An exploratory study into the current status of knowledge management within an academic library

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Preface

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Soli Deo Gloria !

Summary

Title: An exploratory study into the current status of KM within an Academic Library.

Keywords: Intranet, Knowledge management, knowledge management strategy, portal, information life cycle.

Aim of study: The purpose of this study is to investigate the current knowledge management status within the Academic Information Service at the University of Pretoria.

Research method: A literature study was conducted to establish the nature and value of knowledge management for organizations. A questionnaire was used to obtain reliable information with regard to the current value and nature of knowledge management within the Academic Information Service at the University of Pretoria.

Core findings: Within an academic library like the Academic Information Service at Pretoria, there exist a certain misconception that libraries are already doing knowledge management for years. The management of knowledge for clients, and providing knowledge and information to the client are seen as knowledge management. It was indicated that within the Academic Information Service there is not much attention given to the management of tacit knowledge within the organization. This shows that libraries aren't doing knowledge management for years. They are doing explicit management of knowledge but not tacit management of organizational knowledge. Within this study it is stressed why this tacit knowledge is so important for an organization to exist and compete within these turbulent times we live in. The academic information service is not managing their tacit knowledge to the fullest potential and for benefit of the organization. There is no culture or incentives conducive to knowledge sharing within the library. The existing technology namely the intranet and portal aren't really enablers for knowledge management. There exist a lot of barriers to knowledge management within the AIS that should be attended to. A knowledge management strategy is suggested with a lot of shifts in connection to the culture of the organization, incentives and information technology.

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CHAPTER 1: Introduction

1.1 Introduction

Drucker (1998) announces in his book "The coming of the new organization", the age of the "knowledge worker". His point is that more and more workers are engaged in activities whose output cannot be measured as physical things. In many cases, the outputs are not physical at all. Increasingly, the value and products produced by these workers will be "knowledge". The implication of this perspective is a fundamental shift - the competitive battleground of business is the knowledge that generates products and services, not the products and service themselves.

Within our rapidly changing environment, businesses need to adapt. New products from competitors, new technologies, and social and economic changes drive knowledge generation. Organizations that do not change in response to changing conditions will fail. Information and knowledge of the internal and external environment is of the utmost importance for organizations to change and keep the competitive edge. Orna (1998:18) shows that while phrases like 'learning organization' or the 'organizational knowledge-base' now easily trip from many peoples' lips and get enshrined in mission statements, very few organizations have a clear definition of what knowledge and information means in terms of what they are seeking to achieve. This view of Orna initiated this research study.

The assumption debated in this research study will be the western assumption to libraries, namely that the only knowledge is that which is explicit, formal and systematic, and which goes with the view of organizations as 'machines for information processing'. Orna

(1998:162) shows the quite different Japanese view: 'knowledge expressed in words and numbers represents only the tip of the iceberg'. It is seen as primarily tacit - not easily visible or expressible - and it includes subjective insights, intuitions and hunches. Tacit knowledge has two aspects: technical know-how, i.e. that which is passed on in traditional craft apprenticeship, and the cognitive dimension, which includes schemata, mental models and beliefs reflecting the holders image of reality and vision of the future.

1.2 Background to research problem

Knowledge management is not a phrase that is routinely used within libraries. As librarians and information specialists we are becoming well aware of the term "knowledge management". This phrase gives rise to a lot of different emotions and feelings. Balcombe (1999:91) summarizes this feelings as: (i) fear – they want to control my knowledge, (ii) inadequacy – I have been trained to deal with information, not knowledge, and (iii) defeatism – how can knowledge be managed?

It is important that people in the organization have to be motivated to share information and knowledge. Sophisticated technological tools will not overcome this issue. Librarians need to appreciate the value of sharing their specialized knowledge, and find the time and appropriate techniques for doing this. Informal tacit knowledge is elusive and a not so important aspect in the management of most libraries. The work of acquiring this tacit knowledge in the minds of employees, encoding it, and providing access to it, is challenging. The main challenges of knowledge management are not those of technological nature, but those of an organizational and cultural nature. It is about openness and the sharing of information and knowledge.

Libraries are keeping themselves busy with the management of the information life cycle - regarding external information - and then consider this as knowledge management, while the management of the internal tacit knowledge is left untouched. Libraries cannot simply focus on producing, accumulating, and gaining access to information; they must pro-actively design the steps to be taken with information in order to produce knowledge of value! The interest in this topic was thus spurred with the realization that it is absurd to run a business without a formal understanding of the nature of knowledge, of how employees should be compensated for their knowledge-related contributions, and of how knowledge can be treated as both a tool for enhancing performance and as a corporate asset.

1.3 Problem statement, demarcation and methodology

1.3.1 *Problem statement*

In conducting this research study the main problems identified are as follows:

Firstly, an attempt will be made to define knowledge management and to determine how this is seen in an academic library context. The study will address the fact that libraries concentrate on explicit knowledge for knowledge management and not tacit knowledge. It must be clarified that this study will concentrate on the more tacit part of knowledge management.

Secondly, an investigation will be launched in the academic information service of the University of Pretoria to see if they are, in fact, busy with knowledge management - with specific relation to tacit internal knowledge. This will be done by looking at the information life cycle and identifying three crucial processes. The current state of knowledge management within

these processes will be established. This section will not provide answers, but the possibility exists that it will inspire libraries to contemplate on what they see as knowledge management. Libraries should ask themselves if they shouldn't give more attention to the acquisition and sharing of informal tacit knowledge in the different processes within the information life cycle. An investigation will be done into the way tacit knowledge is shared within these three processes in the academic information service (AIS). Do the policies, procedures and processes of the academic information service at the University of Pretoria promote a positive learning environment and a knowledge-enabled organization, or do they inhibit and create barriers to sharing and innovation? Do the behaviours of staff within the identified processes enable effective knowledge management? Is there a culture to knowledge sharing within the AIS? Are there any incentives to knowledge sharing within the AIS?

A *third* problem area that has to be addressed in this study, is the fact that tacit knowledge held in people's minds and bodies are not easily codified. Unless one can scan a person's mind and store it directly into a database, one cannot but assume that somebody else can retrieve the experience of the first person. Can current knowledge management technologies of the AIS handle this tacit information? Can they deliver the right information to the right person at the right time? IT tools shouldn't lull the AIS into thinking knowledge has been "managed" just because some knowledge management software has been adopted.

Fourthly an investigation will be launched to see what the drivers and barriers are to KM within the AIS. Is KM perceived as necessary for the library environment? If so, what are the barriers to effective KM within the AIS?

The *fifth* area addressed: a framework will be proposed for a knowledge strategy for the academic information service, developing good techniques for extracting and sharing knowledge that is in the employee's mind.

1.3.2. *Demarcation of the study*

This study will be limited to academic libraries and specifically to the academic information service at the University of Pretoria. The centre of activities within the academic library, are formed around information and like many things information has a life cycle. There are certain activities/processes based around the different stages of the information life cycle that direct day-to-day functioning within the academic library. These conventional activities include: collection, acquisition, storage, retrieval, provision, archival and disposal. Within this study there will only be concentrated on three processes/activities within the information life cycle. The chosen three processes for this study will be: inter library loans, cataloguing and information provision.

In the context of this study there will be concentrated on the management of tacit knowledge and not the management of explicit knowledge. Lang (2001: online) shows that explicit knowledge is easily captured, artificially through manuals and standard operating procedures, and then shared with others through books or taught courses. On the other hand, tacit knowledge comprises those skills and know-how we have inside our minds that cannot be easily expressed, but which gets augmented and shared via interpersonal interactions and social relationships. Librarians do the management of explicit knowledge very well. It is with tacit knowledge that there is a problem area. See in paragraph 1.5.1.3 the definition on tacit and explicit knowledge for a clear distinction.

1.3.3 *Methodology*

The research undertaken in this study is theoretical qualitative and based on a study and synthesis of existing literature on the topic. The approach will be less formalised with the scope less likely to be absolutely defined, and focusing on the texture and feeling of the social situation, with rich, full and holistic data (Miles, 1983: 117). The scope of the literature consulted includes knowledge management literature in general, and also knowledge management in the library context specifically. Literature on the information life cycle was also used. Knowledge management is a very broad field and can be incorporated in basically every possible subject from management to philosophy. The focus of this thesis will be on knowledge management within an academic library context.

The qualitative research method for this research will be a case study, as the researcher only wants to do an exploratory study. Although the terms 'qualitative' and 'case study' are often use interchangeably, Du Plooy (1998:58) indicates that case study research can involve only qualitative or quantitative data, or both. This study will concentrate on the qualitative aspects of case study research. The phenomenon is thus being understood in its context, rather than seeking general laws about that phenomenon. The case study is often useful as an exploratory technique as in the case of this specific study. Case study research is useful in answering 'why' and 'how' questions. Powell (1997:49) shows that the case study seems to be appropriate for investigating phenomena when:

- A large variety of factors and relationships are included
- No basic laws exist to determine which factors and relationships are important

- When the factors and relationships can be directly observed

Different researchers have different purposes for studying cases. To keep such differences in mind, Denzin (1994:237) identified 3 types of study: (i) intrinsic case study, (ii) instrumental case study, and (iii) collective case study. Case studies involve intensive analysis of a small number of subjects rather than gathering data from a large sample or population. (Powell: 1997). A number of data collection techniques are usually employed in case studies. For example: questionnaires, interviews, observation and the analysis of documents. Within this study the data collection technique used is the questionnaire.

