2008

KM Among Academics: Do as I teach not as I do

Hartmut Hoehle
School of Information Management Victoria University of Wellington, New Zealand, Hartmut.Hoehle@vuw.ac.nz

David Pauleen
School of Information Management Victoria University of Wellington, New Zealand, david.pauleen@vuw.ac.nz

KM Among Academics: Do as I teach not as I do

Hartmut Hoehle
David Pauleen
School of Information Management
Victoria University of Wellington, New Zealand
Email: hartmut.hoehle@vuw.ac.nz; david.pauleen@vuw.ac.nz

Abstract

This paper seeks to investigate the relationship between knowledge management and creative individuals in the workplace. Since academic staff are often considered to be creative- and conceptual thinkers, academic staff and managerial University staff were approached for their views on knowledge sharing procedures within a University. The findings indicate that academics prefer informal knowledge sharing environments with peers and they seem to be reluctant towards formal structures and predefined rules to share knowledge. We also found that academics must perceive clear personal advantages before embracing the use of workplace-provided ICTs. This paper concludes with a summary of the findings and recommendations for future research.

Keywords

Knowledge management, creative individuals, knowledge sharing, social networks, academics

INTRODUCTION

During the last decades the business world has been witnessing a great transformation from traditional manufacturing industries towards an economy that is driven by knowledge and information (Davenport et al. 1998; Dennis et al. 2005; Hansen et al. 1999). Organizational knowledge is increasingly perceived as a valuable strategic asset which has been recognized by practitioners as well as academia (Alavi et al. 2001). Others extend this view, arguing that knowledge has become the most significant resource in organizations (Drucker 1999; Schultze et al. 2002).

Modern organizations are confronted with the task of managing knowledge effectively and efficiently to remain competitive (Alavi et al. 2001; Greenaway 2001; Hansen et al. 1999). They are required to create, capture, locate and share their organization's knowledge and expertise (Davenport et al. 1996; Nonaka 1994; Nonaka et al. 1998). Information and communication technologies have been increasingly utilized by organizations to facilitate knowledge management.

Since knowledge is the core asset for research driven and knowledge intensive organizations such as consulting groups, software engineering companies, law firms, investment banks and universities, successful knowledge management approaches seem to be particularly important for these organizations (Carrion et al. 2004; Murphy et al. 2007). However, these organizations face very distinctive management challenges. In most instances, these organizations rely on highly creative individuals. Creative individuals can be defined as those individuals applying behaviour to any unusual response or combination of responses which are also uniquely adaptive and which result in products highly valued by society (Scott 1965).

Knowledge sharing is often associated with informal face-to-face conversations and personal social networks (Allee 1999; Baskerville et al. 2006; Davenport et al. 1998; Graham et al. 1996; Hansen et al. 1999). Not usually team players nor heavily invested in social values, creative individuals are not particularly interested in interpersonal relationships; nevertheless, they possess unique networking skills and informal networks which they insist on managing as they see fit (Murphy et al. 2007; Tovstiga 1999). These idiosyncratic methods to obtain and share knowledge within their work environments often rely on the use of information and communication technologies such as the Internet, email, voice over internet protocol (VoIP) or wikis which allow creative individuals to exert more control over when and where they choose to network and communicate with others (Murphy et al. 2007; Sanchez et al. 2006).

Academics are often considered to be creative- and conceptual thinkers (Sanchez et al. 2006). Their job-profile consists of various tasks that require an extraordinary level of flexibility, remarkable time-management skills, and high educational levels - in other words creative individuals. That academics are in the 'knowledge business' is a proposition supported by the New Zealand Education Act, which holds that the university is a community of scholars and a repository of knowledge and expertise (Ministry of Education 1989).

While research investigating knowledge management procedures within the organizational context (Davenport et al. 1996; Nonaka 1994; Nonaka et al. 1998) is ever growing, research into the relationship between KM and creative individuals in the workplace is scarce. The purpose of this study is to investigate how academic staff and university managers perceive knowledge sharing procedures within a University and which technologies are considered useful in sharing and managing individual and organizational knowledge.

The paper is structured as follows. First the relevant literature is reviewed and the University department investigated for this study is introduced. Afterwards, the research methodology, exploratory case study research, is explained. Then, the findings are outlined and discussed before conclusions are drawn.

LITERATURE REVIEW

A search on major bibliographic databases resulted in only a few academic articles relevant to the personal knowledge management strategies of creative individuals, including academics. However, the existing literature on creative individuals, knowledge sharing within organizations, and on Information and Communication Technology (ICT) provides a good foundation for this research.

