Association for Information Systems
AIS Electronic Library (AISeL)

12-2009

Knowledge Management in an Organisational Climate of Uncertainty and Change: A Longitudinal Case Study of an Australian University

Denise E. Gengatharen

School of Management, Edith Cowan University, d.gengatharen@ecu.edu.au

Follow this and additional works at: http://aisel.aisnet.org/acis2009

Knowledge Management in an Organisational Climate of Uncertainty and Change: A Longitudinal Case Study of an Australian University

Denise E Gengatharen
Craig Standing
School of Management
Edith Cowan University
Joondalup, Western Australia
Email: d.gengatharen@ecu.edu.au
c.standing@ecu.edu.au

Shirlee-ann Knight
School of Nursing, Midwifery and Postgraduate Medicine
Edith Cowan University
Joondalup, Western Australia
Email: s.knight@ecu.edu.au

Abstract

Universities are in the knowledge business and are expected to be at the forefront of knowledge management (KM). However, KM in a university is complex given the diversity of stakeholder groups. This is exacerbated in the Australian context by the changing climate of rationalisation, corporatisation and marketisation universities faced in the past decade. This paper investigates KM strategies in an Australian university to uncover barriers to knowledge-sharing among academics. Although the organisational infrastructure supports KM, many academics have not actively embraced it. One reason is that they struggle with KM for operational excellence in the increasing administrative aspects of the academic's role, rendering them time-poor in terms of KM for innovation in research and teaching. As a first step, we propose a self-defined sub-unit level customised view of the explicit knowledge artefacts provided at the organisational level i.e. a wiki for a school-based community of practice for administrative best practices.

Keywords *Knowledge management, customisation, universities, best practice*

INTRODUCTION

Knowledge management (KM) has received particular attention in the past two decades as it has been perceived as a way for organisations to gain competitive advantage in economies that are increasingly knowledge-based (Drucker 1997; Nonaka and Takeuchi 1995; Teece 2003). The 'conventional wisdom' of KM recognises the critical influence of organisational culture and climate on KM initiatives (De Long and Fahey 2000; Leidner et al. 2006; Shultze and Boland 2000). A supportive organisational culture and one in which trust, sharing information freely and working closely with others prevail can positively affect KM initiatives (Park et al. 2004), while an organisational climate of uncertainty and change characterised by distrust, competition and increased individual assessment was seen by staff in a university to work against KM (Standing and Benson 2002).

A significant difference between organisational culture and organisational climate is that the latter is contextual and more susceptible to change in the shorter term (King 2008). Nevertheless, sometimes a certain organisational climate can continue over long periods. The climate of uncertainty and change in the last decade faced by many Australian universities which has resulted from the three forms of governmentality viz. rationalisation, corporatisation and marketisation (Kenway and Langmead 1998) continues to prevail. A decade ago, Limerick et al. (1998) were of the opinion that this sort of climate extended to many Western corporations and was not seen to be abating. This situation has not changed in the ten years since. Standing and Benson (2002) found that increased workloads and job insecurity in an Australian university was seen by staff to be a barrier to KM programmes. The question that needs to be asked then is whether there are KM initiatives that can succeed in such a climate, what are the antecedents and reasons for their success and what are barriers to success.

King (2008) challenges the conventional wisdom of the relationship between organisational culture/climate and KM by calling for more research on the different levels of culture on KM practice and success. The levels are national culture, organisational culture, organisational climate, sub-unit culture and organisational subcultures, and team climate. Personal belief structures can also have an impact on an individual's attitude to knowledge-

sharing. These levels should also be examined to determine the role they play as organisational structures that may embed knowledge.

This paper is part of a wider research project examining KM in an Australian university to determine initiatives which can still succeed even in an organisational climate of uncertainty and change. The changing climate is forcing a move from a traditionally "what's in it for me" culture to one that asks "what's in it for our customer?" (Kidwell et al. 2000) and the university has taken a number of measures to ensure that the necessary infrastructure (technological and otherwise) to support KM and the capture of intellectual capital of discipline specific units are in place.

However, many academics appear to have not actively embraced KM and knowledge-sharing for a number of reasons, among which are the traditional reward structures within the university which focus on individual performance, increasing workloads and the number of policies, procedures and practices that have been introduced with the increased administrative aspects of an academic's role brought about in part by the use of technology. While some academics have not internalised the explicit knowledge artefacts associated with these administrative procedures, functions and applications due to cultural resistance, others who have accepted them as part and parcel of the changing role of the academic, have difficulty internalising them due to information overload.

Although the cultural barriers at the organisational level may be more difficult to break down in the shorter term, achieving a KM culture at the sub-unit level is more achievable as academics concentrate their allegiance and priority with their discipline first and School next (Cranfield and Taylor 2008). We propose an incremental approach to breaking down the barriers to KM and knowledge-sharing at the sub-unit or school level. As a first step, a school-based strategy could be a self-defined school-level customised view of the explicit knowledge artefacts provided at the organisational level i.e. a wiki for a school-based community of practice for operational best practices in the academic role.