This study is aimed at seeing which issues help reveal merit and shortcoming in the way the academic information service manage their internal tacit knowledge the aim is only to collect descriptive data.

1.4 Necessity of this study for the subject field.

This study is very necessary for academic libraries, as there exists a lot of confusion on what knowledge management really means. Many libraries have a very wrong idea on what knowledge management encompass. They think of knowledge management in terms of explicit knowledge and the management of it. They ignore the management of tacit knowledge within the organization. This accusation can be supported by the following statement by Broadbent (1998) *"Knowledge management is not about managing or organizing books, journals, searching the Internet for clients or arranging for the circulation of materials".*

The necessity of this study can thus be attributed to the daunting fact that library workers spend most of their days in knowledge-related activities: one-on-one conversations, formal meetings, reading about how to search a certain database, surfing the Internet, establishing ways to retrieve the best information electronically for you client, writing memos, and much more. Those informal, ad hoc activities don't even appear in the job descriptions, and they are not responsible for the profusion of new knowledge management terminology.

1.7. Terminology

1.5.1 *Clarification of terms*

1.5.1.1 Data, information and Knowledge

Defining data, information and knowledge is difficult. Many perspectives exist.

Orna (1998: 8) gives her view of knowledge and information as follows: "*Knowledge is what we acquire from our interaction with the world, it is the results of experience organized and stored inside each individual's own mind in a way that is unique to each. It comes in two main kinds: knowledge about things, and know-how, and our knowledge is available to us at various levels from' tacit' – what we know and use without expressing it in words, to 'explicit' –what we can readily formulate and explain*. "And" *Information is what human beings transform knowledge into when they want to communicate it to other people. It is knowledge made visible or audible, in written or printed words or in speech*."

It is very interesting to see this author's pattern of thought about the transformation of knowledge into information. Most of the other Authors turns the idea around, like Bhatt (2001) who give it simply as: "*Data are considered as raw facts, information is regarded as an organized set of data, and knowledge is perceived as meaningful information"*.

For this study the last statement will be sufficient enough.

1.5.1.2 Knowledge Management

There are many definitions of knowledge management and the full description and definitions of knowledge management for this study will be found in chapter 2. For the purposes of term clarification in this section the definition of Snowden (1999: 42) will be seen as sufficient: *"Knowledge management is the developing body of methods, tools, techniques and values through which organizations can acquire, develop, measure, distribute and provide a return on the intellectual assets. It is fundamentally about creating self sustaining ecologies which communities and their artefacts can originally respond to, and confidentially pro-act with "*

1.5.1.3 Tacit and Explicit knowledge

In this study it is very important to note that a distinction must be made between the different

forms of knowledge. Both Polanyi (cited in Fairer-Wessels 1998:3) and Nonaka (cited in Willard, 1999:45) distinguish between explicit and tacit knowledge.

Polyani shows that explicit knowledge can be articulated in formal language and transmitted among individuals, whereas tacit knowledge is personal knowledge embedded in individual experience and involving such intangible factors as personal belief, perspective and values.

Nonaka distinguishes as follows:

- Tacit knowledge that is “hard to formalise and, therefore, difficult to communicate to others. It is also deeply rooted in action and in an individual commitment to a specific context. “ Tacit knowledge only resides in peoples minds. The only way to manage this form of knowledge is to ensure that people have the appropriate experience or expertise and are prepared or motivated to apply their knowledge. Tacit knowledge is sometimes referred to as “action knowledge” as a way of emphasising the focus of tacit knowledge.
- Explicit knowledge “is formal and systematic”. It thus can be communicated and shared in product specifications, a scientific formula or a computer program. Explicit knowledge has two forms. Firstly, information, i.e. a product specification, referred to as “recorded knowledge”. Secondly, processes i.e computer programs,

referred to as embedded knowledge where expertise of how to do something has been distilled into a defined sequence of steps that can, on occasions, be automated.

1.5.1.4 Information Technology

Information technology is an important knowledge management tool. For the purposes of this study information technology in the context of knowledge management can be viewed as: " IT is a KM tool that facilitates the capturing, storing and accessing of organizational knowledge". (Duffy 2000:12). It is very important to note that IT is only a tool of KM .It is not the end itself but only the means to the end.

1.5.1.5 Organizational culture

For this study, the definition of culture given by Schein (cited in McDermott: 2001) will be sufficient: "Culture is the shared values, beliefs and practices of the people in the organization. Culture is reflected in the visible aspects of the organization like its mission and espoused values. But, culture exists on a deeper level as well, embedded in the way people act, what they expect of each other and how they make sense of each other's actions. Finally, culture is rooted in the organizations core values and assumptions."

Following this definition: in an organization with a knowledge sharing culture, people would share ideas and insights because they see it as natural,

rather than something they are forced to do. They would expect it from each other and assume that sharing ideas is the right thing to do.

1.5.1.6 Strategy

A course of action, prescribed or descriptive, that is enacted to attain desirable future states or avoid unpleasant ones, using existing and anticipated resources. Alternatively, strategy can be defined as a plan, an emergent pattern of behaviour over time, a position of an organization in an environment, a perspective of an organization's fundamental way of doing things or a ploy designed to outwit an opponent.

1.5.2 *Abbreviations*

AIS	-	Academic Information Service.
UP	-	University of Pretoria.
HEP	-	Horizontal enterprise portal.
VEP	-	Vertical enterprise portal.
EKP	-	Enterprise knowledge portal.
KM	-	Knowledge Management.
COP	-	Community of practice.

1.6 Division of chapters

This research report is organized as follows:

In chapter two, attention is given to the more general knowledge management issues like the view of KM that is supported in this study. Cognisance is taken of: organizational culture with relation to general

knowledge management, the drivers and barriers to knowledge management, IT as enabler to KM and a knowledge management strategy. The above mentioned is also viewed in relation to the library context.

Chapter three is the empirical study where three processes within the AIS are under investigation. This survey will establish by means of questionnaires to the three processes how KM is currently viewed within the AIS, how the culture of the AIS in relation to KM, what the drivers and barriers are to KM. There will also be an investigation into the technology used for KM an investigation will be launched in the existing KM technologies within the AIS and how IT is utilized. The intranet and new portal of the AIS will be the technologies under investigation. There will thus be a general observation of the current situation of KM within three processes within the AIS. The results will be given by means of graphs and tables.

Chapter four will analyse the results gained within chapter three and comparisons is made to the literature study made in chapter two of this study.

In chapter five proposed shifts and suggestions are proposed the AIS, in relation to problem areas as identified in chapter three and four. Guidelines for developing a KM strategy are presented for the AIS.

Chapter six, is the conclusive chapter bringing all the above together. It will be established if the research problems/questions as identified within chapter 1, paragraph 1.3.1 is answered. The research method used within the study is evaluated, also gaps within the study and subjects for further investigation is proposed.

CHAPTER 2: The larger Knowledge Management Framework

2.1 Introduction

This chapter explores the phenomenon of knowledge management from the theoretical point of view and the relevance it has to organizations and also libraries. This discussion adopts a holistic view of knowledge management. This chapter will explore literature on KM with specific relation to:

- Defining KM for this study
- Drivers for KM
- Knowledge culture
- Barriers to implementation of KM
- IT as enabler of KM
- Knowledge management strategy

2.2 Defining knowledge management

Confusion of terminology exists on the definition of what knowledge management is. Everybody have own ideas and perspectives on what knowledge management actually is. This makes finding a clear-cut definition of knowledge management a difficult task. After reading a number of journal articles (Schwarzwalder, 1999; Jantz, 2001; Rowly, 1999; Zack, 1999) and several publicized books (Davenport, 1998; Nonaka & Takeuchi, 1995) on the subject it became clear that there is little agreement on the actual definition of knowledge management. Knowledge management can be a wide, confusing subject.

Definitions were thus searched within the context of this particular study. Nonaka and Takeuchi (cited in Bhatt 2001) give the following definition "*knowledge management is to develop and nurture an environment of knowledge sharing, transformation, and integration between its members*". In brief they state that knowledge management refers to changing corporate culture and business procedures to make sharing of knowledge possible. Malhotra (1999) gives the following supporting definition: "*Knowledge management is the collection of processed knowledge that govern the creation, dissemination and utilisation of knowledge to fulfil organizational objectives*".

Given the above-mentioned definitions of KM the view of knowledge management supported for this study is given by TFPL (2001): "*Knowledge management is to create and maintain an environment in which people are encouraged to innovate, share, learn and use knowledge for the benefit of the organization and the people who work in it – you can mobilize knowledge*". The implication to this is that the creation a knowledge environment often requires changing peoples behaviours and work patterns, and providing people with easy access to each other and to relevant information resources.