Creative individuals

People are the core of knowledge creating organizations because they develop, hold and share knowledge with other individuals within the organization (Davenport et al. 1996; Drucker 1999). This is particularly the case for knowledge intensive firms such as universities, consulting groups or law firms as knowledge can be perceived as their core competency (Greenaway 2001; Morris et al. 1998; Nguyen et al. 2004; Zack 1999). However, in most business environments, creativity, and by extension creative individuals, is viewed as a chaotic element which is difficult to manage (Davenport et al. 2002; Drucker 1999; Sinetar 1985). While creative individuals have unique personalities, they often share such characteristics as an ability to be at ease with ambiguity, a need to solve difficult problems with their own minds, and a tendency to solve problems without consulting other individuals (Murphy et al. 2007; Sinetar 1985).

Managing knowledge in creative environments

Since knowledge is embrained or embodied within the individual (Alavi et al. 1999; Nonaka 1994), it is crucial to create environments that facilitate the sharing of knowledge between individuals in the organization. Thus, a key element of knowledge sharing within organizations is the individual's commitment to internalize, reflect, and articulate their personal knowledge with others (Allee 1999; Baskerville et al. 2006; Hansen et al. 1999; Inkpen et al. 1998). In response, some organizations have attempted implemented managerial techniques to facilitate the internal knowledge sharing. They can be either informal or formal. Formal approaches, be they technology or managerially-based, have recently come to be known as knowledge management systems (KMS).

Informal knowledge sharing procedures

Informal social networks are crucial for knowledge-intensive organizations such as research driven or intellectual capital organizations, because these networks form the base for the development of creative ideas (Hansen et al. 1999; Murphy et al. 2007). To facilitate informal knowledge sharing, organizations have designed strategies to foster collaboration among creative individuals including informal networking events, designing comfortable workplaces, and reward and incentive programs (Davenport et al. 1998; Davenport et al. 2002; Drucker 1999). While reward and incentive programs are often financially based, the other techniques tend to be more experimental and results heavily depend on the creative individual's attitude towards these strategies. Davenport et al. (2002) point out that many companies have implemented cappuccino bars, indoor lounges, and creativity rooms in order to nourish social life at work. The hope is that such places would support social relationships and informal knowledge sharing resulting in collaboration and the development of new ideas (Davenport et al. 2002). However, many of these spaces remain unused; apparently they are not necessarily what creative individuals are looking for (Davenport et al. 2002). Perhaps somewhat ironically, the researchers suggest that senior management use these premises for their own informal meetings.

Formal procedures

Many organizations have implemented formal procedures such as training and employee development programs, organizational policies, standard routines, procedures, reports, help desks and manuals to facilitate the internal sharing of knowledge (Alavi et al. 1999; Hansen et al. 1999; Nonaka et al. 1998; Schroeder et al. 2007).

Still, formal knowledge procedures are often perceived as too bureaucratic limiting the freedom of expression, experimentation, and spontaneity (Baskerville et al. 2006; Graham et al. 1996; Hansen et al. 1999).

Knowledge sharing enabling Information and Communication Technologies

ICT has come to play a major part in organizational knowledge management strategies. Some have argued that when it comes to KM there is too much reliance on technology and not enough on the management of people (Coakes 2004; Corbitt et al. 2005; Grover et al. 2000). This may well be the case with the management of creative individuals (Burch 2007); nevertheless, creative individuals do make use of ICT that augments their individual preferences for personal knowledge management (Murphy et al. 2007). ICTs, commonly used in knowledge sharing, are briefly introduced below.

Intranet/Email

Intranet and email are very common communication channels utilized by organizations to facilitate internal communication and to share knowledge internally (Berghel 1997; DeSanctis et al. 2001; Shachaf 2005). These media are a cost effective way to distribute information and knowledge quickly without being limited by geographical boundaries (Brown et al. 2004; Burke et al. 1999; DeSanctis et al. 2001; Kayworth et al. 2002; Pauleen 2003a; Pauleen 2003b; Shachaf 2005).

Voice over Internet Protocol (VoIP)

VoIP is a synchronous communication technology for voice transmission through the Internet allowing users to share knowledge with peers independent of location and time (Varshney et al. 2002). One example of a successful software application based on VoIP is Skype. With over 60 million registered customers, Skype offers software that is downloadable free of charge allowing users to phone, chat and video-conference while facing no costs (Berry et al. 2006; Skype 2007).

Knowledge management systems

Information technologies such as Internet, intranets, browsers, data warehouses, and search engines support organizations to systematize and facilitate the organization wide knowledge sharing (Alavi et al. 1999; Wasko et al. 2005). Furthermore, there are knowledge management software applications available specifically aiming to facilitate the organizational knowledge sharing by systematically storing and filing knowledge within depositaries (Pan et al. 2003). More recently wiki tools are increasingly utilized by organizations to internally share organizational related knowledge (Chawner et al. 2006).

The following section investigates the unit of analysis for this case study: The School of Information Management at a leading University in New Zealand.