This paper progresses as follows: we first look at the theoretical perspectives on KM used in this paper. We then provide details of the case and methodology used in our study. The case data is then analysed in the light of the preceding areas and conclusions are made about the effectives of KM strategies in an organisational climate of uncertainty and change.

THEORETICAL PERSPECTIVES ON KM USED IN THIS STUDY

Baskerville and Dulipovici (2006) reviewed the literature on KM between 1995 and 2005 to determine the theoretical foundations of key KM theories based on whether the theories were used to determine the rationale for KM practices, to define KM processes or to evaluate the results of KM. The key KM theories of knowledge culture, knowledge creation, codification, transfer/reuse and knowledge infrastructure that have been used in defining KM processes have their roots in the theoretical foundations of organisational culture, organisational structure, organisational behaviour and artificial intelligence. This study draws heavily on this taxonomy of KM theory to investigate KM in an Australian university.

Organisational Culture and KM

According to De Long and Fahey (2000) organisational culture (OC) influences knowledge creation, use and sharing. Their research is based on the premise that that are three types of knowledge: human knowledge (includes both explicit and tacit knowledge), social knowledge (tacit knowledge shared by a group) and structured knowledge (explicit and rule-based knowledge which is embedded in an organisation's systems, processes, tools and routines). All three types of knowledge need to be considered in enhancing an organisation's ability to create, share and use knowledge.

De Long and Fahey (2000) propose four frameworks for understanding why organisational culture can support or hinder KM initiatives. Firstly, OC (and subculture) determine what knowledge is relevant and is to be focussed on. A culture that values structured knowledge would place an emphasis on standardised processes. Secondly, culture mediates the relationship between organisational and individual knowledge – any attempts at the organisational level to generate collaboration and knowledge sharing can be thwarted if the organisation's culture condoned knowledge hoarding by rewarding individual performance. Knowledge sharing can also be impeded by a low trust culture, while a culture that values some organisational functions above others could reinforce a silo mentality. The third framework recognises that culture creates a context for social interaction – a culture that supports open and honest exchanges between levels in a hierarchy has a better chance of achieving effective knowledge sharing. A culture that promotes cross functional collaboration and problem solving can lead to collectivism and the creating and sharing of new knowledge. Cultures that view mistakes and errors as opportunities for lessons learned can positively affect knowledge sharing and organisational learning. Finally, in the fourth framework, culture shapes the creation and adoption of new knowledge. Effective knowledge-oriented

cultures seek to exploit and improve upon structured knowledge from the external environment; they recognise the need for engaging in debate and dialogue about key strategic issues; cultures that expect broad participation in gathering and distributing information about the external environment are effective in creating and integrating new knowledge into the organisation; an effective knowledge-oriented culture finds ways to challenge and question fundamental beliefs and existing ways of working in the organisation. Ribiere and Alesa (2003) stress the importance of the role of leadership in implementing and facilitating KM activities. By establishing trust and commitment, organisation leaders can model behaviour that creates a knowledge culture by enabling and motivating staff to create, codify, transfer, use and leverage knowledge.

In examining the role of culture in KM in two global firms, Leidner et al. (2006) used Wallach's (cited in Leidner et al., 2006, p. 21) bureaucratic, innovative and supportive cultural types and Early's (cited in Leidner et al., 2006, p. 35) individualistic and collectivist aspects of culture. Their study showed that bureaucratic cultures with their clear lines of authority and highly systemised and regulated work, favour an initial process approach to KM and members expect that senior management vision is essential to effective KM. In innovative cultures which are characterised by creativity and risk-taking, burn out and stress, organisational sub-groups experiment with and develop KM useful to their group. Individualistic cultures which encourage pursuit and maximisation of individual goals and reward individual performance tend to inhibit sharing, ownership and reuse of knowledge. On the other hand collectivist cultures which place priorities on and reward collaborative efforts to reach collectivist goals enable the creation of virtual communities and the evolution of process-oriented KM to practice-oriented KM. Kulkarni et al. (2006-7) empirically validated a KM success model which showed that in addition to KM system quality, organisations should pay attention to designing adequate reward systems to encourage knowledge sharing and reuse.

However, according to Milne (2007), while reward and recognition programmes for knowledge-sharing do signal to employees its importance, there is yet to be any significant research-based evidence to prove that such programmes do in fact influence employees to share their knowledge. Indeed, Bock et al. (2005) found that anticipated intrinsic rewards exert a negative effect on the knowledge-sharing attitudes of individuals. Huber (2001) cautions that extrinsic rewards for knowledge sharing can interfere with the intrinsic needs or social-psychological forces of certain organisational or group cultures where cooperation within groups is strong. He suggests that higher education may be one of these cultures.