2.3 Drivers of knowledge management

There exist certain drivers that indicate why knowledge management must be considered as important in an organization. Knowledge management utilizes and exploits human expertise to provide benefits to business. Knowledge management is a driver to help organizations to become more competitive through the capacities of their people, to be more flexible and innovative.

Hildreth (1999) shows three major issues facing organizations namely globalisation, downsizing and outsourcing and all three have

implications for knowledge sharing and knowledge. Downsizing and outsourcing mean a reduction in personnel.

Organizations have come to realise - as people leave an organization - they take with them valuable knowledge. Globalisation is a separate issue, which affects most organizations in some form. Many organizations are now undergoing some form of structural change to cope with the increased internationalisation of business. All of this means that knowledge has to be shared between individuals and companies who perhaps never expected to work together. Hildreth (1999) shows that without knowledge management, knowledge loss and distributed working is implied. There is clearly a need to manage knowledge and knowledge management addresses this.

Foundation Strategic Innovation (1998) highlights some of the reasons listed below as drivers for knowledge management:

- **Competition**: The market place is increasingly competitive and the rate of innovation is rising, therefore knowledge must evolve and be assimilated at an ever-faster rate.

- **Customer focus**: Enterprises are organising their businesses to be focused on creating customer value. Management structures as well as staff functions are being reduced. There is a need to replace informal knowledge management of the staff function with formal methods in customer aligned business processes.

- **The challenge of a mobile workforce**: There are trends for employees to retire earlier and for increasing mobility, which leads to loss of knowledge. The mobility of the workforce will increase to the point where many

employees will regard their career as a series of projects sponsored by a series of companies.

- **Equity in the work place**: With the implementation of the Equity Bill in South Africa this implies that enterprises have to ensure equity in terms of gender, race and creed. This may lead to knowledge being lost due to giving some employee's severance packages and early retirement. Enterprises need to ensure that there is knowledge transfer from employees leaving the enterprise to those remaining within the enterprise.

- **The global imperative**: Most organizations are becoming international in the sense that they have foreign customer and supplier relationships. More and more companies are becoming transnational –operating as truly global companies in the sense that no one region is predominant. Transnational operation requires strong organizational communications and knowledge retention capabilities, which depend on organizational and individual learning and unifying culture.

The abovementioned drivers for KM show clearly that knowledge has become increasingly important for organizations to keep the competitive edge. As a consequence, this drives organizations to create an environment conducive to the sharing and use of knowledge. To summarize the earlier addressed drivers of KM: *organizations must be able to keep up with the fast pace of worldwide competition by using their intangible asset - namely tacit knowledge- to be innovative and competitive*. At this stage the question arises if the drivers of KM, as mentioned above, will be the same for different organizations. Will the drivers for KM in the library environment look exactly the same?

Shanhong (2000) shows that a driver of knowledge management in libraries is to promote knowledge innovation. As bases for collection, processing, storage and distribution of knowledge and information, libraries represent an indispensable link in the scientific system chain, an important link in the knowledge innovation. It is also showed that libraries take part in the scientific research process directly. Library work is a component of knowledge innovation.

Smith (2000:20) gives certain drivers for KM and this can be considered as drivers for KM in the library context too.

- Firstly, the collaboration space - libraries are becoming virtual, rather than physical. This means that libraries do not only own the information contained within their walls. In our new changing environment the emphasis is not so much place on the library as a building, as opposed to conceptualising the library as an organization. As a result, it is more difficult to collaborate with one's peers.

- Secondly, intellectual capital. The ability to learn quickly and continuously and to operate inside the learning circle of the competition is a key differentiator? The library that creates a seamless provision of services that are responsive to the needs and interests of the communities served will have the competitive edge and will become the leader in the field. If the academic community see the library as an out- dated entity it will have certain consequences for the survival of the library as such. Knowledge is seen as supplanting other physical assets as the most competitive resource. It is argued that most of the valuation of a company is based on its intangible assets, including intellectual capital.

- Third, information technology. Information technology now enables the library to implement KM. By means of an Intranet

or portal it is possible to capture tacit knowledge and easily retrieve it. It helps to get the right knowledge on the right time to the right person. Today's Internet, intranet and web technology permits practical capture, sharing and leveraging of information and knowledge throughout organizations.

Given the context of the library environment the drivers for KM within the library environment can be summed up - based on the view of Bonfield (1999) as follows:

- Knowledge is the basis of library services.
- Knowledge helps libraries cope with change.
- Libraries are leaders in information - sharing, and knowledge sharing will be the next natural step.

2.4 Knowledge culture

Every organization has its own unique culture or value set. Most organizations don't consciously try to create a certain culture. The culture of the organization is typically created unconsciously, based on the values of the top management or the founders of an organization. TFPL (2001) shows that a knowledge culture is a culture where people is encouraged to:

- interact with others to share, learn and be creative;
- reflect on what has happened/what they have learnt;
- innovate and have ideas – however crazy;
- build decisions on information and knowledge; and
- use technology for communication and knowledge flows.

Culture change is dependent on behaviour change. This is one of the most difficult challenges of knowledge management and Balcombe (1999:93) states that it is a given that new behaviours will not emerge

if, what is measured and rewarded are the old behaviours. Getting employees to share what they know is not a technology challenge – it's a corporate culture challenge. Getting people to share their knowledge requires not only new processes, but also a new relationship between employer and employee.

Workers must be reassured that they will still be valued after they give up their know how. In accordance McDermott (2001) shows that it was founded that in companies where sharing knowledge is built into the culture, the culture was not changed to match the knowledge management initiatives. They adapted their approach to knowledge management to fit their culture. It is clear that culture can be seen as a key inhibitor of effective knowledge sharing and management. The most obvious place to begin understanding an organizations culture is to read the espoused values, philosophy and mission. These statements say something about the culture, even if they are more aspirations than reality.

McDermott (2001) derived five important issues about aligning knowledge sharing with the organization culture.

1) To create a knowledge sharing culture, make a visible connection between sharing knowledge and practical business goals, problems or results.

2) It is far more important to match the overall style of your organization than to directly copy the practices developed by other organizations. To make sharing knowledge a natural step, think through how effective change happens in your organization. Make the visible artefacts of knowledge sharing – the events, language, Web sites – match the style of the organization, even if you intend to lead it into new behaviour and approach.

3) Link sharing knowledge to widely held core values. Don't expect people to share their ideas and insights simply because it is the right thing to do. Appeal to something deeper. Link core values of the organization with values of sharing knowledge.

4) Human networks are one of the key vehicles for sharing knowledge. To build a sharing culture, enhance the networks that already exist. Enable them with tools, resources and legitimisation.

5) Recruit the support of people in your organization who already share ideas and insights . Ask influential people and managers to encourage and even pressure people to share their knowledge. Build sharing knowledge into routine performance appraisal.

It is thus evident that only by changing organizational culture, an organization can gradually change the pattern of interaction between people, technologies and techniques, because the core competencies of an organization are entrenched deep into the organizations culture.

To summarize: one may ask how important is it to have a supportive culture for knowledge management? The answer to this is simple: culture, which is mainly shaped by people, is a basic building block to knowledge management and is a powerful force. It must be considered when introducing knowledge management, because it affects how the enterprise accepts KM. If the culture does not support knowledge management, obstacles continue to appear. Effective knowledge management requires a supportive, collaborative culture with a high emphasis on openness and knowledge sharing. It is very important that the culture must be addressed in the organizations mission, vision and goal statements. A culture is needed that creates opportunities for tacit knowledge to be made explicit.

2.5 Barriers for implementation of KM

Before an organization can develop a successful knowledge management strategy they must understand the barriers to knowledge management and develop methods in their planning to overcome and prevent this barriers. Barriers can include: organizational structure barriers, boundary barriers, management support barriers, technology barriers, organizational communication and cultural barriers. This section will highlight some of these barriers.
Lang (2001) shows that several hindrances to knowledge creation and utilization in organizations exist:

- Firstly, there may be inadequate care of the organisational relationships that promote knowledge creation.

- Secondly, there may be insufficient linkage between knowledge management and corporate strategy.

- Thirdly, inaccurate valuation of the contribution that knowledge makes to corporations bottom line renders the value of knowledge management as ambiguous.

- Fourthly, there may be a pervasive lack of holism in knowledge management efforts.

- Finally, perhaps not something ordinarily considered as a problem for managers to deal with – poor verbal skills hinder the actual process of knowledge creation in organizations.

There is one important hindrance Lang (2001) didn't include namely the futile aspect of IT. IT is an established discipline. If the process of knowledge management is led by IT, knowledge can - as Dougherty

(1999) states - easily become information or data only: to be stored and, theoretically retrieved from databases. Technology provides us with incredibly useful tools for efficient information transfer, but IT should only be seen as that - as a tool. The role IT as an enabler plays in knowledge management is discussed later in this chapter (see paragraph 2.7). For now it is necessary to only take notice of the fact that IT can be a hindrance to the knowledge management process if not used as merely a tool in achieving the goal. IT can capture, store and distribute information quickly but it has its limit on information interpretation.