THE CASE INVESTIGATED FOR THIS STUDY: A SCHOOL OF INFORMATION MANAGEMENT (SIM) AT A UNIVERSITY IN NEW ZEALAND

The school investigated for this study is part of the Faculty of Commerce and Business Administration at a leading University in New Zealand. The school's focus is on information management and it combines teaching and research in a number of inherently interdisciplinary fields such as Electronic Commerce, Information Systems, Library and Information Management and Communications. The school offers a range of undergraduate and graduate degrees, taught and supervised by highly qualified and experienced academics. SIM's teaching and research team consists of approximately 30-35 academics primarily conducting academic research and teaching students in the disciplines offered by SIM.

In response to a University policy, SIM is required to develop its own research plan. The research plan is monitored by the school's management and the research performance of individual staff is constantly evaluated as part of the staff development planning process. Staff are required to participate in the assessment of internal and external performance measures such as the Performance-Based Research Fund (PBRF). This is a government based research fund, which aims to ensure that excellent research in the tertiary education sector is encouraged and rewarded (PBRF 2008). A substantial portion of the university's government funding is based on research outputs as measured by PBRF. Research outputs are produced almost exclusively by academic staff.

RESEARCH METHODOLOGY

This research uses a qualitative approach using coding techniques commonly utilized for grounded theory studies (Miles et al. 1994; Walsham 1995; Yin 1994). Qualitative research methodologies aim to provide rich data attempting to understand the actors' view of their world and how they interact in their environment (Creswell 2003; Klein et al. 1999; Miles et al. 1994; Walsham 1995; Yin 1994).

The purpose of this study is to investigate how academics and university managers perceive knowledge sharing procedures within a University and which technologies are used to share and manage knowledge internally. To

capture different perspectives, a total of five non-managerial academics were selected for this study. Subsequently, we interviewed two managers - one on the SIM level and one at the University/Faculty level. Participants were selected through a convenience sampling strategy (Miles et al. 1994; Orlikowski et al. 1991; Yin 1994).

Participant 1-4 are lecturers at the School of Information Management teaching undergraduate and graduate courses in information systems and e-commerce. **Participant 5** is a PhD candidate at SIM tutoring undergraduate courses. **Manager A** is a general manager at the Faculty of Commerce and Administration involved with staff and graduate student research**. Manager B** is a professor at SIM and holds a managerial position at the School level.

Data collection was carried out through semi-structured interviews featuring open-ended questions. Examples of the non-structured questions presented to the participants are stated below:

- *In which environments/circumstances do you most often share knowledge with your colleagues?*

- *What technologies do you use in your job to manage your knowledge?*

For this research, our questions focused on how academics share knowledge with peers, not with students. Each interview lasted between 45 and 60 minutes and was recorded and transcribed afterwards. Supplementary field notes were written a few hours after the interviews took place (Hufnagel et al. 2001).

The first step undertaken for the data analysis involved open coding. Open coding is the process of breaking down, examining, comparing, conceptualizing, and categorizing data (Miles et al. 1994). Afterwards, using conceptual coding, the transcripts were scrutinized for similarities or differences and then grouped into clusters of conceptual units. The major goal of conceptual coding is to reassemble data that was fractured during the open coding process (Miles et al. 1994). The clusters were called concepts and represent a higher level of abstraction. To better visualize these concepts and cluster, a data matrix was developed to highlight similarities and differences between each participant (Miles et al. 1994).

FINDINGS

This section is divided into two separate sections. We firstly discuss the comments made by the non-managerial staff, which is followed by an analysis of the Managers perceptions.

General attitude of Academics towards KM

All non-managerial academics argued that academic institutions are driven by competition and tend to support individualistic endeavours. They stated that –apart from personal interests- there are only a few incentives provided to share knowledge with other colleagues. For instance Participant 3 indicated that the organizational culture might be a reason for this: "*I think here it is probably more a competitive culture. So the incentive is not to share. I think there is more an incentive to write your own papers and get your own points for promotion. So if you have a good idea, keep it to yourself!*"

On the other hand, it became clear that academics constantly share knowledge with colleagues if it facilitates their job-performance. The following sections describe how they share knowledge with each other.

Informal Knowledge Sharing Procedures

Informal knowledge sharing procedures were associated with casual conversations between colleagues or spontaneous meetings in staff lounges or staff offices. All non-managerial participants argued that this form of knowledge sharing was by far the most common way to share knowledge with colleagues.

For instance, Participant 1 stated: "*I think most of the knowledge sharing takes place in informal conversations. This can be while having a coffee or in somebody's office where people have a chat about things. This is particularly the case for tacit knowledge but we also share explicit knowledge this way.*"

Similarly Participant 3 pointed out that the most common procedure to share knowledge around SIM would be "*informal corridor conversations, chats and talks about a variety of things. Most often work related topics.*" He seemed to be convinced that most people preferred informal meetings due to their unofficial character. Accordingly, Participant 2 and Participant 5 mentioned that "face-to-face" small-talk would be a very effective way to share knowledge with others. These participants added that having an immediate outcome or solution by approaching others promotes this form of knowledge sharing.