Organisational Behaviour and KM

Knowledge can be defined as explicit (formal, systematic, easily communicated – e.g. policies, procedures, software, documents) and tacit (unstructured, not easily communicated – e.g. insights, acumen, expertise, know-how, trade secrets, skill sets). Knowledge can be created, acquired or transferred via four different modes (Nonaka and Takeuchi 1995): socialisation (conversion of tacit knowledge to new tacit knowledge through social interactions and shared experience); combination (creation of new explicit knowledge by merging, categorizing, reclassifying, and synthesizing existing explicit knowledge); externalisation (converting tacit knowledge to new explicit knowledge) and internalisation (creation of new tacit knowledge from explicit knowledge). According to Hansen et al. (1999) there are two fundamental approaches to the transfer of knowledge. The transfer of explicit knowledge is managed through a process approach (codification) where organisational knowledge is codified through formalised controls, technologies and processes (internalisation and combination), while the transfer of tacit knowledge is managed through the practice approach (personalisation) of building communities of practice to facilitate sharing of ideas, insights and best practices (socialisation and externalisation).

An organisation's choice of KM approach or strategy should be driven by the nature of its business and its competitive strategy (Hansen et al. 1999). The authors suggest that organisations should select a mix of codification and personalisation strategies on an 80/20 basis with one of the strategies dominant, with the strategy mix determining the type and level of supporting IT infrastructure. Organisations providing standardised products or services to its customers should have a dominant codification strategy while those providing customised products or services to meet unique needs were better off with a predominantly personalised KM strategy. The authors caution that emphasising both strategies equally would be high risk. However, Scheepers et al. (2004) are of the opinion that while Hansen et al.'s model is useful for organisations in deciding their initial mix of KM strategies, organisations may find it necessary to evolve their KM strategy mix over time. The authors also suggest consideration of factors other than merely the nature of the business and its competitive strategy in determining its KM approach. These factors are politics, organisational culture, size and geography.

According to Sinclair (2008), KM has evolved to a state where organisational KM today comprises three distinct types of KM viz. corporate KM, community-based KM and personal KM, each with its rationale, business drivers, objectives, tools and techniques. Corporate KM focuses on capturing knowledge in the organisation, codifying it and making it accessible to all employees. Typical tools are on-line portals to access central knowledge repositories and search and retrieve capabilities for employees, and the main challenge is making

corporate offerings relevant and usable to employees. Community KM exists to meet the business goals of specific groups and communities within the organisation. These can be peer groups or expert groups to share ideas and to utilise the outputs of corporate KM initiatives at the local level. Common KM tools would be group wikis and blogs. Personal KM focuses on the knowledge needs and objectives of the individual i.e. doing whatever is needed to make the workload more manageable and work performance better. The challenge facing organisations is to coordinate the three KM layers in the organisation. The suggestion is that community KM is the largest KM domain and requires support tools and techniques to be made available. Personal KM will continue to grow and needs to be fostered and supported in such a way as to encourage individuals to also share knowledge. Corporate KM should thus play the role of facilitation and support for the other two layers, providing the infrastructure for KM.

KM in Higher Education

Rowley (2000) noted that although knowledge-based organisations like universities and other institutions of higher learning are in the knowledge business, effective KM in such institutes may require significant changes in their culture, values, organisational structures and reward systems. The author used the four KM objective types of Davenport et al. (1998) to view the challenges of KM in universities. These objectives are: the creation and maintenance of knowledge repositories, improving knowledge access, enhancing the knowledge environment and valuing knowledge, of which Rowley views the latter two as representing the greater challenge for universities. While universities were seen to abound with knowledge repositories like libraries, online databases, corporate databases etc., they appeared to have not arrived at the position where every member of the university has access "to the combined knowledge and wisdom of others in the organisation, and has access to that knowledge in a form that is packaged to suit their particular needs" (Rowley 2000 p. 330). In universities, access to knowledge was seen to be good with the necessary infrastructure to support communications and with the presence of intranets linking sources of information. As far as creating a knowledge environment is concerned, while there were pockets of knowledge-sharing (e.g. in research projects), essentially the reward structures favoured individual performance and cultural change was seen to be a slow process. While universities were seen to value knowledge, actually reflecting this as an asset financially was problematic and the author recommended that universities develop a methodology to assign values to knowledge assets.

Kidwell et al. (2000) identified opportunities for universities to apply KM practices to support every part of the organisation and recommended an institution-wide approach. The authors saw the opportunity for a number of applications (portals, repositories, templates, etc.) and benefits of KM in each of the following five areas: the research process, the curriculum development process, student and alumni services, administrative services and strategic planning. However, they recognised that a key ingredient in a university's readiness to embrace KM is a shift from an individualistic culture to a customer-focused one.