Lang (2001) only touched on the barriers that exist to knowledge sharing by showing that not enough attention to organizational relationships will lead to a problem with knowledge creation. Without an environment where knowledge is created and shared there can be no knowledge management.

Bonfield (1999: 28) shows potential barriers that exist to knowledge sharing and this can also be applied to the library context:

- **Cultural Barriers**: People tend to focus on their own targets and see their own processes as separate to - and in competition with - others. In such a culture, it is a sign of weakness to ask another department or other people for advice.
- **Technological Barriers**: People need access to, be able to use and feel comfortable with technologies for knowledge sharing It is one thing to have a website, quite another to make best of it.
- **Economic barriers**: People feel that if knowledge provides the company with the competitive edge, it also provides the individual the competitive edge within the company. Thus, why share the knowledge that earns them the position they hold, and their hope of financial reward and advancement.
- **Market dynamics**: Knowledge sharing has to be relevant to the business. The team must understand the source of competitive

advantage and the critical knowledge needed to deliver that advantage.

Davenport (1997) gives the top seven pitfalls of knowledge management as follows:

1) If We Build It …

They will come. Wrong. At least, your building it has little to do with whether they will come. "It," of course, is an information technology-based system for storing and distributing knowledge. You can buy as many Notes or Netscape licenses as you want; you can create a nice-looking Web page; but it doesn't mean anyone will use or benefit from your investments in technology. If you're spending more than one-third of your time on technologies for knowledge management, you're neglecting the content, organizational culture and motivational approaches that will make a knowledge management system actually useful.

2) Let's Put the Personnel Manual Online!

This pitfall sounds something like the following: "Now that we've got our intranet up and running, we've got to populate it with knowledge. Gee, how about the personnel manual, the procedures manual, our cafeteria menus and the campus shuttle-bus schedule?" Davenport (1997) used the following to show how he feels about this last statement: *"Puhleeaaze"*. The Web and Notes are exciting technologies. Don't call the system on which you install these yawn-inducing tomes a knowledge management system. The terminological currency gets weakened, and should you later put some real knowledge into the repository, no one will notice. Let's use the technologies that have sparked the rise of

knowledge management to store and disseminate real value-added, insight-laden, wisdom-giving knowledge. Be a stickler for worthwhile content. Your "knowledge base" will grow more slowly, but no one will chuckle when you call it that.

3) None Dare Call it Knowledge

"We're afraid to use the term 'knowledge' because everyone in the company is so pragmatic. So we call it 'best practices.'" Davenport (1997) shows some sympathy to this problem but is also of opinion that it's self-defeating to try to conceal what you're really doing by calling it something else. If the word "knowledge" isn't acceptable in your organization, your knowledge management program probably won't succeed no matter what you call it. He shows that it's a bad idea to refer to knowledge as best practices, benchmarks, information resources or whatever convenient labels your boss happens to prefer. First of all, none of those terms does justice to the entire domain of knowledge. If you call it best practices, for example, does that reflect the knowledge of a customer's needs and business situation that involves no practice at all? If you call it something related to information, you'll be dragged back into the corporate information systems morass that really involves data.

More important, the inability to use the word knowledge suggests that the senior managers in your company don't buy into the big ideas behind knowledge management-that what people know and can learn, is more valuable than any other business resource. Davenport suggests calling it what it is.

4) Every Man a Knowledge Manager

This problem is related to the previous one. The telling remark here goes something like, "We think knowledge management is everybody's job. So we're not going to build up some big staff organization of knowledge managers to do the work everyone should be doing."

Like most myths, this one has a grain of truth in it. It should be everyone's job to create, share, and use knowledge - to some degree. Davenport (1997) shows that one should face reality here. Every engineer in your organization, for example, should be creating and using new product development knowledge.

But not every engineer will (or can) do a good job writing down what he or she knows. Knowledge management will not succeed if there are no workers and managers whose primary duties involve gathering and editing knowledge from those who have it, paving the way for the operation of knowledge networks, and setting up and managing knowledge technology infrastructures.

5) Justification by Faith

Davenport (1997) shows that an organization has fallen into this trap when he hears this: "Our CEO is a big believer in knowledge management. So we don't feel the need to justify our knowledge management work with numbers or anecdotes - we've got faith!" Davenport suggests that even if no one is interested today; start trying to measure the worth of what you do. If possible, quantify the knowledge you manage in terms of cold, hard cash that the company has made or saved because it was fortunate enough to have you as a knowledge manager. If that is.

6) Restricted Access

"We're trying to create better access to our knowledge." Red lights are flashing before Davenports eyes and as he bluntly gives it his blood pressure skyrockets. Access is oversold, overblown, overdone. Do you really think the reason no one ever looked at the market research reports was because they had to walk up a flight of stairs to get to them? That the sales force didn't consult white papers on product performance because they had to make a phone call to get a copy?

7) Bottoms Up!

The catch phrase here is, "knowledge management isn't a hierarchical thing in our company. We don't need senior management approval; they're not the ones with the knowledge anyway. Knowledge is flattening the organization chart, making our organization more democratic..." To this Davenport gives the following reaction: *"Blah, blah, blah."*

For thousands of years knowledge has been associated with hierarchy, and I see no end to that relationship on the horizon. Those who know have power; those who have power will have control over who knows what. Knowledge management is a highly political undertaking. You'll have to tread lightly in giving access (there's that word again) to knowledge to those who formerly lacked it. If you don't, you will almost certainly run afoul of someone powerful to whom your knowledge management activities are threatening.

A slight variation on this pitfall is assuming that knowledge management can thrive without support from

> senior executives. You might be able to build a dinky little knowledge repository in some out-of-the-way domain like purchasing or the research lab without the big guy or gal's support.

Clearly there exist a lot of barriers to KM, of which technology, culture and management seems the biggest. It is necessary for an organization to be aware of these barriers if they want to sustain a competitive environment of knowledge sharing and use from within. TFPL (2001) gives a very simple solution to these barriers: " Tell me, I will forget. Show me, I may remember. Involve me and I will understand". They are thus suggesting: involve people! A final concluding warning: at the end these barriers to KM will also impede the development of an effective knowledge management strategy.

2.6 IT as enabler of KM

KPMG LLP's Chief Knowledge Officer, Michael J Turillo makes the statement:

"*Knowledge management cannot be done without technology* "(Malhotra 1999). This statement may held some truth as technology is an important tool in the knowledge management process but some authors stresses on the other hand that IT is not the only important factor determining the success of knowledge management. Dougherty (1999) asks the question: "*Should a technology-driven approach to knowledge management be chosen?*"

He answers his own question by stating that it is possible that the dynamic nature of knowledge sharing will be swamped as the mechanics of collecting, storing, managing and tidying knowledge take over people's time and energy. Bhatt (2001) shows that business managers believe in the power of computers and communication technologies in knowledge management. Others contend that

knowledge resides in the minds of humans and, therefore, employee training and motivation are the key factors to knowledge management and not IT.

Organizations are thus beginning to realise that IT is equally important in knowledge management but IT is a poor substitute for converting information into knowledge and does not offer a knowledge management solution. It is only the enabler, providing the necessary platform. A variety of technologies can make up a knowledge-management system: Intranets, data warehousing, decision-support tools and groupware are just a few examples. Swoyer (1999:31) gives the four ingredients of Knowledge Management software:

- **Document management software**: This should provide a centralized index of corporate documents, giving end users an easy way to accurately retrieve documents based on content
- **People finders**: Directory services should go beyond providing standard logistical information, and instead provide detailed information about an individual, such as education or employment history. This will theoretically empower end users to selectively determine corporate personnel who possess the knowledge, skills and experience to get a job done.
- **Internal Portal**: A centralized taxonomy of knowledge similar in nature to a Web site such as Yahoo should provide a hierarchical ordering of both human resource-based and document based knowledge types.
- **E-Mail**: Aside from a standard messaging platform, email services should include other collaborative solutions, such as internal newsgroup discussion or message boards.

Though an in depth study can be undertaken about KM technology as enabler on itself there will only be touched on two in this study namely intranets and portals. These are technology widely used within the library context and was seen as applicable.

Stoddart (2001: 19) defines an intranet as a private network implemented using Internet concepts and technology to disseminate and exchange data, sound, graphics and other media The rush to implement intranets is one of the forces driving serious interest in knowledge management. What, after all, is an intranet if not a means of making an organizations knowledge accessible and reusable? Intranets are often cited as one of the routes to promote knowledge sharing and as an essential part of a knowledge management strategy. Stoddart (2001:19) shows that in practice the deployment often do not deliver the expected benefits and many intranets lie fallow as a result of diminished enthusiasm.