Furthermore, the participants indicated that staff members tended to know each other and often understand who to contact for work-related knowledge. One participant said: *"Most people understand to contact the "right person" if they wanted to share knowledge on a certain topic.*" Participant 2 added: *"I have sort of a mental map and I know who is doing what. So I kind of know who is doing what at SIM."*

In summary, the comments indicate that academics enjoy sharing their personal knowledge with others while having face-to-face conversations in informal environments. Particularly in situations where knowledge sharing is a mean to solve work related issues, it appears that academics establish temporary alliances to resolve their work related issues. This agrees with the literature on creative individuals suggesting that although not very interested in social values, creative individuals are flexible and adaptive when accomplishing their personal goals (Murphy et al. 2007). Moreover, Murphy and Pauleen (2007) argued that creative individuals are barely interested in interpersonal relationships. Similarly, none of the research participants indicated the existence of social networks or friendships within the organization.

Formal Knowledge Sharing Procedures

All non-managerial academics appeared very critical and adverse towards formal knowledge sharing procedures. They mentioned that past attempts to establish formal knowledge sharing environments such as research clusters and seminars had not been well accepted and eventually stopped. For instance, Participant 1 recalled:

"We were trying to do a couple of things on that for knowledge sharing but they didn't really fly. We had seminars and stuff like this where people were presenting their research so that everybody would know what the others were doing. A lot of people didn't really participate...a lot of people did not show up...a lot of people didn't put their hearts into it....I don't know whether people were too busy, or people were not interested, or whether there was no production to be shared."

Similarly, Participant 2 argued: *"In the academic field it would be very hard to stimulate formal knowledge sharing. I don't actually think that we do have an environment where this is considered valuable. Informally it works perfectly so what would be the point?"*

These comments illustrate the restricted attitude of the research participants towards formal procedures to share knowledge with each other at SIM. Participant 3 added that there are ongoing formal attempts to share knowledge among other department on the University level: *"Yes, most schools tend to advertise their seminars to members from other schools. Most of the times though I delete the messages as soon as they arise because really I am not interested in the economics of the fishing subsidies in Upper Volta or wherever it is.....I am not interested."*

Overall, all participants seemed to be hesitant towards formal knowledge sharing procedures. It appeared that they prioritized their research interests and they seemed to be disinterested in organizational wide knowledge exchange. Particularly, the high degree of specialization of each academic staff members into specific research areas seemed to negatively influence staff members' willingness to share knowledge outside of their own research domain. These comments illustrate how significant the individual's commitment is to systematically internalize, reflect, and articulate their personal knowledge with others, who they deem relevant and useful in achieving their personal objectives (Baskerville et al. 2006; Hansen et al. 1999).

Having reflected upon the academic's attitudes towards knowledge sharing procedures, the following section concentrates on the ICTs utilized by the research participants to manage and share their knowledge.

ICT used to share and develop knowledge at the School of Information Management

Four research participants mentioned that they frequently utilize various ICT to manage their knowledge and share it with peers. Particularly email and VoIP applications such as Skype were frequently regarded enabling tools to share knowledge with others. In addition, the School's web-portal as well as academic databases were viewed as standard utilities to retrieve knowledge electronically. Table 1 summarizes the participants' attitudes towards ICT in relation to knowledge sharing in the job:

Table 1. Participants perceptions related to technology and knowledge sharing

	General perceptions on each technology	Comments made by Participants
Email & VoIP	Email was seen as a "standard application" to share knowledge with others and organize day-to-day work. VoIP was also frequently used by academics	*I like Skype a lot and I often use it to talk to others in order to share knowledge. I also find the chat-function very useful to share knowledge quickly.*
SIM's Web-portal /Intranet	SIM's web-portal was frequently pointed out as a starting point to get an overview of the research areas being studied at SIM.	*"I use the school's website to find out about my colleagues' research interests. If others have published papers on a topic that I am looking for, I then seek help and support from these colleagues.*
Electronic academic databases	The participants argued that academic databases are essential for their jobs. One academic pointed out concerns regarding academic databases.	*"I guess one big issue by using online databases is actually how to decide whether you acquired "good" knowledge or "high quality" knowledge that you are getting rather than incorrect knowledge.*
Academic software	Academic software packages were perceived as knowledge depositaries rather than tools to share personal knowledge with others.	*"If you are talking about references I use endnote….sometimes simple Excel spreadsheets, and I also Nvivo…so it is a matter of task and fit."*
KMS databases	There is no designated knowledge management database in place at SIM/University to share knowledge with others.	*"There is no depository where I go to that says: here is knowledge… We don't have a clear understanding of what everybody else is doing and I am not persuaded that KMS databases were be accepted by the academic community."*
Wikis	Three participants proposed to implement Wiki-tools that could be utilized by students and lecturers at the same time.	*"I also believe that the "Wiki" idea for research clusters would be very interesting.*

None of the academics appeared to favour designated KM depositaries. Although these tools are frequently pointed out as knowledge sharing facilitators for organizations (Alavi et al. 2001; Coakes 2004; Pan et al. 2003), it is likely that the academics would see them leading to some sort of compulsory use. However, portals and electronic databases, which can be considered formal KM technology structures, are used, most likely because their use is strictly voluntary.