In examining the relationship between organisational culture and KM in a university in Malaysia, Ramachandran et al. (2007) used Cameron and Quinn's (1999) competing values framework. Traditionally, organisational cultures of universities are closest to that of public organisations i.e. a hierarchical culture which tends to be bureaucratic due to the complex political systems they operate in which comprise different stakeholder interests (Mintzberg cited in Ramachandran et al. 2007 p. 63) and which could be a barrier to effective KM implementation. However, Ramachandran et al. found that due to the changing environments faced by universities, the university in their study which was relatively new, showed a balanced culture i.e. a hierarchical culture mixed with elements of adhocracy (characterised by adaptability, change and risk taking) and market cultures (characterised by an external focus with emphasis on productivity and efficiency). The authors recommend that universities need to firstly understand their existing organisational culture and determine if it will support KM and if not, to go about changing the organisational culture to one that does, in order to remove cultural barriers to effective KM.

A study of seven higher education institutions (HEIs) in the United Kingdom (UK) to examine challenges of KM implementation found that as in Australia, universities in the UK are facing a dichotomy of priorities viz. to provide quality teaching and research and to "ensure effective and efficient management and administration within an increasingly competitive market" (Cranfield and Taylor 2009, p. 85). Of the seven HEIs studied, four showed varying degrees of involvement in KM. The HEIs have two distinct cultures, academic and administrative and sub cultures to go with these (e.g. discipline, school or function sub culture). Initial findings from the study showed that the perceptions of academics about their roles in the academic function directly impacted on the culture of the HEIs and their ability to adopt KM practices effectively. While the academics in the study were open to the idea of knowledge sharing, there were issues of creating opportunities for such sharing and the issue of overcoming the traditional structures of recognition of individual innovation and achievement. Academics saw themselves as experts in their fields and the more traditional academics did not take easily to having what they know managed. Their allegiance and priority was concentrated firstly within their

research units or disciplines and then with their schools, making it difficult for the institution to encourage support for institution-wide KM initiatives.

Arntzen et al. (2009) studied the KM experience of Bangkok University (BU) and found that it progressed in phases. Phase one focused on developing the technological infrastructure to enable knowledge sharing among the various stakeholders and campus locations. This involved the creation of portals for staff and students and an online open-access knowledge centre (available to the global community) which integrated various online learning tools and systems. Phase two of BU's KM journey involves KM implementation at the sub unit (department) levels and based on their need, culture and processes, each might take a different approach. The goal of phase two is to codify as much knowledge as possible and to facilitate and motivate internal and external knowledge sharing. This phase is in its early stages and among the main barriers faced are: heavy workloads which prevent academic staff from participating in contributing to the codification exercise and from using the various KM tools effectively; faculty (especially older academics) not knowing how to use the KM tools or finding them too difficult to use despite training being offered; fear of criticism of their materials if made available in the public domain; and lack of recognition of the extra workload imposed by these new systems.

From the literature it would appear that KM, an already complex area, becomes even more complicated in universities which are facing climates of uncertainty and change. It is in this light that we examine KM in an Australian university.

RESEARCH STUDY

In examining the significance of the context for managing organisational knowledge in a large Australian university (AU), Standing and Benson (2002) found that the university faced a challenge in reconciling the imperative to be cost effective in a harsh economic environment (increasing pressure to generate more of its income from non-government sources) with a conducive organisational climate necessary to foster knowledge sharing (characterised by trust, autonomy, respect and a feeling of being valued). With the changing organisational climate, staff felt that they faced job insecurity, a competitive work environment, lack of trust, increasing workloads and the formality of business practices, all of which were seen to work against KM.

This paper reports on an ongoing study which revisits the university eight years on to determine its state of play vis-à-vis KM. The research is considered a longitudinal study on the basis of an examination of the context for KM (in this case, an organisational climate of uncertainty and change) over time to determine how it impacted on success and failure related to KM objectives within the university. This paper represents the view from the perspective of the academic community in the university.

Methodology

Informal data for the study was collected from a variety of sources including historical documents, internal communications, information gathered in 2001, and via observation (by attendance at meetings/seminars on teaching, research and administrative issues and by observing staff going about their daily activities at the university). In the 2001 study, suggestions were put forward by staff to improve KM within the university, viz. informal meetings and get togethers; network organisational structure; time to exchange ideas; rewards and incentives; team-based approaches; improved communication; improved technology; leading by example; team grants and roles; recognition for sharing knowledge. Constructs from the literature in the theoretical areas relating to KM mentioned above, the constructs from the 2001 study and the suggestions above made by staff in the earlier study were used to design a case protocol for the gathering of formal data.