Intranets sometimes turn into a complex maze that contain a mixture of types of information, linking web sites which each have their own search formula. Intranets often use a web browser such as Netscape navigator or Microsoft Explorer to access web-based pages. They have the potential of providing groupware and other electronic collaboration tools, allowing employees to have interactive brainstorming sessions, manage projects, facilitate collaborative work and creating databases cooperatively. Stoddart (2001: 19) shows that intranets can and do encourage information sharing, information publishing, and facilitate document management. Organizations are of belief that if once setting up an intranet you have created a knowledge management system. This is only the beginning. You still must tap the intellectual capital of the organization.

Robinson (1999: 95) gives a number of proposed attributes for an intranet conducive to effective KM:

- **Structure and simplicity**: The system must be user-friendly and easy to navigate if everyone in the organization is supposed to use it. A great deal of thought has to go into planning the structure. The placing, naming and hypertext linking of new

pages must be carefully considered to ensure that the knowledge it contains can be located with ease.

- **To cater for individual interest groups**: Each team is contributing to the success of the firm and each has its own information needs and peculiarities. These need to be identified and incorporated if the team and the firm are to achieve their targets. Part of this process is to bring staff together and *put those who know in touch with those who need to know.*
- **Access**: Equal access to all staff must be provided, regardless of location.
- **Commonality**: A uniform look and feel to every area of the system across a range of data sources. The locating, searching, downloading and printing functions must be the same for every user in any part of the system. This quickly builds confidence and expertise and facilitates the speedy retrieval and selling of information.
- **Reduced need for training**: Training is vital to the success of the intranet and you must ensure that all staff receives some instruction. Once the user has been trained on intranet procedures, they can search a range of data sources through this single front-end without additional assistance.
- **Corporate image**: The intranet must be themed with consistent background colours and buttons, which always appear in the same location. Squared dots from the firm's logo can be incorporated into the background of each screen.

A portal is an application that gives users a single gateway to the information and applications they need to do their jobs. It draws together on the desktop all the important information from both inside and outside a company (Smith: 1997). Portals provides unified access to all the organizations information, both unstructured and structured. Portals are one of the main tools used to institutionalise KM, but just because a portal has been built filled with world-class technology, it is not a given that the community of employees will flock to it. Smith

(1997) shows that despite the hype, the portal might be the killer application for knowledge management.

Grammer (2000:79) shows what is commonly known as “Enterprise Information Portals” (EIP) and that there exists a variety types of portals. Examples include vertical enterprise portals (VEP) and horizontal enterprise portals (HEP). USACE (2001) shows that portals are characterized by who uses them, e.g. customers, internal users, business partners. Horizontal enterprise portals (HEP) provide broad access to many types of repositories and generic application-integration features.

Grammer (2000:79) indicates that the enterprise information portals (EIP) are beginning to morph into enterprise knowledge portals (EKP). He states that this is the first pragmatic KM application. These give the employee one-stop interaction with appropriate intellectual capital, applications and expertise. Grammer (2000:37) indicates that EKP’s distinguishes knowledge from mere information. He also show that the idea to a EKP is to allow employees to freely interact with objects to define a pattern or network of organizational and personal knowledge that they find useful for their daily work. The ideal EKP does this by providing its own functionality on top of the legacy information sources. Grammer (2000:79) identifies what should be looked for in a sound EKP for knowledge management:

- **Automated update**: automatic update of content created through linked applications and portal created content.
- **Bi-directional**: ability to create input and display content.
- **Collaborative**: share and collaborate on content.
- **Content organization and discovery**: automatic and manual categorization for groups and individuals as well as full-text search and query by example.
- **Customisable**: flexible personalization and customisation of content and “look and feel “.

- **Extendibility**: access to almost any internal enterprise and external application or web content.
- **Rich content**: aggregate both structured and unstructured information.
- **Secure**: granular access controls for groups and individuals.
- **Web interface**: access via standard web browser.

The purpose of this section was to show that the role of IT in KM is an enabling role. It is a tool needed to connect users together to share knowledge. Having an IT structure in place will not cause knowledge sharing to occur by itself. To summarize: the assumption that knowledge management requires computer-based technology is a fad. It is evident that successful knowledge management is not about implementing fancy new technologies. Gartner Group (2000) shows that a cultural foundation is most important. If an organization does not support a human communication network that operates freely, KM will not succeed. Technology must be put in its rightful place as an aid rather than an outcome.

2.7 Knowledge management strategy

Bater (1999:38) maintains that a knowledge strategy describes where you are, where you want to be, and how you might best get from here to there. A knowledge strategy takes account of the nature of what is to be handled – knowledge and information- and charts a route from the starting point to the desired destination, weighing up the pros and cons of each alternative.

A knowledge strategy also tries to anticipate the obstacles likely to be met en route – like gaps and overlaps in provision, lack of high level commitment, resource ownership and roles, forms and formats, cultural climate, staff skills and technology- and proposes means of tackling them. Most fundamentally though, a knowledge strategy needs to ensure that the destination is consistent with corporate ambitions, that

the techniques, technologies, resources, roles, skills, culture etc. are aligned with and support business objectives.

Bater (1999:38) also shows that it is not enough to address knowledge and information needs, resources and flows in isolation. Staff skills, IT systems, management style and organizational culture must be taken into account as well.
The most difficult part of launching a knowledge management program is to put in place a strategy for sharing knowledge. It entails a vision of how sharing knowledge can enhance organizational performance. Another essential factor in launching a successful knowledge management strategy is that it fits the organizations needs and goals and matches it strategic objectives.

The essential challenge is to turn tacit knowledge into usable information that can be shared in order to stimulate innovation and create new products and services. To accomplish this, attitudes towards sharing information and knowledge need to change. Stoddart (2001:21) shows that although an intranet should not be perceived as the sole answer to resolving knowledge sharing issues, its development and growth is becoming a cornerstone and an essential tool of knowledge management strategies. As mentioned earlier, closer attention will be given to *IT as enabler of KM* later in this chapter where Intranets will be discussed.

An effective knowledge management strategy prevents companies from duplicating efforts, ignoring mistakes and prolonging work processes. Bottom line: it gives companies the edge they need to stay ahead of the competition. One can ask why a knowledge management strategy is so important. With no knowledge management strategy individuals see the information they possess, both formal and informal, as theirs to own and manage. Even if the organization decreed that information has to be shared, this would almost certainly be interpreted

as explicit knowledge only, with no conduit or motivation to share tacit knowledge.

Ndlela (1999: 44) gives the following questions that can be asked in formulating a KM strategy:

- What is the organizations vision and mission?
- Which strategies will contribute to the accomplishment of the mission?
- How can knowledge management contribute to the ac hievement of the strategic goals?
- Is knowledge on the same level as other organizations assets, such as capital and labour?

In implementing the KM strategy one must prioritise activates and ensure integration with other business processes. Managers and academics alike agree that the effective implementation strategy is about defining what needs to be achieved and about motivating people to want to achieve it. Campbell and Luchs, (1997: 146) show the importance of the following information needed to implement an effective KM strategy:

- **What knowledge to share**: It must be decided on what content will be shared. Knowledge-sharing programs aim at making available various types of content.
- **With whom to share the knowledge**: Cognisance must be taken on who gets access to the knowledge and to whom it will be made available.
- **How will knowledge be shared**: There needs to be a consensus within the organization as to the principal channels by which knowledge will be shared, whether face-to-face, or by way of help desks, by telephone, fax, email, collaborative tools on the web, or a combination of the above.

- **Why will knowledge be shared**: Explicit agreement must be reached as to why knowledge is being shared and its likely contribution to organizational performance.

To summarise: When an employee leaves the organization, their knowledge of the business process and expertise leave too. These individuals contain the knowledge regarding everything from the organizations, best practice, business processes, patents, completed projects, email messages and those ideas contained in their own heads. Capturing this knowledge is critical to the success of a firm, especially with respect to adopting to the competitive market place. A knowledge management strategy is thus seen as an essential precaution to counter the loss of an individual's knowledge and it is also necessary to counter barriers to successful KM in an organization. It is important that the value of knowledge sharing be reflected in ongoing personnel evaluation, periodic merit review or pay bonuses of the organization, so that managers and staff can see that knowledge sharing is one of the principal behaviours that the organization encourages and rewards.

2.8 Summary

In this section the assumption was that knowledge is a modern organizations most important resource, and therefore the source of competitive advantage. The focus point was that organizations must create an environment conducive to knowledge creation and use to maintain strategic advantage. Systems exist within the organization to support this environment to aid in the knowledge creation, indexing and retrieval.

Core to the idea of knowledge management is establishing an environment where information and knowledge is shared. The biggest impediment in such an environment can be the organizational culture.

The shift from a traditional work culture to an organization of openness and with values of sharing cannot be accomplished over night. It will take time, a lot of commitment and a useful knowledge management strategy to show the way.

In this context the application of KM to the library was seen as an important aspect as KM can help transform the library into a more efficient, knowledge sharing organization. KM within libraries will involve organising and providing access to tacit intangible knowledge that will help libraries in serving their clients more pro-actively. Exploiting knowledge can be a major competitive advantage for libraries, which can translate into better service to users. It is important that the concept of knowledge management must be promoted within academic libraries.