Having discussed the non-managerial perspectives on knowledge sharing in academic work environments, let us now consider the perceptions from managerial staff.

Managerial Perspective

The interviews with the managerial staff revealed that managing academics is a challenging endeavour. Both managers described academics as creative and intelligent individuals who tend to dislike being managed actively. Manager A explained that the academic work-style can be compared with the entrepreneurial profession because both could design their own jobs and decide when to work. She added that academics value such unautocratic environments and they do not tolerate restrictions very well. The interviews also indicated that managing academics require sophisticated and clever managerial techniques: "*If academics knew they were actively managed, they would tell you to get lost. For example, one of the deans gave us a plastic laminated clock for putting outside of our door supposed to say when we were back next. Of course most of us just wrote "tomorrow" on it.*" In a similar vein, Manager B pointed out that he has often used an "old saying" to describe his managerial responsibilities:"*managing academics is like herding cats*"

Team work and knowledge sharing

Both managers confirmed that it is very difficult to encourage staff to jointly work on projects and to share knowledge with each other. While some individuals would enjoy team-based work, many academics reject forced collaboration. Neither believed that it is possible to force academics to work collaboratively. They explained that academics need to see clear benefits in collaborating with others. Manager B suggested that: "*There are ways of facilitating collaborative work. The ones that usually work best are those that are financially based where the stipulation is a joint project that is involves multiple people. These projects force people to work together and out of that, they tend to share knowledge*."

On the other hand, he added that the academic job profile requires one to constantly publish research which tends to be best produced in collaboration with other researchers: *"We must research and publish and most academics intuitively know -and if they don't they usually find out quickly enough- that it is easier to work with other people than to work on your own. You share the glory but you share the work and you motivate each other so the publish peril stick drives people to research which tends to drive them to do research together with other people and that generates knowledge sharing."*

Informal knowledge sharing

The managers' responses indicated that informal environments are the best settings to stimulate knowledge sharing in academic work settings. Both emphasized that personal relationships and trust are essential for constructive teamwork and knowledge sharing. Manager A stated: *"Academia is supposed to be a collegial environment so going out for lunch or doing more social things is a part of that. That's actually where people tend to share knowledge better. When you establish personal relationships and when you are socially connected and both got similar goals. There will be a lot of trust there obviously."*

Similarly, Manager B argued that providing a staff-lounge would be useful where people can come together and exchange knowledge: *"Any kind of mechanisms that allows them to get face-to-face helps. Social interaction helps people to get to know each other and builds trust. Of course trust is an important antecedent for knowledge sharing. So it is more than just straight knowledge sharing."*

Manager B added that "morning tea" sessions are a useful instrument to get academics together in order to establish interpersonal relationships. However, he mentioned that finding the "right dose" for these occasions is a difficult endeavour. Too many "get-togethers" would be counter-productive because individuals would show reluctance due to the involved time commitment. On the other hand, very few occasions would not accomplish the intended goal either.

Formal knowledge sharing

Both managers seemed to be sceptical regarding formal knowledge sharing procedures. For instance, Manager B argued: "I generally found that when you try to engineer knowledge sharing, and you try to design structures and processes to make them share knowledge -or enforce that-, it doesn't work. We have tried that here in the School in the past." He explained that a few years ago, all academics at the School were clustered into research groups according to their research interests. It was anticipated that individuals would share knowledge with each other more often. However, the research clusters were "totally ignored by everybody" and the plan did not work out as anticipated. Similarly, weekly research talks from academics within the school were not accepted at all. These presentations aimed to share knowledge with colleagues on ongoing research projects. He considered: "It's also a reflection of the times. The pressures these days to get publications out and so forth sucks time away from those marginal activities that people would like to do if time weren't so limited."

ICT

Neither manager had expectations regarding academics use of ICT to share knowledge with each other. They viewed their role as a "promoter" providing ICT tools for academics to use. They argued that academics need to see a clear benefit in using ICT to work collaboratively with others.

While email and academic research databases were viewed as essential in the job, Manager B argued that KM depositaries and newer ICT such as blogs and wiki tools are not fully accepted by academics so far. He argued:

"I don't think that Wikis and Forum tools, even blogs have all that great success record so far...not just here but in other places. So it is interesting question what sort of things can spur the uptake of tools such as wikis for knowledge sharing. But the reality seems to be that it doesn't work. The only reason why people might use these tools is if they see a clear benefit for using these tools. And if they think that it is something that it might be fun to play around with but they don't see the benefit for them personally, they might play around with it for a little while and then drop it. That happens all the time. So I guess the question comes down to benefit."

