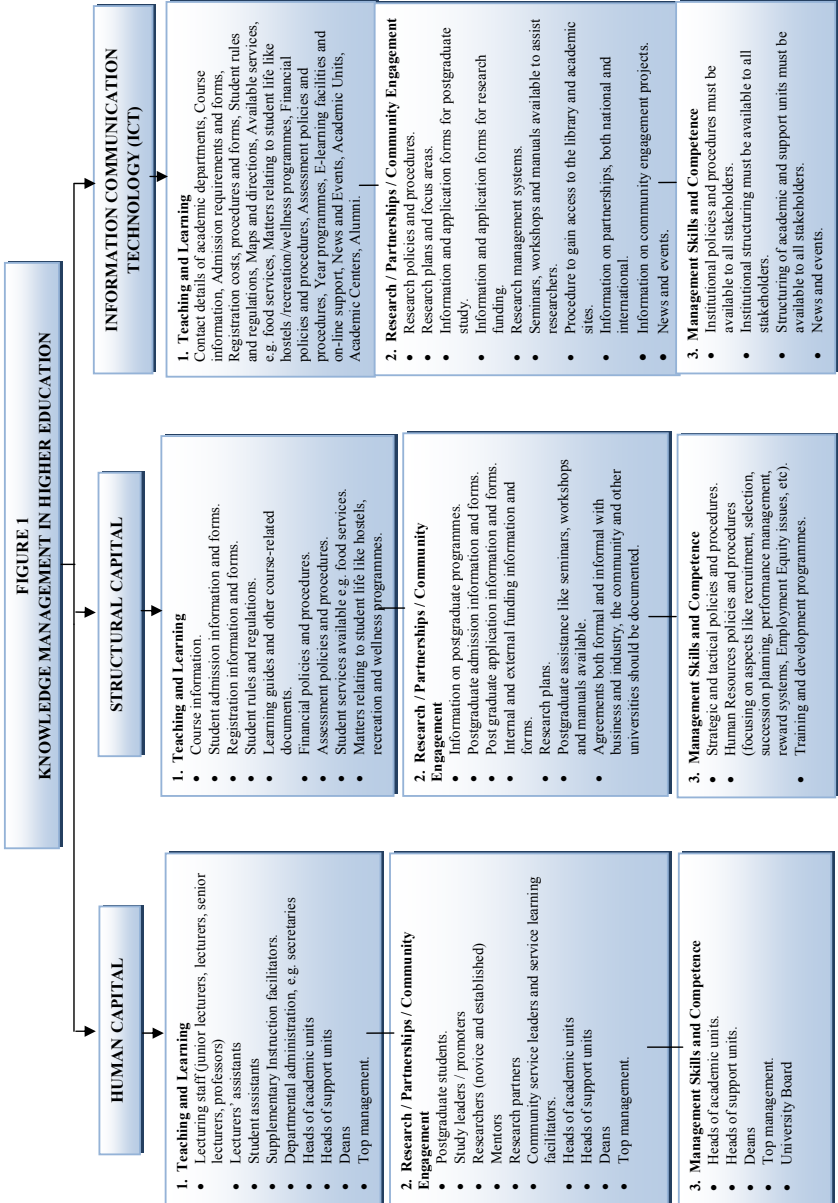
skills and managerial competencies of top management, including the inputs of the university board and the deans of faculties, as well as tactical management that could include middle management, like heads of academic and support units. The structural capital aspects include the overall structuring of the university and involves not only strategic policies and procedures, but also tactical management issues that pertains to the various Human Resources policies and procedures (like recruitment, selection, succession planning, performance management, reward systems and employment equity), as well as training and development programmes instituted by the university. The ICT component should broadcast institutional policies and procedures, including the overall institutional structuring, as well as the configuration of the different academic and support units. Management involvement and activities should be reported via ICT and the local and regional media to alert prospective and existing stakeholders of the inputs of management.

This is comprehensively detailed in figure 1 on the opposite page:

5. Concluding remarks

As the abundance of available knowledge drives the Knowledge Age, universities are responsible for not just generating new knowledge, but also for applying new and exiting knowledge to the advantage of the students it train, the partners and communities it engages with and ultimately humanity, at large. This could not be achieved if knowledge is not managed within university structures. Knowledge Management should be integrated into the structures of a university as it is not a separate managerial function. This implies that universities should strategically design and implement a comprehensive Knowledge Management system that suits their needs. The aim of this article is to provide an inception point for this to happen.

The discussion identified the role players (the human capital), the processes and procedures (the structural capital) and the information that should be conveyed via the ICT system, for the three main areas of university involvement, namely teaching and learning, research/partnerships and community engagement and management. The proposed framework provides a structure and possible inception point that could assist universities in implementing a Knowledge Management system. Universities should also take full advantage of ICT to communicate digitally with its prospective and existing stakeholders. Apart from using existing digital mediums (like internet, cell phone technology, etc.) universities should also employ social networks (like facebook and twitter) to communicate with their existing and prospective stakeholders. Universities are part of the digital age and by utilizing a variety of digital media, it could



effectively engage with stakeholders. It should however be kept in mind that a Knowledge Management system should consider the totality of the areas in which a university engages itself with and the design thereof should reflect the specific needs of a particular university setting.

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