CHAPTER 3: KM in the Academic Library context - an empirical study

3.1 Introduction

In this survey the Academic Information Service (AIS) at the University of Pretoria was chosen as the population to investigate KM within the library context. Many librarians tend to argue that knowledge management is just a buzzword and that it is something that librarians have been doing for years. They believe that their information management role, combined with their knowledge of the people and the organization constitute effective knowledge management, and therefore what is all this fuss about? This belief is true in relation to the management of explicit knowledge and information. Librarians have been actively involved in knowledge management for many years - but with explicit knowledge, not in relation to the organisational tacit knowledge that resides within their heads. Herein lies the key to what is being established in this specific chapter. Is there a certain perception under the employees of the AIS that they are already doing KM, when in the meantime it is only done with explicit knowledge and not explicit knowledge? What is the exact state of affairs with regards to KM in the AIS? The specific subdivisions under investigation will be listed in paragraph 3.2.5 of this chapter.

3.2 Procedure of the qualitative research

The procedure of this qualitative research will be discussed in terms of the participants, different aspects of the survey instrument and the analysis techniques used.

3.2.1 Sample group

Powell (1997:79) shows that " The ground rule of thumb for the size of the sample is quite simply, the larger the better ". However he also states that there is no point in utilizing a sample that is larger than necessary. Therefore, based on the nature of this, the researcher opted for a smaller sample size. The people in the sample group will be referred to as participants. It was decided that there will only be looked at three of the work processes within the AIS namely: Inter library loans (IBL), cataloguing (Cat) and information provision (Inf. Prov) (see chapter 1, par 1.3.1 and 1.3.2) The total number of people working within the three processes - in the time frame of this study (Sept /Oct 2001) - were:

Interlibrary Loans	22 employees
Cataloguing	17 employees
Information Provision	38 employees

These numbers included the main library as well as the branch libraries like the Health Sciences and Agricultural library. Take note that there were employees working in more than one process. A person can for instance work as an information specialist and also do cataloguing or interlibrary loans. In these instances the person was counted as a cataloguer or interlibrary loans personnel as the amount of people working in this processes was less than the information provision process.

3.2.2 Survey Instrument

The survey instrument used in this study was a questionnaire. The advantages and disadvantages of questionnaires were considered to justify its use in this study. Sources used in

connection to this were Powell (1997: 90) and Slater (1990: 107). Within the questionnaire two basic types of questions were used namely fixed response and open-ended questions. Open-ended questions were specifically used to permit free responses from participants. It was seen as especially useful to this study as it is an exploratory study. As Selltiz (In Powell: 1997) states: "…they are called for when the issue is complex, when the relevant dimensions are not known, or when the interest of the researcher lies in exploration of a process or of the individual formulation of an issue."

3.2.3 Pre-questionnaire planning

A preliminary questionnaire was sent out to three librarians at the Ferdinand Postma Library at the University of Potchefstroom, for evaluation. The evaluation was also done according to Powell (1997: 101) to ensure validity and reliability. This included:

- Avoiding unnecessary and redundant questions.
- Avoiding biased questions.
- Avoiding slang, jargon or technical terms.
- Avoiding emotionally laden questions.
- To avoid leading respondents in questions.

After feedback from the preliminary questionnaires, the comments of the participants were analysed to identify questionnaire items that tend to be misunderstood. The questionnaire was revised accordingly.

3.2.4 The final questionnaire

Questionnaires were sent out to:

- All the interlibrary loan employees of the AIS: 22 questionnaires.

- All the cataloguing employees of the AIS: 17 questionnaires.
- All the information provision employees of the Ais: 38 questionnaires.

Line (1982:70) shows that within research a response rate of 40.0 % will lead to substantial mistakes and bias. He shows in contrast that a response rate of 60 % is acceptable. It was thus aimed to get at least a 60 % response rate within this study. On the final date of completion of the questionnaires the following response rates were reached:

- Inter library loans = 36,36 %.
- Cataloguing = 47, 06 %.
- Information provision = 46, 15 %.

It was decided by the researcher to extend the return date of the questionnaires a week longer to try and get a higher response rate. After another week the response rate reached were:

- Inter library loans = 45 %.
- Cataloguing = 59 %.
- Information provision = 55%.

This response was seen as a sufficient basis to make generalized conclusions of the subject of this study.

3.2.5 Aspects covered in the questionnaire

The information obtained from the questionnaires is used to analyse certain aspects of KM within the AIS. The following aspects was covered by the questionnaires:

- How KM is defined within the AIS?
- The sources of knowledge within the three processes.
- The culture of the AIS and the impact it has on KM.
- Methods and techniques in obtaining knowledge within the different processes.
- IT as enabler for KM.

- Incentives for the sharing of knowledge.
- Drivers for KM within each process.
- Barriers to KM within each process.

In the remainder of this chapter the exact results of the questionnaires will be discussed. An in-depth evaluation of the results will be given in the next chapter.

3.3 Results

To analyse the results of the questionnaires the researcher chose descriptive statistics combined with qualitative representation of the open-ended questions by means of content analysis. Pie charts and bar charts were chosen as pictorial representations to portray the results of the fixed response questions. The researcher decided to present the responses to the open-ended questions of respondents exactly as was stated by them in the questionnaire. This was to prevent loss of detail, subjectivity and interpretation on the side of the researcher. Analysis of every question will be done for each of the three processes. At first the question will be given. Background to why the question was asked will be given and then the results.

3.3.1 *Question 1: Under which process of the information life cycle does your position resort?*

This question was very necessary to see in which of the three processes the person is working, and to establish the return rate of the questionnaires send out for every process.

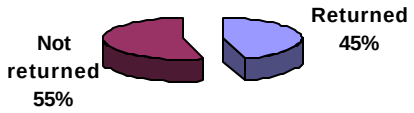
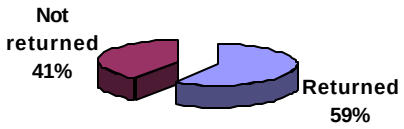
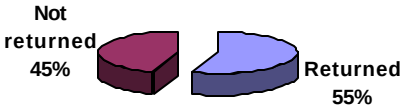
Inter Library Loans (22 Questionnaires sent out, 10 returned).	
Cataloguing (17 Questionnaires sent out, 10 returned).	
Information Provision (38 Questionnaires sent out, 21 returned).	

Fig. 1

3.3.2 *Question 2: What position do you hold in the AIS?*

This question was asked to see if the participants are leaders / junior librarians, senior librarians, national inter lending, international inter lending etc. (just to get a feel on whom the persons are).

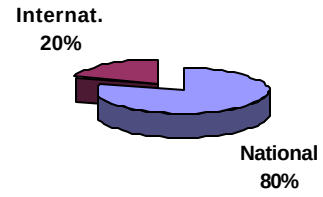
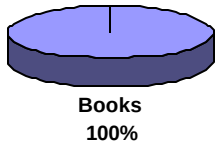
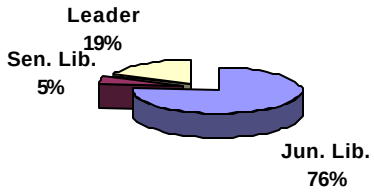
Inter Library Loans	
Cataloguing	
Information Provision	

Fig. 2

3.3.3 *Question 3: Give your own definition of knowledge management within the library context.*

One of the problems identified within this study (Chapter 1) was that librarians think they are busy with KM and that they are doing it for years. The problem suggested was that they are only managing explicit knowledge and not tacit knowledge. This question aimed to establish what they see as KM, the management of explicit or tacit knowledge and how they feel about it. There will be an

indication of how many participants supported a certain statement.

Inter Library Loans	o To keep in touch with new developments in your organization and to know how to manage it. (1) o Give information to a student to use to his/her advantage. (5) o It is the management of knowledge in such a way that it can be easily accessed by any member of staff in order to solve problems without being dependent on others to help. (1) o Taking knowledge that people keep in their heads and making it available for use by other people. (3)
Cataloguing	o To get hold of any information – paper, Internet, databases – and make it useful for the end-user. (6) o KM is to capture and continuously update the intellectual capital of the organization. (3) o The process of integrating and converging all the different work processes in the library so that the end product i.e. correct Information reaches the client. (1)
Information Provision	o To share and create tacit knowledge, to share expertise and to make it available to others. (6) o Supply information/knowledge to contribute to the research of your client. (9) o Sharing and management of explicit and tacit knowledge within the library to benefit the whole organization. (3) o KM is what we as librarians do for years – in other words we give information/knowledge to our client. Km is only the new political correct name for what is being done years on end by us already. (3)

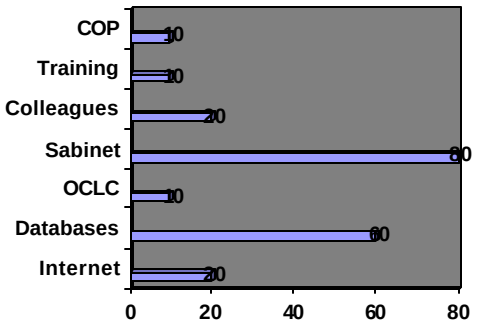
Table 1

The above table show that within IBL most of the participants (5) see KM as managing explicit knowledge for their clients. Within cataloguing 6 participants see KM as the re-packaging of any information for your end-user. The information provision participants showed a majority perception (9) indicating that KM is to supply information/knowledge to contribute to the knowledge a client would generate in his/her research. In all three the processes there were some participants that do see KM as the management of tacit and explicit knowledge (3 participants - information provision). Within the IBL process 1 participant saw KM as management of tacit knowledge and within cataloguing, three participants saw

KM as management of tacit knowledge. There were 6 participants that saw KM as the management of tacit knowledge within the information provision process. This results indicate the majority of participants in all three the processes perceive KM as management of explicit knowledge for their clients.