Formal data collection involved semi-structured face-to-face interviews of 45 minutes to 1½ hours duration with 13 university staff over the past four months. Participants were from two faculties and five schools. The staff were not participants in the earlier study, as the original academics in the earlier study had since retired, resigned or had been made redundant. Nevertheless, using new participants could provide a fresh view of the academic perception of the organisational climate and the efficacy of the KM initiatives in the university. The sample was mixed in so far as gender, age, years of service and type of employment were concerned. Seven of the participants were male; six were between 41-50 years and had been with the University for between 5 to 10 years, while nine were employed on an ongoing basis.

The interview schedule comprised two parts; the first dealt with questions relating to demographic data (including questions like whether the participant had always worked in academia and if they had worked in countries other than Australia) and the second comprised mainly questions on participants' opinions on the organisational climate and knowledge management practices at the school and university levels. Examples of the questions from part 2 of the interview schedule are as follows:

- Do you think [The University] has the necessary technological infrastructure to create a KM environment?

- Are there online communities of practice at the school or university level that you are a part of? If not, would you consider joining one and for what purpose?

- Are there opportunities to develop colleague-to-colleague relationships at the University and school levels and if not, what are the barriers?

- How are best practices solicited, then documented and operationalised in formal processes at the University and school levels?

- Do you think tools like Blackboard/flexi-lectures are good for capturing unit specific knowledge of individual academics?

- Is Knowledge-sharing viewed favourably and considered in performance review/promotion?

- How is the free flow of information fostered at the University and School levels for teaching, research, operational practices and discipline-specific information?

- Is the reward structure one that favours the group over the individual?

The interviews were audio-taped, transcribed and transcripts were shared with participants to omit errors and to validate interpretations of the participants' views (Klein and Myers 1999). Field notes and transcripts were made within 24 hours of each interview. The interviews and observations became part of the project data and all project and case data was maintained in a database, was coded according to the constructs identified in the literature (e.g. 'reward structures', 'organisational culture/subculture', 'personal belief structures', 'communities-of-practice', 'internalisation of knowledge', 'increasing workloads' etc.) using NVIVO 8 and was checked by another researcher. Findings thus far have been interpreted using a dialectic hermeneutics approach (Myers 1995).

CASE ANALYSIS AND DISCUSSION

Organisational Behaviour and KM

In 2001, KM in AU was being promoted at various levels within the organisation as an extension of information management, with strategic plans mentioning the importance of using the appropriate tools to manage corporate knowledge. However, there was no published conceptual framework for KM or knowledge sharing. Using the approach of Hansen et al. (1999) and Scheepers et al. (2004) in relation to KM strategy, evidence today points to the University having adopted a mixed KM strategy of codification and personalisation, with the former being the dominant strategy. Accordingly, the type and level of supporting IT infrastructure focused on the externalisation and combination of existing knowledge by way of applications like the intranet for staff, the extranet for students and business partners, online teaching and learning systems like Blackboard, and other tools to manage knowledge in the administrative areas of the university. All academics interviewed at AU believe that the University has the necessary infrastructure to create a KM environment, while all but one believe that tools like the online Blackboard are good for capturing unit specific knowledge of individual academics. There is also evidence however, that the personalisation strategy is beginning to assume a greater role with the infrastructure being available to support communities of practice (both on and off-line) on an institutional basis in specific areas like the pedagogical and administrative aspects of teaching and learning. Using the KM objective types used by Davenport et al. (1998) and Rowley (2000), the University has adequately met the objectives of creating and maintaining knowledge repositories and improving access to knowledge. AU's KM journey appears to be somewhat similar to the approach taken in phase one at Bangkok University (BU) (Arntzen et al. 2009), with the main difference being the open-access online knowledge centre that BU has.

Nevertheless, the access to corporate knowledge in a form that is packaged to suit employees' particular needs (Rowley 2000) appears to remain problematic at AU. This is due to a number of reasons, the main ones being the number of different stakeholders involved and the complexity of the business of universities in general. From a Personal KM perspective (Sinclair 2008) although academics in the university would like to internalise the explicit corporate KM artefacts or structured knowledge in order to do whatever is needed to make the workload more manageable and work performance better, the majority are constrained by heavy workloads and the increasing administrative functions in the academic role. This is in part caused by the number of existing and growing technological applications. These technological applications are for example, online Blackboards, Web CTs and their various course administration and delivery tools like wikis, discussion boards, plagiarism detection tools etc., course management systems, student information systems, marks recording systems, research submission systems, examination submission systems, which although may be accessible via a single portal, are separate systems requiring different procedures for use. The theme of increased workloads that emerged in the

2001 study of KM at AU has not disappeared; in fact many academics are of the opinion that the situation has since deteriorated. As one academic stated:

> "I sometimes feel like I've hardly got my head around using some of the basic admin tools on Blackboard or the latest version of some other application when upgrades or latest functions are introduced....where does that leave me with time for knowledge sharing for the more innovative stuff like research?"

