Knowledge Management education in the departments of Library/Information Science in South Africa[1]

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This paper focuses on the role of the departments of Library and/or Information Science (L/IS) in South African universities in the training of Knowledge Management (KM) competencies. A questionnaire was e-mailed to thirteen L/IS departments, of which 9 (69%) responded. All respondents showed great interest in KM as an L/IS competency. They all view KM as legitimately belonging to L/IS because of the long involvement in the organization of information and knowledge. However, only 7 of these departments are currently offering some KM subjects, but with marked differences in the scope, level and stages of development towards offering KM noted among the departments. The choice of subjects taught is not necessarily what any manager per se would need, but rather what an information manager would need to be successfully integrated in a business management setup. Moreover, this choice of subjects has evolved based on what the offering department views as the core of KM as well as what available expertise is able to provide.

1 Introduction

The term "knowledge" is not new because ancient scholars such as Plato and Aristotle in their philosophical works extensively addressed the concept. They attempted to define the term and explain its place in society. However, knowledge management (KM) as an academic discipline is still relatively young. Phrases like "knowledge society"' and "knowledge economy" started appearing in the 1990s, and maybe a little earlier. Knowledge is a broad and abstract notion that has been used to define epistemological debates in Western philosophy since the classical Greek era (Barnes, 2002). Barnes further argues that these debates are expressed from a variety of perspectives and positions, including the rationalist perspective advanced by philosophers such as Descartes in the 17th century, the empiricist perspective advanced by Locke and others in the 18th century, and the interactionist perspective advanced by Kant and others in the nineteenth century.

The rationalist perspective argues that true knowledge is not the product of sensory experience but some ideal mental process. This perspective posits that there exists *a priori* knowledge that does not need to be justified by sensory experience. According to the rationalist perspective, knowledge can be attained deductively by appealing to mental constructs such as concepts, laws and theories. Empiricist perspective claims that there is nothing like *a priori* knowledge and that the only sure source of knowledge is sensory experience. According to the empiricist perspective, everything in the world has an intrinsically objective existence; even when one has an illusory perception, the very fact that something is perceived is important. This perspective contends that knowledge is derived inductively from particular sensory experiences. The interactionist perspective claims that knowledge arises only when both rationalism and empiricism work together. According to the interactionist perspective, knowledge begins with sensory perception, which becomes more subjective and rational through a dialectic purification of the senses, and at last reaches the stage of self-knowledge.

1.1 Some current definitions of knowledge

Huber (1991) defines knowledge as interpretations of information, beliefs about cause-effect relationships or more generally "know-how." Nonaka (1994) views knowledge as a multifaceted concept with multi-layered meanings. He avers that the history of philosophy since the classical Greek period can be regarded as a never-ending search for the meaning of knowledge. Nonaka, however, adapts the simple definition of knowledge as justified personal belief that increases an individual's capacity to take effective action.

Nonaka and Konno (1998) identify two different types of knowledge, as explicit and tacit. Explicit knowledge, they argue, can be expressed in words or numbers and can be shared in the form of data, scientific formulae, specifications, manuals and the like. This is the kind of knowledge that can be readily transmitted between individuals formally and systematically. Tacit knowledge on the other hand is highly personal and difficult to communicate or share with others. Subjective insights, intuitions, and hunches fall into this category of knowledge. Tacit knowledge is deeply rooted in an individual's actions, experience as well as in the ideals, values, or emotions he or she embraces. In the literal thinking, tacit knowledge is what may be taken to be true knowledge as it is personal. Gardoni, Frank and Vernadat (2005) go further to classify knowledge as semi-structured and non-structured. They classify semi-structured knowledge as mainly written information such as reports, minutes of meetings, articles, etc. On the other hand, structured knowledge is harnessed from non-structured information such as user dialogues or e-mail exchanges.

Davenport and Prusak (1998) give their working definition of knowledge thus:

> Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories, but also in organizational routines, processes, practices, and norms (Davenport and Prusak, 1998).