3.3.4 *Question 4: Who / what are considered to be the best sources of knowledge to assist in doing your everyday job within you work process?*

The aim of this question is to establish the sources of knowledge used by employees in doing their everyday tasks. Are they using tacit knowledge sources like colleagues or are they using explicit sources to assist them? Note that the participants were able to give more than one option in their answer and the percentages were thus worked out according to how many of a certain option was chosen by the participants.

Inter Library Loans (%)	

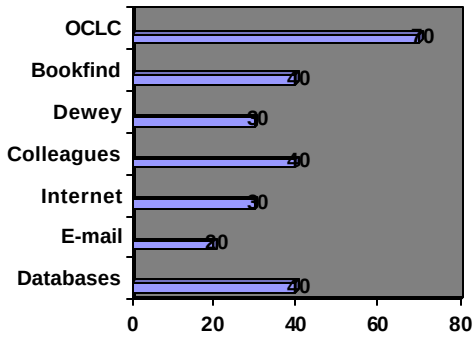
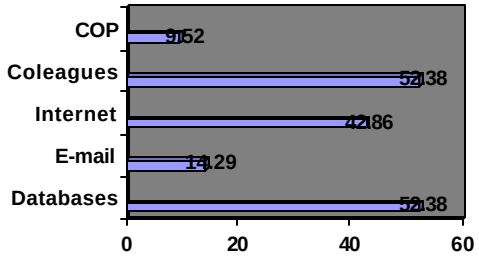
Cataloguing (%)	
Information Provision (%)	

Fig. 3

The graphics shown in Fig. 3 indicates that the source of knowledge used the most by interlibrary loan participants is Sabinet (80%). This constitutes an explicit source. Cataloguing participants uses OCLC (70 %) as their main source of knowledge, also an explicit source. The information provision participants use Databases (52%) and colleagues (52%), which are explicit and tacit sources.

3.3.5 *Question 5: Is tacit knowledge shared between employees within your work process?*

This question was aimed at getting a feel on the knowledge sharing culture within the different processes.

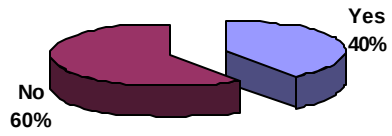
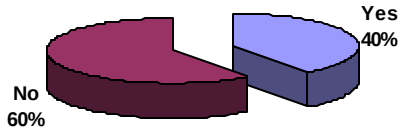
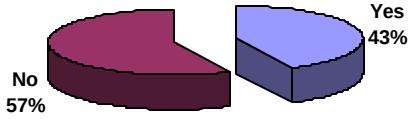
Inter Library Loan	
Cataloguing	
Information Provision	

Fig. 4

The graphics shows that 60 % of the IBL participants believe that tacit knowledge is not shared within their process. The cataloguing participants had a percentage of 60 % that don't perceive tacit knowledge being shared within their process. Within the information provision 57 % shows that tacit knowledge is not shared within their process.

3.3.6 *Question 6: If answered No to question 5, mention the reasons.*

This open-ended question was aimed at elaborating on what the obstacles to a knowledge sharing culture may be within the different processes. There will be an indication of how many of the participants supported a certain statement.

Inter Library Loans	o Your knowledge gives you a certain power base (2) o People are afraid that sharing their knowledge might influence their promotion possibilities. (4)
Cataloguing	o There exist no knowledge sharing culture (2) o The more you know the more the team see you as irreplaceable which can make you a missing link. You wont sacrifice it by sharing your knowledge (1) o People are afraid to share knowledge as they have power within this knowledge (2)
Information Provision	o No culture of sharing knowledge, reluctant to share expertise (7) o Knowledge means power, it better your position in the organization. (2) o Some people are still scared it will be proven that an organization can go without them and are afraid of sharing because it is the only way they can claim their domain. (3)

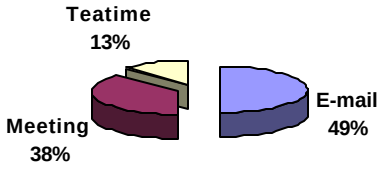
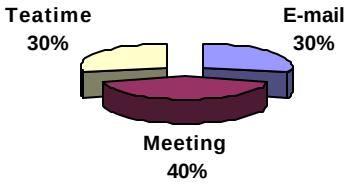
Table 2

Table 2 indicated that in IBL 4 participants contribute the main reason for knowledge not being shared within their process to people being afraid that sharing their knowledge might influence their promotion possibilities. The two reasons most of the participants within cataloguing gave for not sharing knowledge were that there exist no culture of sharing (2) and that people are afraid to share knowledge as they have power within this knowledge (2). Within information provision the majority of participants (7) indicated that there is no culture of sharing knowledge and that people are very reluctant to share expertise. It is thus evident from the above statements that those participants that did feel knowledge

wasn't shared between employees within their process contributed it to the culture of not sharing knowledge, to the power people possess within their knowledge that made them reluctant to share expertise.

3.3.7 *Question 7: If yes to question 5, explain how tacit knowledge is shared between employees?*

This question aimed at establishing how knowledge is transferred between employees within the different processes.

Inter Library Loan (%)	
Cataloguing	

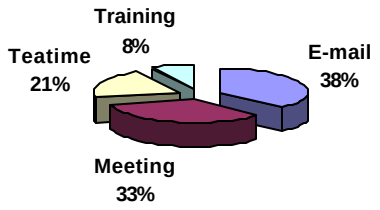
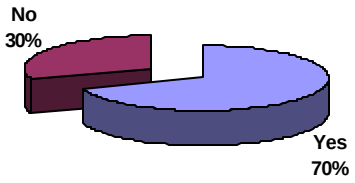
Information Provision	

Fig. 5

The above graphs indicate that the main way of transferring knowledge within the IBL (49%) and information provision (38 %) is e-mail. The cataloguing participants indicated that meetings (40%) are their main way of transferring knowledge.

3.3.8 *Question 8: Is it easy to locate knowledge and information to complete your work tasks?*

This question's main aim was to establish how easily they could get knowledge to complete their daily tasks. Is it easy to locate knowledge in the organization?

Inter Library Loans	

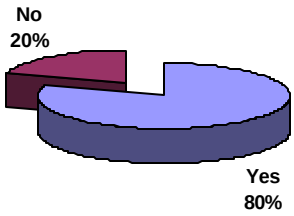
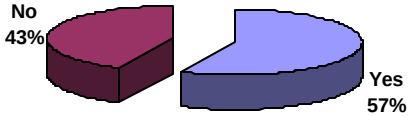
Cataloguing	
Information Provision	

Fig. 6

Within Fig. 6 it shows that within all three processes it seems fairly easy for participants to obtain knowledge in their daily tasks. The process that seems to have no problems at all with locating the knowledge needed to complete their tasks were the cataloguers with a 80 % yes response, followed by the IBL participants with a 70 % yes response. The Information provision participants indicated that it is easy to obtain knowledge but with a slightly lower percentage than in the other processes with a 57 % yes response.

3.3.9 *Question 9: If no to question 8, explain.*

The aim was to get the reasons behind not getting knowledge within the given process. The no response in question 8 were smaller than the yes response and in this question the reasons for not being able to obtain

knowledge was asked from those answering no. There will be an indication of how many participants supported a certain statement.

Inter Library Loans	o Knowledge is just not always available and open in this organization. (2) o People don't want to share their knowledge and help you as they are afraid they wont look so good anymore (1)
Cataloguing	o The knowledge/information I need is not located in one central place; it is difficult to keep track of the latest knowledge. In the case of cataloguing one has to look through email messages for updates on rules, in order to know how to catalogue for e.g. electronic theses. (1) o People don't share their expertise readily. (1)
Information Provision	o Not always easy to get access to tacit knowledge. (1) o No culture of information or knowledge sharing within the AIS. (4) o A serious absence of standard operating procedures in the organization. (3) o I have worked here for long, I know by now who to ask and where to find knowledge, but it can be a problem for a new employee – it should be made easier. (1)

Table 3

The participants indicating in question 8 that it is difficult to obtain knowledge to complete their tasks gave the following reasons for their answer: two participants within inter library loans indicated that knowledge is just not always available and open within the AIS. Within cataloguing one participant indicated that the knowledge he/she needs is not located in one central place. The other participant indicated that people are reluctant to share their expertise within the AIS. Most of the participants (4) within information provision indicated that the absence of a knowledge sharing culture is responsible for not easily locating the knowledge they need. The other reasons can be seen as indicated in the table above.