Both agreed that it would be impossible *"to "command" people to use these tools in a certain way."* For instance, Manager B argued: *"We just implemented an intranet for the school including an electronic forum. So the jury is out whether this is going to be used very much but it could end up being very useful mechanisms for knowledge sharing. I kind of doubt it but we will see. I promote it to use it but you can lead a horse to water but not necessarily make it drink. So we try various things from time to time and year to year but on the whole we probably take the approach of letting people do their own thing mostly."*

Overall, the managerial staff regarded collaborative work as positively in the academic environment and they encourage collaboration among academics. They strongly recommended knowledge sharing and team-work as illustrated by the following comment made by Manager A: "*The whole academic thing is an intellectual endeavor. So there is no expectation that you have to share knowledge with each other. On the other hand there is usually a -quid pro quo- I mean obviously if you are going to share, you'll get something back. I think that most academics understand that. The entire thing about going to conferences etc. is about sharing knowledge...and sharing to gain and vice versa.*"

In spite of this belief, both managers seemed to be reluctant towards policies enforcing academics to work in teams.

DISCUSSION

The findings above indicate that knowledge management in an academic environment is a complex issue that is influenced by a variety of factors. Both, academics and managers appeared to be convinced that informal knowledge sharing procedures work best in the University context. "*Hire smart people and let them talk to one another*" (Davenport et al. 1998) describes well what the research participants have voiced.

The staff attitude towards team-work and knowledge sharing seems to be one of the most significant inhibitors for knowledge sharing in academic environments. Both the academics and their managers confirm that getting creative individuals to work collaboratively is a difficult endeavour (Ludwig 1995; Murphy et al. 2007; Stein 1974; Storr 1972). While the managers thought that teamwork could be fostered in an academic environment, the academic staff tended to view the environment as fiercely competitive thereby impeding extensive knowledge sharing.

The findings also seem to support the notion that formal procedures such as knowledge management policy, standard routines, and organized school meetings should not be treated as a 'one-size-fits-all approach for knowledge management in organizations particularly those that rely on creative individuals. Instead, the findings indicate that creative individuals are resistant towards regulations and it seemed that a 'let them do what they want' policy best describes how academics want to be managed. Hence, it is clear that different organizations require diverse approaches to manage their knowledge (Alavi et al. 1999; Hansen et al. 1999; Nonaka et al. 1998; Schroeder et al. 2007).

ICT was commonly perceived as a facilitator to develop knowledge and to share it with colleagues. Particularly, the School's web-portal, email, and electronic databases were emphasized as suitable for distributing knowledge supporting recent literature (Brown et al. 2004; Burke et al. 1999; DeSanctis et al. 2001; Kayworth et al. 2002; Pauleen 2003a; Pauleen 2003b; Shachaf 2005). Surprisingly, the research participants seemed to be very critical towards dedicated technology based knowledge management systems. None of the participants suggested implementing such tools at the School. Table 2 summarizes the current drivers and inhibitors for knowledge sharing at SIM.

Table 2. Managerial mechanisms to promote knowledge sharing among academics/creative individuals

Promoting factors	Deterring factors
Staff Attitude • Positive attitude towards KM • Incentive to share and team-work **Incentives** • Financially based **Informal small-talks** • Corridor conversations • short-term work related alliances **KM facilitating ICT** • Intranet/Schools website • Email • VoIP • Electronic academic databases	**Organizational environment** • Fierce competition based on individualistic goals **Formal procedures to share knowledge** • Organized seminars • Formal Presentations • Research clusters **Ineffective ICT** • KMS knowledge depositories

In summary, it appears that creative individuals do not need much managerial effort to promote knowledge sharing. Our research suggests that they will share knowledge with others as long as they see personal benefits in it. It also seems to be clear that academics do not gladly accept too many restrictions within their work-environment and they seem to dislike active involvement of superiors in their work routines.

CONCLUSION AND IMPLICATIONS

This research indicates that managing creative individuals in an academic work environment is a difficult endeavour. By far, most knowledge is shared in informal environments and it seems that creative individuals require incentives for sharing personal knowledge with peers and even with incentives it still remains the individual's choice whether to share or not. Similarly, ICT must provide clear personal advantages for academics in order to be used by them for work-related issues. Moreover, the findings suggest that formal structures and predefined rules to share knowledge can lead to resistance from creative people. It is reasonably safe to conclude that managers must approach the management of creative individuals with great care and sophistication.