Pearlson and Saunders (2004) also look at knowledge as a mix of various elements. They see knowledge as a mix of contextual information, experiences, rules, and values. They contend that knowledge is richer and deeper than information, and also more valuable because someone has thought deeply about that information and added his/her own unique experience, judgment, and wisdom. Pearlson and Saunders further state that one way of thinking about knowledge is to consider the different types of knowing. "Knowing what" is often based on assembling information and eventually applying it. "Knowing what" requires the ability to recognize, describe and classify concepts and things. The process of applying knowledge helps generate understanding of an appropriate sequence of events or the ability to perform a particular set of actions. Pearlson and Saunders add that, sometimes, the first inkling of knowing how to do something stems from an understanding of procedures, routines and rules

Knowledge is now discussed from the perspective of an organization owning it, managing it and using it to create not only competitive advantage, but also wealth. That is why we are now frequently hearing of corporate knowledge, organizational knowledge and knowledge-based assets of corporations.

1.2 Knowledge Management

That knowledge management is a managerial concept which is being put into practice by a number of organizations. Knowledge management may be young as an academic discipline, but it has been variously defined in the vast literature on the subject. Morrow (2001) defines knowledge management as a term used loosely to refer to a broad collection of organizational practices and approaches related to generating, disseminating, and applying knowledge. Developing new knowledge, sharing knowledge, combining existing knowledge, and valuing knowledge are all part of what has been termed knowledge management. Knowledge management caters to the critical issues of organizational adaptation, survival, and competence in the face of increasingly discontinuous environmental change. Essentially, it embodies organizational processes that seek synergistic combinations of data and information-processing capacity of information technologies and the creative and innovative capacity of human beings (Malhotra, 1998). Corrall (1998) cites Gartner Group as defining knowledge management as a discipline that promotes an integrated approach to identifying, managing and sharing all an enterprise's information assets. These information assets may include databases, documents, policies, and procedures, as well as previously unarticulated expertise and experience resident in individual workers. Thus the definitions fall into two groups: those that emphasize process and those that introduce the idea of knowledge management as a discipline. This, in turn, suggests that knowledge management started as a differentiation from information and library management and it is now seen by some as a separate area of enquiry. Skyrme (2003) likewise defines knowledge management as the explicit and systematic management of vital knowledge and its associated processes of creating, gathering, organizing, diffusion, use and exploitation. It requires turning personal knowledge into corporate knowledge that can be widely shared throughout an organization and appropriately applied.

These definitions imply that organizational knowledge is real and a strategic resource worth managing as it can make the difference between an organization achieving or failing to achieve its objectives. The definitions also imply that a human attribute and people are both an important source of knowledge and critical to knowledge management processes. Human beings are important depositories of knowledge. Tacit knowledge, as opposed to explicit knowledge, is stored in people's heads. A knowledge management process should make it possible and desirable for human beings to create and share knowledge. A knowledge management programme that may not make it possible for organizational

members to share knowledge may not succeed. Technology should also assist in capturing and making tacit knowledge easily accessible in an organization.

Knowledge management in general is one of the foremost strategic directions being investigated and adopted by organizations today. Knowledge management is considered a key part of the strategy to use expertise to create a sustainable competitive advantage in today's business environment (Beckman 1999). The promises of better decision making, faster turn around times, improved organizational communication and higher levels of cooperation and interaction among personnel, have all combined to create a holy grail kind of aura.

What is knowledge management about or what is the use of knowledge management in an organization? The primary focus of knowledge management is the use of information technology and tools, business processes, best practices, and culture to develop and share knowledge within an organization and connect those who possess knowledge with those who do not (Anantatmula, 2005:173). Anantatmula further says that ultimately, leveraging relevant knowledge assets to improve organizational performance is what knowledge management is all about. It may be that Anantatmula puts too much emphasis on the importance of information technology in knowledge management. His emphasis on the importance of information technology tools is a clear demonstration of what Pearlson and Saunders (2004) perceive as "exaggerated promises and heightened expectations, couched in the hyperbole of technology vendors and consultants which create unrealistic expectations of the role of information technology in knowledge management."

The most profound aspect of knowledge management is that at the end of the day, an organization's only sustainable competitive advantage lies in what its members know and how to apply that knowledge to achieve the organization's objectives. Information technology has traditionally focused on explicit knowledge that is easily collected, organized, stored and transferred by digital means. It is not practical for information technology to be used for collecting, organizing, storing and transferring tacit knowledge, which resides in organizational employees' minds. Collins (1995) gives three kinds of knowledge or abilities that may not easily be captured and/or be transferred by information technology:

- "embodied knowledge"- that is, knowledge contained in a person's body;
- "embrained knowledge" - the knowledge associated with the physical set up of the brain; and
- "encultured knowledge"- the knowledge associated with society.