This suggests that while Corporate KM is playing the role of facilitation and support for Community and Personal KM by providing the infrastructure for KM (Sinclair 2008), the appropriation or utilisation of the outputs of corporate KM initiatives at the local level is still an issue given the reduced time for face-to-face interaction that would promote collegiality and knowledge-sharing, a situation which is exacerbated by the fact that academic staff teach on two campuses. As such, online communities of practice may appear to be able to offer some benefits in this area. While only half the academics interviewed were aware of online communities of practice at the institutional level and only one academic had experienced one at the school level (this was in the area of computer and information science), ten indicated that they would join one at the University or School level. However, they did express reservations about it being an additional area that would be added to their existing workloads. The problem therefore appears to be one of information overload with the right people not getting the right information at the right time in a form useful to them. This is echoed in the following responses:

> "I know the information is somewhere on the portal, but where? We were sent an e-mail about it at the beginning of semester but then we're receiving so many of these all the time, it's hard to know what to keep and how to keep it and where it is at the time I need it"

> "While access to information now is a lot better since things are available on the portal, I sometimes seem to spend a lot of time trying to find the things I need and invariably it's tucked away somewhere in some policy or procedure"

> "I know that there's an online manual for things like TurnItIn for the plagiarism stuff but that's a 168 page document and I don't have the time to read it. What I want are a couple of pages on how to do it...something I can refer to quickly, something that is stored somewhere where I can easily use it when I need to"

It appears that there is a need to provide a personalised view of the corporate KM artefacts at the school or sub unit level. However, given the diverse stakeholders involved, we recommend having a bottom-up self-defined (or customised) view of AU's policies, procedures and guidelines. All but one of the academics interviewed felt that they would benefit from such personalised views. This customised or personalised view could take the form of a school-based wiki with pointers or links to role specific knowledge resources. It could also be a forum for School staff to share ideas about how to work smarter i.e. a school-based community of practice for administrative best practices in the academic role which could address the issue of internalisation of structured knowledge (as defined by De Long and Fahey (2006)) by academics. Responses from academics in the current study indicate that while eight felt that the free flow of information between members at the school level was encouraged for good teaching practices, only five believed it was true in terms of operational purposes i.e. more could be done to share information about how to better handle the administration aspects of the academic role:

> "It sometimes seems as if we are all separately running around trying to solve the same problem when someone else has already done so....it would save time if we shared this knowledge"

This is further supported by the interview responses showing that only a quarter of the interviewees felt that they got the appropriate 'lessons learned' or 'how the problem was solved' information sent to them and only five felt that there was a systematic process to collect and use instances of success, failure or 'war stories'. However, ten indicated that they were prepared to disseminate their 'lessons learned'. This school-based approach that we are recommending would also be supported by the research which shows that academics tend to pledge their allegiance to their discipline first and School next, suggesting some possibilities for successful KM initiatives at the school level with the reward being more time for the more innovative knowledge-sharing activities in areas like research.

Organisational Climate and KM

The 2001 KM study at AU indicated that the University was operating in a climate of uncertainty and change with the move to marketisation, corporatisation and rationalisation giving rise to job insecurity and competition.

The reward structure that favours individual output and performance was also seen to work against knowledge sharing. Eight years on, there is evidence that the climate of uncertainty continues to prevail and it could in fact signal that the traditional hierarchical organisational culture of AU is shifting to include the market culture. Of the academics interviewed in the current study, only three are of the opinion that new ideas can be quickly incorporated into documented or stored procedures, processes, rules or guidelines i.e. the bureaucracy is still part and parcel of the organisation. Seven academics felt that getting the job done effectively was placed above concern for employee welfare, a similar number still believed that the reward system for academics favoured the individual over the group and all but one believed that at the institutional level "*it now seems to be all about results and numbers and less about the quality of the work we do*" (although only eight felt that the same held true at the School level).

While the organisational climate of uncertainty faced by AU and the reward structure favouring the individual that were perceived as a barrier to knowledge sharing in the 2001 study of KM at AU continue to remain unchanged, the interview responses appear to indicate that they are currently not perceived to be barriers per se. It could be that this is hidden behind the increasing workloads (the workload prevents opportunities for knowledge sharing and collaboration in innovative areas like research) and perhaps only when the 'workload barriers' are removed will the true test of whether or not academics are more willing to share their knowledge today will be tried. If it is still the case that the individualistic culture among academics (50 percent of respondents in this study believe that staff are individualistic and look out for themselves) has not shifted, and as the research shows that academics often tend to operate as a unit of one (Cranfield and Taylor 2008), it may be that what is needed is a small unthreatening step towards building a knowledge sharing culture in a trusted environment. This could be in the form of the wiki for a school-based community of practice for operational best practices in the academic role suggested earlier, as existing non-technical solutions like face-to-face meetings and colloquiums are still found to be wanting in view of the distributed campuses and the workloads and as much of what is discussed is not captured or codified. The wiki would also have the added advantage of showing immediate personal gain for individual academics i.e. making the workload more manageable.