Murphy and Pauleen (2007) suggested that managers should not only try to foster the ability to effectively manage creative individuals, but also to learn from them. This conforms to the comments made by the managerial staff arguing that knowledge sharing among academics is impossible to "engineer". It also appears that the managers interviewed for this study have already "learned" that formal knowledge sharing procedures are anything but a silver bullet for their organization. Therefore, it is reasonable to expect that other knowledge intensive organizations might face similar challenges.

This paper exclusively concentrates on knowledge sharing procedures of academics in their role as researchers, not as teachers. In their teaching roles, these individuals constantly share their knowledge with students, and those in the KM discipline explicitly teach "effective" knowledge management approaches within organizations. The paradox of "unsocial sociability" might appear to be even more paradoxical should future research compare academics' knowledge sharing behaviors as researchers with their behaviors as teachers. Possibly "do as I teach not as I do" will best describe such an investigation's outcome.

The findings described in this research, while generalizable to its peculiar context, must be closely scrutinized in their application to other situations. The research was conducted at a singular point in time and consisted of only one round of data collection with seven participants. While providing an initial point of discussion, future research should aim to widen the current scope of this research capturing further perceptions of creative individuals and their attitudes towards knowledge management. In future, quantitative research could be used to capture university wide knowledge sharing. In addition, other knowledge intensive organizations employing highly skilled, well educated, and creative personalities should be approached to study their internal procedures for knowledge sharing.

REFERENCES

Alavi, M., and Leidner, D.E. "Knowledge Management Systems: Issues, Challenges. and Benefits," Communications of the Association for Information Systems (1:7) 1999, pp 1-37.

Alavi, M., and Leidner, D.E. "Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues," MIS Quarterly (25:1) 2001, pp 107-136.

Allee, V. "The art and practice of being a revolutionary," Journal of Knowledge Management (3:2) 1999.

Baskerville, R., and Dulipovici, A. "The theoretical foundations of knowledge management," Knowledge Management Research and Practice (4) 2006, pp 83-105.

Berghel, H. "Email-the good, the bad, and the ugly," Communications of the ACM (40:4) 1997, pp 11-15.

Berry, L.L., Shankar, V., Turner Parish, J., Cadwallader, S., and Dotzel, T. "Creating New Markets Through Service Innovation," MIT Sloan Management Review (47:2) 2006, p 72.

Brown, S.A., Fuller, R.M., and Vician, C. "Who's afraid of the virtual world? Anxiety and computer-mediated communication," Journal of the Association for Information Systems (5:2) 2004, pp 79-107.

Burch, G.S.J. "The creative-schizotype: Help or hindrance to team-level innovation?," Auckland Business Review (9:1) 2007.

Burke, K., and Chidambaram, L. "How much media bandwidth is enough? A longitudinal examination of media characteristics and group performance.," MIS Quarterly (23:4) 1999, pp 557-580.

Carrion, G.C., Gonzales, J.L.G., and Leal, A. "Identifying key knowledge area in the professional services industry: a case study," Journal of Knowledge Management (8:6) 2004, pp 131-148.

Chawner, B., and Lewis, P.H. "WikiWikiWebs: New Ways to Communicate in a Web Environment," Information Technologies and Libraries (25:1) 2006, pp 33-43.

Coakes, E. "Knowledge Management - A Primer," Communications of the Association for Informations Systems (14) 2004, pp 406-489.

Corbitt, B., Bradley, T., and Thanasankit, T. "Factors influencing the implementation and use of a portal for knowledge managment in higher education," 9th Pacific Asia Conference on Information Systems, Bangkok, 2005.

Creswell, J.W. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (2nd edition ed.) Lincoln-University of Nebraska, 2003.

Davenport, T.H., Jarvenpaa, S.L., and Beers, M.C. "Improving Knowledge Work Processes," Sloan Management Review (37:53-65) 1996.

Davenport, T.H., and Prusak, L. Working Knowledge: how organizations manage what they know Harvard Business School Press, Boston, 1998.

Davenport, T.H., Thomas, R.J., and Cantrell, S. "The mysterious art and science of knowledge-worker performance," MIT Sloan Management Review (44:Fall) 2002, pp 23-31.

Dennis, A.R., and Vessey, I. "Three Knowledge Strategies: Knowledge Hierarchies, Knowledge Markets, and Knowledge Communities," MIS Quarterly Executive (4:4) 2005, pp 399-412.

DeSanctis, G., Wright, M., and Jung, L. "Building a global learning communication," Communications of the ACM (44:12) 2001, pp 80-82.

Drucker, P. "Knowledge-Worker Productivity: The Biggest Challenge," California Management Review (41:Winter) 1999, pp 79-94.

Graham, A.B., and Pizzo, V.G. "A question of balance: case studies in strategic knowledge management," European Management Journal (14:4) 1996, pp 338-346.

Greenaway, K.E. "A Case Study of the strategy-Knowledge Management-Performance Link in a Professional Services Firm," Seventh Americas Conference on Information Systems, 2001.