1.3 Knowledge Management Education in L/IS Departments

The more one digs into the available literature on knowledge management as an academic discipline, the more he/she realises that the subject has assumed a multi-disciplinary nature. Besides L/IS, interest in knowledge management has been a feature in other professional areas and disciplines. As a consequence, multiple perspectives, initiatives, procedure and strategies have been implemented in the knowledge management field (Martin and Hazeri, 2006). Knowledge management is now offered in the departments of computer science, business schools, as well as library and information science departments among others. Martin and Hazeri are of the opinion that L/IS community has a viable interest as reflected in the wide level of involvement by relevant international and national professional bodies such as; IFLA, ALISE, ALIA and SLA. In South Africa, LIASA and ProLISSA have equally shown a wide level of interest in knowledge management education and research. Some L/IS departments in South African universities have changed to departments of information and knowledge management. The Universities of Johannesburg and Stellenbosch departments have changed departmental titles to include an element of knowledge management.

Job markets for L/IS graduates in South Africa have shifted drastically. Employers are now advertising positions such as knowledge managers, knowledge officers and information managers/officers. Both private and public sectors have established knowledge centres and departments/units of knowledge services. Knowledge managers/officers are expected to possess some skills which may not be acquired in the traditional L/IS departments. Traditional expertise in the organisation of information has now been transferred into areas such as content management and development of metadata (Hazeri and Martin, 2006). These are changes which, according to Martin (1999) reflect the influence of calls for new recruitment strategies for L/IS students take account of changing job markets. Taking these job market and other changes into account, Milne (1999) calls for significant changes in the mindset of L/IS educators.

The L/IS departments have the potential to make a contribution to the knowledge management education. Inquiring about the preferred skills and competencies considered crucial by employers of knowledge managers, Lai (2005) and Koening (1999) conclude that such skills and competencies are acquired in L/IS departments. It is only that the skills have to be translated into the language spoken by business professionals in the corporate world environment. Hazeri and Martin (2006) argue that since L/IS courses equip students with sufficient skills for participating in key knowledge management process (embodied in the life cycle from creation to disposal of knowledge), they should be visible in this market, provided the L/IS schools apply rational education and training strategies.

Apparently, there has been integration of knowledge management theory and practice into the core operations of organizations worldwide. However, very few universities offer courses in this discipline (Brogan, Hingston and Wilson,

2001). Chaudhry and Higgins (2003) conducted a study to determine the different approaches to knowledge management education in different institutions of higher learning. They found out that in training students in knowledge management, information systems departments emphasized more on the IT component of the programme while L/IS departments put more emphasis on information organisation and retrieval.

The difficulty of determining the intellectual territory to be covered is one major reason given by Ruth, Theobold, and Frizzell (1999) for not offering knowledge management in many universities. However, the trio contend thus:

> During the past five years, KM has become the focus of considerable attention. Scores of articles, including those in *Sloan Management Review, Harvard Business Review*, and other respected journals, have addressed the KM process as if it were a mainstream discipline. That same period has witnessed the appearance of nearly forty KM-related books and dozens of business cases, plus increasingly well-attended seminars and symposia. Currently, several journals focus exclusively on KM processes and practices. Parallel with this activity, a well-understood body of terms, a lingua franca, is emerging: implicit and explicit knowledge, knowledge markets, middle up-down management, the knowledge cycle, creative abrasion, and knowledge mapping, among many other terms. Hundreds of companies around the world are committed to KM principles and processes, including many of the Fortune 500 firms. While it is difficult to predict if KM programs will be run at the enterprise level, by a CKO, or within business units, KM is certainly becoming part of corporate culture, diffused throughout organizations in the same fashion as safety consciousness. Thus, KM seems to have "arrived," and we hope to facilitate diffusion of this important body of knowledge to the academy (Ruth, Theobold and Frizzell, 1999).

As yet, there is no universal agreement whether knowledge management is an academic discipline that is here to stay. Some academicians have dismissed knowledge management as a nonsensical oxymoron which may soon disappear (Broadbent, 1998, Wilson, 2002). Others have positively argued for an expansion of L/IS sklls in information management into the knowledge management domain (Southon and Todd, 1999) while others have even called for the full engagement of the L/IS professions so as to take full advantage of emerging opportunities (Koening, 2005, Martin, Hazeri and Sarrafzadeh, 2006).