We do acknowledge that there can be some resistance to adoption of KM tools like wikis. Pfaff and Hasan (2006) identified some of the key organisational issues contributing to resistance as: challenges to central control of Information Systems, lack of recognition of authorship, vandalism, slander and problems associated with copyright. However, we believe that these issues will not arise in the proposed wiki, given its purpose (operational best practices in the academic role) and the fact that it will be a school-based and self-defined tool. In this way it could conceivably be 'owned' by the academics and not be viewed as just another administrative technical tool. Ardichvili et al. (2003) in examining the motivation and barriers to participation in virtual knowledge-sharing communities of practice found that there was evidence that knowledge-based trust in online communities can be more readily achieved if they are based on already existing face-to-face communities, as would be the school-based wiki we propose. Another advantage of the school-based wiki over a face-to-face community (apart from the obvious advantage of overcoming time and distance barriers presented by workloads and teaching on distributed campuses) is the actual capture of the knowledge for future staff. It could also pave the way for a collectivist sub culture at the school level. Given the smaller organisational unit, it may also be easier for leaders at the school level to establish trust and commitment that creates a knowledge culture by enabling and motivating staff to create, codify, transfer, use and leverage knowledge.

CONCLUSION

This paper contributes to the literature on KM research and practice by firstly seeking to understand success and failure of KM in a university in an organisational climate of uncertainty and change. It then goes on to suggest an incremental approach to building a knowledge-sharing culture among academics in such a climate.

Although universities are knowledge-based organisations, knowledge management in a university environment is complex given the varying stakeholder groups involved. The literature shows that the 'conventional wisdom' of KM recognises the critical influence of organisational culture and climate on KM initiatives and a supportive organisational culture and one in which trust, sharing information freely and working closely with others prevail can positively affect KM initiatives. This is not the sort of climate that many universities today face given the move towards corporatisation and marketisation. Nevertheless, although the university in this study has been facing the same 'negative' climate for the past eight years, there has been some progress made in its KM journey. At the institutional level, the university has met its KM objectives of creating and maintaining knowledge repositories and providing access to knowledge. However, the objective of creating a knowledge environment is more challenging especially in terms of the academic community of the University, given the negative climate and a traditional reward structure that recognises individual output and performance above that of the group. Creating a knowledge culture among academics at the institutional level could also be viewed as problematic given that academics more readily align with their discipline first and their school next.

In the University studied, the move towards corporatisation has resulted in greater workloads for academics, a situation exacerbated by the increasing use of new technology not only in curriculum delivery but also in the administration of the academic role, which many claim is a barrier to the sharing of innovative knowledge in areas like research. As this situation is not expected to abate anytime in the near future, there is a need to determine how KM can be used to overcome it. It would appear from the study that while some academics have not internalised the explicit knowledge artefacts associated with the increased administrative procedures, functions and applications of the academic role due to cultural resistance, others who have accepted them as part and parcel of the changing role of the academic, have difficulty internalising them due to information overload. The answer may lie in a sub unit or school-based view of the Corporate KM artefacts, a wiki for a school-based community of practice for operational best practices in the academic role. While the literature identifies many issues with the adoption of wikis as a KM tool at the organisational level, we believe that the purpose of the proposed wiki and the level of organisation it is targeted at will allow many of the traditional reasons for resistance to be overcome. The proposed wiki could also be viewed as an incremental step in the move towards building a knowledge culture among academics by starting at the sub unit level, a KM initiative which could be viewed as non-threatening, would have immediate benefits for individual academics and which could remove some of the more mundane barriers to sharing knowledge of a more innovative nature.

REFERENCES

Ardichvili, A., Vaughn, P., and Wentling, T. 2003. "Motivation and Barriers to Participation in Virtual Knowledge-Sharing Communities of Practice," *Journal of Knowledge Management* (7:1), pp 64-77.

Arntzen, A.A.B., Worasinchai, L., and Ribiére, V. 2009. "An Insight into Knowledge Management Practices at Bangkok University," *Journal of Knowledge Management* (13:2), pp 127-144.

Baskerville, R., and Dulipovici, A. 2006. "The Theoretical Foundations of Knowledge Management," *Knowledge Management Research & Practice* (4:2), pp 83-105.

Bock, G.-W., Zmud, R., and Lee, J.-N. 2005. "Behavioural Intention Formation in Knowledge Sharing: Examining the Role of Extrinsic Motivators, Social-Psychological Forces, and Organizational Climate," *MIS Quarterly* (29:1), March, pp 87-111.

Cameron, K.S., and Quinn, R.E. 1999. *Diagnosing and Changing Organizational Culture Based on the Competing Values Framework*. Reading: Addison-Wesley.