Grover, V., and Davenport, T.H. "General Perspectives on Knowledge Management: Fostering a Research Agenda," Journal of Management Information Systems (18:5) 2000, pp 5-21.

Hansen, M.T., Nohria, N., and Tierney, T. "What's your Strategy for managing Knowledge," Harvard Business Review (March-April) 1999.

Hufnagel, E.M., and Conca, C. "User response data: The potential for errors and biases," Information Systems Research (5:1) 2001.

Inkpen, A.C., and Dinur, A. "Knowledge management processes and international joint ventures," Organization Science (9:4) 1998, pp 454-468.

Kayworth, T.R., and Leidner, D.E. "Leadership in Global Virtual Teams," Journal of Management Information Systems (18:3) 2002, pp 7-40.

Klein, H.K., and Meyers, M.D. "A Set of principles for conducting and evaluating interpretive field studies in Information Systems," MIS Quarterly (23:1) 1999, pp 67-94.

Ludwig, A. The Price of Greatness Guilford, New York, 1995.

Miles, M.B., and Huberman, A.M. An Expanded Sourcebook-Qualitative Data Analysis Sage Publications, Thousand Oaks, California, 1994.

Ministry of Education "Education Act," 1989, p. s.162(164)(a)(iv).

Morris, T., and Empson, L. "Organization and Expertise: An Exploration of Knowledge Bases and the Management of Accounting and Consulting Firms," Accounting, Orgnaiztions and Society (23) 1998, pp 609-624.

Murphy, P., and Pauleen, D. "Managing paradox in a world of knowledge," Management Decision (45:6) 2007.

Nguyen, T., Smyth, R., and Gable, G. "Knowledge management Issues and Practices: A case study of a professional sevices firm," American Conference on Information Systems, 2004.

Nonaka, I. "A dynamic theory of organizational knowledge creation," Organization Science (5:1) 1994, p 14+37.

Nonaka, I., and Konno, N. "The concept of 'Ba': building a foundation for knowledge creation," California Management Review (40:3) 1998, pp 40-54.

Orlikowski, W., and Baroudi, J.J. "Studying Information Technology in Organizations: Research Approaches and Assumptions," Information Systems Research (2:1) 1991.

Pan, S.L., and Leidner, D.E. "Bridging communities of practice with information technology in pursuit of global knowledge sharing," The Journal of Strategic Information Systems (12:1) 2003, pp 71-88.

Pauleen, D. "An inductively derived model of leader-initiated relationship building with virtual team members " Journal of Management Information Systems (20:3) 2003a, pp 227-256.

Pauleen, D. "Lessons learned crossing boundaries in an ICT-Supported Distributed Team," Journal of Global Information Management (11:4) 2003b.

PBRF "Performance Based Research Fund," 2008.

Sanchez, M.P., and Elena, S. "Intellectual capital in universities: Improving transperancy and internal management," Journal of Intellectual Capital (7:4) 2006, pp 529-548.

Schroeder, A., Pauleen, D., and Huff, S. "Towards a framework for understanding KM governance," Twenty Eighth International Conference on Information Systems, Montreal, 2007, pp. 1-16.

Schultze, U., and Leidner, D.E. "Studying Knowledge Management in Information Research: Discourses and Theoretical Assumptions," MIS Quarterly (26:3) 2002, pp 213-242.

Scott, W.E. "The Creative Individual," Academy of Management Journal (8) 1965, pp 211-220.

Shachaf, P. "Bridging cultural diversity through e-mail," Journal of Global Information Technology Management (8:2) 2005, pp 46-60.

Sinetar, M. "Entrepreneurs, Chaos, and Creativity - Can Creative People Really Survive Large Company Structure?," MIT Sloan Management Review (Winter 1985 (26):2) 1985, p 6.

Skype "About Skype-Skype features," 2007.

Stein, M. Stimulating Creativity Academic Press, New York, 1974.

Storr, A. The Dynamics of creation Secker & Warburg, London, 1972.

Tovstiga, G. "Profiling the Knowledge Worker in the Knowledge-Intensive Organization: Emerging Roles," International Journal of Technology Management (18:5-8) 1999, pp 731-744.

Varshney, U., Snow, A., McGivern, M., and Howard, C. "Voice over IP," Communications of the ACM (45:1) 2002.

Walsham, G. "Interpretive Case Studies in IS Research: Nature and Method," European Journal of Information Systems (4:2) 1995, pp 74-83.

Wasko, M.M., and Faraj, S. "Why should I share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice," MIS Quarterly (29:1) 2005, pp 35-57.

Yin, R.K. Case Study Research-Design and Methods, (second ed.) SAGE Publications, Thousand Oaks, California, 1994.

Zack, M.H. "Developing a Knowledge Strategy," California Management Review (41) 1999, pp 125-145.

COPYRIGHT