Our study focuses on the role of the departments of library and information science in South African universities in the training of knowledge management. Traditionally, library schools have trained for a specific market. Graduates of library schools have in the past worked for school libraries, public libraries and academic libraries. The market of library school graduates started expanding when the position of corporate librarian was introduced in the corporate world. Courses in special librarianship found their way into the curricula of library schools. Such courses carried titles such as special librarianship, corporate librarianship, business information resources, management of information resources, management of special libraries, etc. From then, library school graduates found themselves working in large business corporations, in international organizations, in banks and insurance companies.

Over the past decade, knowledge management has emerged as an academic discipline with more and more universities and colleges offering specialized courses and programmes in the subject (Grossman, 2006). Tradition has it that an academic discipline would normally belong to an academic university department and only a university may legitimize a new academic discipline. Other research organizations may suggest introduction of a discipline, but they cannot legitimize it. Knowledge management has not had a problem of legitimacy as accreditation and curricula standardization bodies have acknowledged the importance of knowledge management as skill-sets in today's hypercompetitive knowledge-based economy and have advocated its inclusion in information systems curricula (Gorgone et al., 2005; Smith et al., 2004). As an academic discipline, knowledge management has been further legitimized by the increasing activity in academic research relating to the subject of knowledge management and a growing number of institutions are now offering knowledge management programmes at both undergraduate and post-graduate levels (Stankowsky, 2005).

This paper focuses on the role of the departments of Library & Information Science in South African universities in the training of KM[2]. Considering the changes taking place in higher education, LIS[3] departments have anticipated the significant changes taking place in the information industry and taken advantage of the recurriculation process to rationalize and reorganize their curricular. Among the significant changes is the introduction in part or in total of KM as a specialization within many of the LIS programmes. On one hand there is a new or extended target market that has spawned from what was formerly known invariably as special librarianship, corporate librarianship or more recently as business information resources management. On the other hand, the economics of university offerings have continued to

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2. KM stands for knowledge management
3. L/IS an abbreviation meaning Library/ Information Science

lean towards more market-oriented qualifications. These factors have necessitated radical thinking and change from the traditional L/IS orientation to meet the expanding and /or alternative career niches that are emerging. Against this background a study was conducted to:

- establish the extent to which L/IS departments in SA[4] are offering KM;
- find out if there are common modules/courses that are considered core, optional and highly recommended for KM;
- ascertain the extent to which KM is considered an academic discipline;
- find out if L/IS departments collaborate with other academic departments in the offering of KM; and
- establish problems and challenges faced by L/IS departments in offering KM.

2 Methodology

A questionnaire was sent via email to 13 "L/IS" academic departments in South Africa, i.e. at the Cape Peninsula University of Technology (CPUT), Durban Institute of Technology (DIT), Stellenbosch University (SUN), University of Cape Town (UCT), University of Fort Hare (UFH), University of Johannesburg (UJ), University of KwaZulu-Natal (UKZN), University of South Africa (UNISA), University of Limpopo (UL), University of Pretoria (UP), University of Western Cape (UWC), University of Zululand (UZ) and the Walter Sisulu University (WSU). Response received was 69%, i.e. from nine departments. However, two of these nine did not complete the questionnaire but sent a note explaining that they were not yet offering Knowledge Management in their curricula. Follow-up effort to obtain response from the remaining four departments was fruitless. Nevertheless, we believe that the information gathered from the nine respondents is sufficient to provide a picture of what is happening in South African "LIS" academic departments about KM.

The questionnaire sought to find out which institutions offer KM, the level(s) at which KM is offered, the KM curricula scope, the number of students registered for KM and the major problems of offering KM as an academic discipline. The questionnaire also sought the views of the respondents about the 'place' of KM in LIS programmes and any future plans that they might have. One of the departments that responded is actually named as the *Department of Information and Knowledge Management* while the others go by titles such as Department of Information Science (2 departments), Department of Information Studies (one department) and Department of Library and Information Science (four departments). The questionnaire was completed by high level academics in these departments, five of which were Chairs (Heads) of departments, four professors and one senior lecturer. Most respondents were quick in their response, in a way, signaling the interest that the topic generates as well as general co-operative attitude of the CoDs in these departments.