Cranfield, D.J., and Taylor, J. 2008. "Knowledge Management and Higher Education: A UK Case Study," *The Electronic Journal of Knowledge Management* (6:2), pp 85-100.

Davenport, T.H., De Long, D.W., and Beers, M.C. 1998. "Successful Knowledge Management Projects," *Sloan Management Review* (39:2), Winter, pp 43-57.

De Long, D.W., and Fahey, L. 2000. "Diagnosing Cultural Barriers to Knowledge Management," *The Academy of Management Executive* (14:4), November, pp 113-127.

Drucker, P.F. 1997. *Managing in a Time of Great Change*. Oxford: Butterworth-Heinemann.

Hansen, M.T., Nohria, N., and Tierney, T. 1999. "What's Your Strategy for Managing Knowledge?" *Harvard Business Review* (77:2), March-April, pp 106-115.

Huber, G.P. 2001. "Transfer of Knowledge in Knowledge Management Systems: Unexplored Issues and Suggested Studies," *European Journal of Information Systems* (10:2), pp 72-79.

Kenway, J., and Langmead, D. 1998. "Governmentality, the 'Now' University and the Future of Knowledge Work," *Australian Universities' Review* (41:2), pp 28-32.

Kidwell, J.J., Vander Linde, K.M., and Johnson, S.L. 2000. "Applying Corporate Knowledge Management Practices in Higher Education," *Educause Quarterly* (23:4), pp 28 - 33.

King, W.R. 2008. "Questioning the Conventional Wisdom: Culture-Knowledge Management Relationships," *Journal of Knowledge Management* (12:3), pp 35-47.

Klein, H.K., and Myers, M.D. 1999. "A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems," *MIS Quarterly* (23:1), March, pp 67-94.

Kulkarni, U.R., Ravindran, S., and Freeze, R. 2006-7. "A Knowledge Management Success Model: Theoretical Development and Empirical Validation," *Journal of Management Information Systems* (23:3), Winter, pp 309-347.

Leidner, D.E., Alavi, M., and Kayworth, T. 2006. "The Role of Culture in Knowledge Management: A Case Study of Two Global Firms," *International Journal of e-Collaboration* (2:1), January-March, pp 17-40.

Limerick, D., Cunnington, B., and Crowther, F. 1998. *Managing the New Organisation: Collaboration and Sustainability in the Postcorporate World* (2 ed.). Chatwood, N.S.W: Business & Professional Publishing.

Milne, P. 2007. "Motivation, Incentives and Organisational Culture," *Journal of Knowledge Management* (11:6), pp 28-38.

Myers, M.D. 1995. "Dialectical Hermeneutics: A Theoretical Framework for the Implementation of Information Systems," *Information Systems Journal* (5:1), pp 51-70.

Nonaka, I., and Takeuchi, H. 1995. *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. New York: Oxford University Press.

Park, H., Ribiére, V., and Schulte Jr., W.D. 2004. "Critical Attributes of Organizational Culture That Promote Knowledge Management Technology Implementation Success," *Journal of Knowledge Management* (8:3), pp 106-117.

Pfaff, C.C., and Hasan, H. 2006. "Overcoming Organisational Resistance to Using Wiki Technology for Knowledge Management," *10th Pacific Asia Conference on Information Systems*, Kuala Lumpur, Malaysia.

Ramachandran, S.D., Chong, S.C., and Lin, B. 2007. "Organisational Culture and KM Processes from the Perspective of an Institution of Higher Learning," *International Journal of Management in Education* (1:1/2), pp 57-79.

Ribiere, V.M., and Alesa, S.S. 2003. "Critical Role of Leadership in Nurturing a Knowledge-Supporting Culture," *Knowledge Management Research & Practice* (1:1), pp 39-48.

Rowley, J. 2000. "Is Higher Education Ready for Knowledge Management," *The International Journal of Educational Management* (14:7), pp 325-333.

Scheepers, R., Venkitachalam, K., and Gibbs, M.R. 2004. "Knowledge Strategy in Organizations: Refining the Model of Hansen, Nohria and Tierney," *Journal of Strategic Information Systems* (13:3), pp 201-222.

Shultze, U., and Boland, R. 2000. "Knowledge Management Technology and the Reproduction of Knowledge Work Practices," *Journal of Strategic Information Systems* (9:2-3), pp 193-213.

Sinclair, N. 2008. "The Changing Face of KM," *VINE: The Journal of Information and Knowledge Management Systems* (38:1), pp 22-29.

Standing, C. and Benson, S. (2002). The Significance of the Context for Managing Organisational Knowledge. *Journal of Systems & Information Technology*, (6:1), pp 1-12.

Teece, D.J. 2003. "Knowledge and Competence as Strategic Assets," in: *Handbook on Knowledge Management, Volume 1: Knowledge Matters. ,* C.W. Holsapple (ed.). Heidelberg: Springer-Verlag, pp. 129–152.

COPYRIGHT