3 Discussion of findings: KM and the L/IS profession in South Africa

All the respondents acknowledged the importance of KM as a subject that should be offered within L/IS programmes. As explained in the introduction, it has become quite common for graduates of L/IS to work in large corporations that expect them to be managers of the entire knowledge of the organization, rather than just the traditional information sources. As knowledge managers, these graduates need knowledge, skills and competencies to deal with both explicit and tacit knowledge within the organization, for instance, by assisting employees to locate, filter, synthesize and share information. Thus many L/IS departments have recognized that failure to offer KM within their curricular leaves their graduates vulnerable to other disciplines that have already projected themselves as KM experts. The range of skills needed to manage complex corporate information and knowledge goes beyond the traditional L/IS skills. Additionally, considering the changing nature of L/IS, there is a need to respond to the growing market for professionals that may be referred to as information and knowledge professionals. KM is viewed as an integral part of the L/IS environment and the L/IS profession is in fact the main player.

3.1 KM as a L/IS sub-discipline

All LIS departments that responded to the email questionnaire showed great interest in KM as an L/IS component. They all view KM as legitimately belonging to L/IS because of the long term previous association through the offering of courses in the organization of information and knowledge. However, there is marked differences in the scope, level and stages of development towards offering KM among the departments. Most of the respondents are of the consensus that KM education and training should be offered by L/IS rather than other academic departments. The general reasoning is that KM actually belongs to L/IS because this is where the subject receives the broadest (unbiased) perspective as opposed to the narrower interpretations of the other professions (e.g. Business Management, Engineering, sociology, etc.). These other professions tend to overemphasize one aspect, for instance *people* or *technology*, at the expense of the other

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4. SA an abbreviation for South Africa

components of KM. However, it is clearly acknowledged that L/IS departments may need to collaborate with other departments, especially the Management Science and the Information Technology disciplines, for effective teaching of KM. This is because Management as a discipline infuses the business management elements while IT is the enabler of KM practices. Thus even though L/IS has been involved in the education and training of information specialists over a long time (hence have specific and time-tried expertise in managing information), the market shift that is now evident, i.e. towards knowledge as a whole, rather than merely information, requires a corresponding shift to accommodate the current demands on the graduate. The traditional L/IS focus was on explicit knowledge and now we have to include the management of tacit knowledge as well. The current KM modules and programmes offered in South African L/IS departments reflect the fact that KM is basically multi-disciplinary. However, the current institutional set-ups do not seem to allow for inter-disciplinary collaboration or approach to teaching KM.

On the other hand, a few of the respondents were of the opinion that the education and training of KM is best handled by Management Science academic departments because academic staff who have no background knowledge/training in management may not be capable of teaching KM as management forms a big component of KM. Thus, this opinion does not fundamentally oppose the fact that L/IS should include KM but rather it is made on the basis of a deficiency by L/IS academics, most of who have inadequate expertise in Management Sciences. Using the same argument, we might wish to contest that the management professions do not have enough expertise in information handling. Thus the middle ground of collaboration seems to be the answer up until such a time that L/IS academics will acquire the necessary extra expertise.

3.2 Curricular presence of KM

The seven departments who participated in the study offer KM on their curricular. This also means that at least 53.9% of all L/IS education institutions in South Africa offer KM. Two other departments responded to the researchers but do not currently offer KM. The two did not complete the questionnaire but stated clearly that they would wish to offer KM but are prevented from doing so mainly by the lack of qualified academic staff. This clearly implies that it is important to have academic staff who have the right qualification for the teaching of KM. The two are keenly interested and have plans underway to start offering KM in the near future. The earliest time that KM was offered in SA L/IS curriculum is 1996 in two of SA universities. This means that KM has a history of 10 years in L/IS education in South Africa. The other universities introduced KM in the years 2000, 2001, 2002, 2005 and 2006.

Currently, only one university offers KM as a complete degree programme, while a second one is planning to start offering this in 2007. Interestingly, it is the two universities that started offering KM concepts/topics in 1996 that seem to have progressed to this level. Six universities offer KM modules as part of their LIS curricula, i.e. contributing towards a broader degree such as BBibl., BInf., MBibl., etc. One university offers aspects of KM within L/IS modules, i.e. does not have complete (independent) modules on KM but has topics within the Management Information systems module.

Table 1 Number of students taking KM modules/programmes in SA L/IS Departments (May 2006)

	Undergraduate Bachelors		Honors/Postgraduate Diploma	Masters			Doctorate		**Total**
	Full degree	Modules	Modules	Full thesis	Mini thesis	Modules	Doctoral	Post-doctoral	
Cape Town	-	-	-	10	0	0	1	0	**11**
Fort Hare	-	-	-	-	-	-	-	-	**-**
Johannesburg	110	-	64	9	0	0	6	0	**189**
UKZN	-	-	8	4	0	0	4	0	**16**
Pretoria		13	39	3	12	34	7	0	**108**
UNISA	-	53	46	0	0	0	0	0	**99**
Walter Sisulu	-	-	-	-	-	-	-	-	**-**
Western Cape	-	-	-	-	-	-	-	-	**-**
Zululand	-	40	8	0	0	0	1	0	**49**
Totals	**110**	**106**	**165**	**26**	**12**	**34**	**19**	**0**	**472**

NB: A dash "–" means no data was given by the respondent.

Thus, there are potentially about 472 professionals of diverse cadres with KM skills to be released into the market, even though not all of them might be new or get absorbed into the South African market. This study did not try to establish whether or not this addition is adequate in meeting market needs. Still, the L/IS profession is doing what it can to provide the market with suitable competencies.

3.3 KM subjects taught in L/IS departments

The choice of KM subjects or modules offered in L/IS departments seem few and are not necessarily what any manager *per se* would need, but rather what an information manager would need to be successfully integrated in a business management setup. Al-Hawamdeh (2003) observes that the traditional L/IS subjects are invaluable to KM but there is need to add or alter their perspective in this new context, for instance link them to business processes and core operations. Table 2 demonstrates that in South African L/IS departments, there is still much emphasis on the teaching of the management of tangible or explicit knowledge, even though some of the KM content is offered under different course titles such as Information Resources Management.

Table 2a Degrees and modules in KM offered by South African L/IS Departments

Undergraduate			
Degree name	*Module code*	*Module title*	*Module Compulsory?*
BBibl (Hons)	LIS5014H	Information & KM – A	N
BA in Infor Sci.	- -	KM Information resource Management	- -
B-LIS	- - -	KM Information resource Management Economics of Information	- - -
B Inf.	-	-	-
B Tech (L/IS)	-	-	-
B.Com Info Mgt.	-	-	-
BA Info Mgt.	-	-	-
B.IS (I&KM)	INY 123 INY 321 INY 732 INY 327 INY328	I& KM: personal information mgt. Information Science: information mgt. Knowledge Dynamics I&KM: Trends in I&KM I&KM in practice	Y Y Y Y Y

NB: A dash "–" means no data was given by the respondent.

Table 2b Degrees and modules in KM offered by South African L/IS Departments

Postgraduate			
Degree name	*Module code*	*Module title*	*Module Compulsory?*
PG Dip-Info Mgt.	-	-	-
B.Com (Hons) Info Mgt.	-	-	-
BA (Hons) Info Mgt.	-	-	-
B.IS (Hons)- I&KM	INY 713 INY 716 INY 732	Basic Information and KM Advanced Information & KM Knowledge Dynamics	N N N
B Inf (Hons)	-	-	-
BA Hons (Inf Sci)	-	-	-
PG Diploma-LIS	- - -	KM Economics of Information Information Resource management Records Management	- - -
MIS	MIT 835 INL 802	I&KM I&KM	- -
MBibl (Hons)	LIS6010H	Information & KM – B	N

Key: – no data was given by the respondent.

From the above table, it is evident that there are very few modules that have been developed in the KM field. Furthermore, the titles and approach seem quite diverse and there is hardly agreement among departments on what to call these subjects/modules. There seems to be no consensus as is usually evident in other L/IS subjects e.g. collection management, cataloguing, etc. Moreover, the choices of subjects have evolved based on what the offering department views as the core competencies in KM as well as what their available is able to provide. It would be interesting to have a live debate on what the contents and titles of these modules should be. We speculate that L/IS departments have haphazardly jumped onto the KM bandwagon without a unified front. Neither is the content of KM from the point of view of L/IS clear. However, we also acknowledge that the multidisciplinary and interdisciplinary nature of KM makes it difficult to clearly identify the nature and content of sub-disciplines involved. But we might take some consolation from the fact that both KM as a discipline and the KM education are still evolving and have yet to reach stability or maturity. L/IS education needs to take cognizant of Al- Hawamdeh's (2003) observation that KM education has to continually "rely on new approaches that integrate theoretical and abstract perspectives of epistemology and cognitive Science…" applied in a new way to the traditional information management and technology techniques.

It is important to also observe that some respondents feel that there is need to deepen the scope of the current modules. This suggests an investigation into the content of the KM modules with the aim of not only finding agreement of the topics covered but also of the depth to which they are covered. We posit that the main problem is the level of expertise among academic staff who teach these modules. Indeed there seems to be a correlation between this expertise and the levels at which KM is offered. Hence, those departments that lack it can only "scratch on the surface" of KM. It may be worth noting that one department that is not currently offering KM in their L/IS curricular identified lack of relevantly qualified staff as the impediment to their wish to include KM in their offerings.

Nevertheless, some respondents identified more areas/modules they considered important that are not currently offered but which they would wish to offer. These include studies in:
- Strategic Knowledge Management
- Change Management
- Indigenous Knowledge systems
- Intervention to KIM[5]
- Networking and knowledge sharing
- Strategic management and KIM
- Systems development
- Information architecture & content management
- KIM technology and techniques

An interesting addition is a suggestion by one respondent about the continuing recognition of indigenous knowledge and indigenous knowledge systems. Much of what is advocated for in the management of indigenous knowledge (IK) is similar to the management of tacit knowledge albeit with some fundamental differences in the ultimate goals. It is unlikely that the management professions and even engineering sciences pay much attention to indigenous knowledge management. L/IS does pay this attention and so do Social Work and other people-welfare related fields. There are suggestions that from an L/IS point of view and perhaps from an African perspective, L/IS should broaden its perspective by exploring and incorporating KM's relationship with Indigenous Knowledge Systems (IKS). As the discipline of KM continues to evolve, it is imperative that L/IS needs to develop more of its own expertise and conduct more research so as to map a more certain course for the place of KM in L/IS.

3.4 Delivery/Teaching of KM

Six of the seven L/IS departments which offer KM modules have permanent staff who handle the KM modules while two departments use part time staff. None of the departments uses staff from other departments (e.g. Management, Information Technology, Computer Science or Engineering Sciences) to teach L/IS modules on KM. It was not clear whether this was because it is deemed unnecessary or because of logistical problems. However, considering that neither do these departments use specially contracted staff, which perhaps is a reflection of the fact that the departmental academic staff suffice. Besides, the broad approach to KM by L/IS might make it difficult to rely on specialized perspective of the other departments.

It is imperative that the strength of teaching any module is mainly depended on the quality of the teaching staff. Indeed when asked about what they consider as their strengths in offering KM, many respondents pointed out the quality of their academic staff and their teaching capacity. It is laudable that some of the staff offering KM are international experts in the field as is the case with one of the departments. In another university, the academic in charge of KM has two masters'

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5. KIM stands for knowledge and information management

degrees in KM. In most other departments, the academic staff are aware of the challenges of teaching a discipline that is dynamic and hence they try to continually attend industry-related forums so as to keep up to date with the needs. It is suggested that it is important to integrate KM practices with human dynamics in order to provide high quality education and training. Thus, long experience by the academics and their appropriate association with the industry, add to the quality of the delivery.

Online teaching is not widely applied and there is a lot of contrast in the way the departments use online teaching. At undergraduate level, only one university offers three of it s KM modules fully online. However, this is on blended or flexi-learning paradigm i.e. all materials, communication and student support is available online but there are also the usual classroom contact sessions. At postgraduate levels, some specified Honours' and Masters' level modules are offered in mixed mode, i.e. some contact classes as well as using an open learning system. In one university, only the online discussion forum is provided for the honors students. The reason for this diversity could not be ascertained, but apparently, much depends on the each university's tuition policy and the available infrastructure.

Other notable aspects that strengthen the offering of KM modules include:
- Having a relevant curriculum
- Close contact with the industry
- Use of guest lecturers, especially from the industry on a regular basis
- Being affiliated to a research Centre (presumably within the university, if not department) that is continually conducting research in the field of KM.
- Achievement of a balance between theory and practical aspects of KM
- Having a strong theoretical foundation, i.e. good knowledge of different theories of KM.
- Providing a broad focus, i.e. not focusing entirely on the corporate setting
- Exploring KM in rural settings e.g. relating to food security, health, agriculture and water resources.
- University executive's recognition and support for KM as an area of academic endeavour.
- Broad approach that embraces all inter-related areas of effective management of organizational information and knowledge resources.
- Having appropriate resources
- Having relevant students.

3.5 Research in KM
There are over 22 research projects on KM currently going on in six universities. The University of Pretoria has the largest number 10 research projects all linked to M & D studies. Unisa has four, UCT has three, the Universities of Johannesburg and Zululand each with two while UKZN has at least one (with several others pending approval for continuation). It is noteworthy that this is a conservative figure because some of the respondents (e.g. UCT, UJ, UKZN) may have excluded the research being conducted by M&D students from their statistics. Nevertheless, this is a fairly healthy picture. It is an indication of interest in the field but also signals increasing growth of local literature in the discipline.

3.6 Challenges
Getting enough students and the inadequacy of students' abilities emerged as the bigger of the problems as three respondents each cited these problems. This might be linked to another of the problems that one department cited, i.e. competition from Business Science. However, this study did not investigate further to establish whether or not this is the reason for lack of students. But the lack of support materials (e.g. books and other literature) and the inadequate teaching platforms were each cited by two respondents while only one each cited the lack of proficient lecturers. In one university, there is lack of support by the university authorities.

3.7 Opportunities
There is a feeling in some quarters that some of what L/IS is referring to as KM is actually still focused on the management of information i.e. explicit knowledge. This resonates with Wilson's (2002) contention that the concept of 'knowledge management' is nonsensical. He looks at knowledge management as another information technology related fad. Some departments might have decided to adopt the "wait and see" approach before they fully embark on offering KM. Such departments may not wish to invest in a "management fad" that may soon be rendered irrelevant as other management fads have been. Yet it is also possible that such departments who do not "jump onto the band wagon" will soon find themselves out-competed as students look for market-related competencies. It is therefore important to define KM in its broadest sense and offer programmes or modules that are broad enough to encompass the enlarged knowledge management base that is multidisciplinary. There was a suggestion that KM is better handled at higher levels such as the 3rd or 4th year levels of the undergraduate programme(s) and/or at postgraduate levels. This somewhat concurs with Al-

Hawamdeh's (2003:179) opinion that KM competencies are best given as value-added knowledge and skills that can only be imparted at graduate level.

As for future plans, many of the South African L/IS education departments aim to include more KM modules in their curricular. Several departments, including the two respondents who at present are not offering KM, are currently in the process of revising their curricular and as soon as capacity and university procedures allow, there will be more programmes and modules on offer. Most departments are also generally open to encouraging M&D research in KM and recognize KM research as a potential growth area. There is some fear that many students are likely to rush for KM especially for their M&D research, which may put a strain on the academic staff. There is a suggestion that this problem can be partially solved by involving (in a collaborative manner) the KM industry in the research projects and practical attachments. Nevertheless, KM is said to have a "great" future. However, some respondents were reluctant to disclose some of their plans as this might rob them of their competitive advantage.

4 Conclusion

This study established that L/IS departments in South African universities offer knowledge management but there are no common modules/courses that are considered core or optional. Neither is there consensus about modules/courses that are considered highly recommended for knowledge management. But there is general agreement that L/IS departments should offer KM as a core competency for its graduates. Historically, interest in KM by South African L/IS educators goes back to 1996, when two of the L/IS departments introduced aspects of KM in their curricular. These pioneers or early starters have now progressed to offering full degrees in KM at different levels, ranging from bachelors to doctoral. There are some who think that "our core business has changed so much that we may need to consider a total shift to KM". However, most departments would like to keep the traditional areas of competencies of L/IS, obviously with an increasingly strong element of the new emerging ICT-driven trends, and only add KM as one of the new areas that are increasingly becoming core to the work of a L/IS professional. While some departments have already incorporated KM within their curricular, others are still at the stage of considering introducing KM in their degrees when they next re-curriculate. Thus the results of the study reveals a tapestry of scenarios ranging from those (departments) who are still in the thinking stage, to those who have completely migrated their degrees ending up with KM as the core of their offerings. The latter consider KM an academic discipline with the same standing as any other academic discipline. It is important to remember that KM is an interdisciplinary academic discipline which may require interdepartmental collaboration and interdisciplinary teaching approach. However, the current institutional set-ups do not seem to allow for this inter-disciplinary collaboration because of politic-economy set-ups. The shortage of suitably qualified academic staff within the South African L/IS departments is a challenge because much largely depends on the expertise and innovativeness of academic staff at individual universities. A lot also depends on visionary departmental leadership, without which the education and training of KM will remain a pipe dream for a long time to come. Nevertheless, it is imperative that there is need for strengthening of KM offerings in L/IS education by offering more KM modules, seriously taking cognizance of the shift in approach, establishing close contact with industry needs and keeping track of the emerging job market.

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