3.3.10 *Question 10: If YES to question 8, explain how you go about locating knowledge to complete a work task?*

The intention of this question was to establish whether the person used explicit or tacit sources of knowledge to complete their tasks. Note that the participants were able to give more than one option in their answer and the percentages were thus worked out according to how many of a certain option was chosen by the participants.

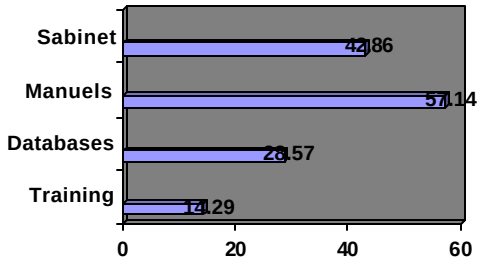
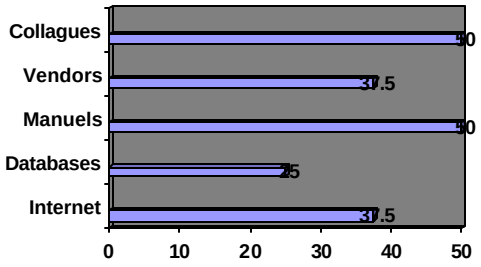
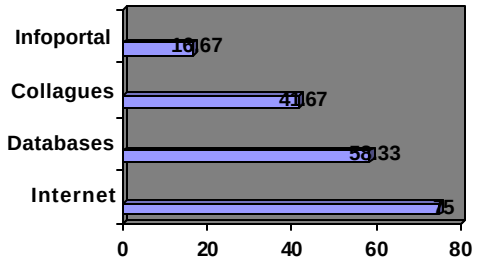
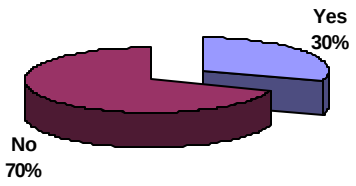
Inter Library Loan (%)	
Cataloguing (%)	
Information Provision (%)	

Fig. 7

Participants answering yes to question 8 by saying they can easily locate the knowledge to complete their tasks showed the following sources of knowledge: IBL participants locate their knowledge by using mainly manuals (57,14 %), which again indicates their high use of explicit knowledge sources. Cataloguers locate their knowledge 50 % explicitly with manuals and 50 % tacitly by asking colleagues. The information provision participants indicated an overwhelming majority of 75 % relying on the Internet to locate knowledge and information to complete their daily tasks. This indicates their use of explicit knowledge and sources.

3.3.11 *Question 11: Is information technology currently used to assist in managing organizational tac it knowledge?*

This question was aimed at establishing the role IT plays in KM within the organization.

Inter Library Loans	

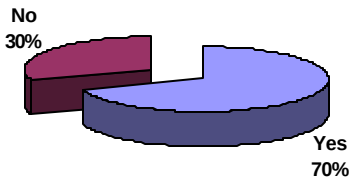
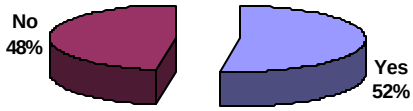
Cataloguing	
Information Provision	

Fig. 8

The cataloguing participants show a 70 % yes response and the information provision a 52 % yes response to the supporting role of IT to KM within the organization. The IBL participants showed a 70 % no response and indicate thus that IT is not used to assist in managing organizational knowledge.

3.3.12 *Question 12: If yes to question 11, name the technologies used.*

This question tested the probable technologies used to enable KM within the organization.

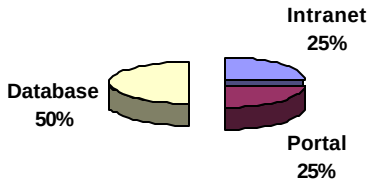
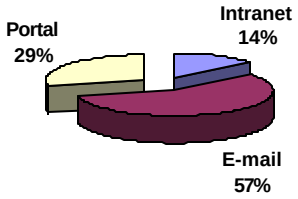
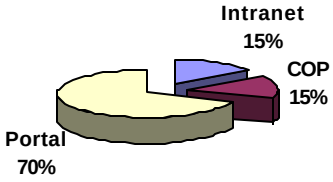
Inter Library Loans	
Cataloguing	
Information Provision	

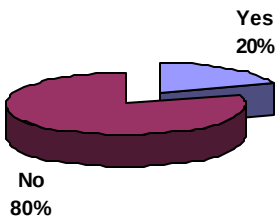
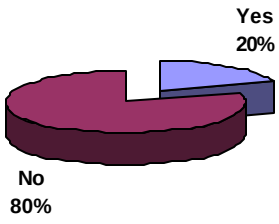
Fig. 9

A variety of KM technologies were proposed within the different processes such as the Intranet, Portal, Databases, Email and COP. The main technology proposed by each of the processes is as follows: Inter library loans indicates databases (50 %) as the main technology used. This is mainly an explicit KM technology as this is the main means to manage explicit knowledge. The cataloguing participants indicated a 57 % support for email as the important technology used. This implies a tacit dimension and also an explicit dimension. The information provision participants have shown a 70 %

support to the new portal of the library. This has the potential for managing tacit and explicit knowledge.

3.3.13 *Question 13: Can staff add their own knowledge to the Intranet of the AIS?*

This question was aimed at establishing what the current status of knowledge and information is on the intranet of the AIS. Is it only policy, manuals and telephone numbers or can staff put their own tacit knowledge on – without asking permission?

Inter Library Loans	
Cataloguing	

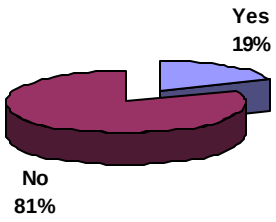
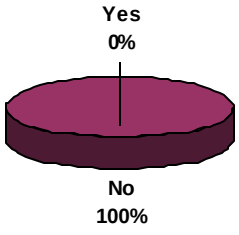
Information Provision	

Fig. 10

The responses to this question indicated very clearly that there is currently no way those employees can add their own tacit knowledge on the Intranet of the AIS. The responses answering no to this question looked as follow: IBL = 80 %, Cataloguing = 80 % and Information provision = 81 %.

3.3.14 *Question 14: Would you say staff of the AIS is using the intranet optimally?*

This question was aimed at establishing the worth of the Intranet as enabler to KM within the organization and also the usage thereof between the different processes.

Inter Library Loans	

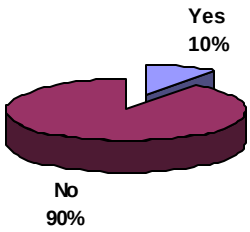
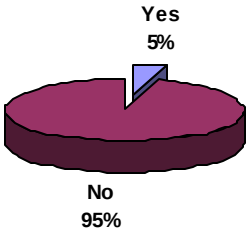
Cataloguing	
Information Provision	

Fig. 11

These graphs show that within all three of the processes the Intranet is not used optimally within the organization. The response of the IBL participants showed a 100 % response indicating the Intranet is not used optimally, the cataloguing participants showed a 90 % indication that the Intranet is not used to its fullest potential and the Information provision participants showed 95 % indication of the negative use of the Intranet

3.3.15 *Question 15: Give reasons if answered No in question 14.*

This question aimed at an elaboration on how people feel about the intranet and its purpose in the organization. There will be an indication of how many of participants supported certain statement.

Inter Library Loans	o Not user friendly (4) o The Intranet doesn't assist one in completing the tasks to do ones job – so why bother to use it at all? (2) o I see it as a "time waster". (4)
Cataloguing	o The Intranet is not user friendly. (4) o Only a small percentage of the procedures is currently on the intranet (1) o Intranet is not kept up to date with the latest knowledge and information. (3) o Only specified persons are allowed to make changes or add information (2)
Information Provision	o Intranet is not user friendly (11) o Nothing of current significance on the intranet (5) o Intranet of the AIS is not a real intranet is like a web page. The staff doesn't even bother to use it because it is not an intranet in the true sense of the word. (2) o Not accessible to everyone. (2)

Table 4

Results in table 4 indicated why participants that answered no in question 14 perceive the intranet as not being used optimally by employees of the AIS. The main reasons, as supported by the most of the participants within the different processes will be given shortly. Inter library loans gave the main reasons due to the fact that the intranet is not user friendly (4) and they see it as a "time waster" (4). The cataloguing participants also see the intranet as not user friendly (4). Within information provision eleven participants saw the intranet as not being user friendly. The rest of the reasons can be seen as indicated in the table above. It thus seems that the majority of these participants sees the intranet as being user un-friendly.

3.3.16 *Question 16: Are you using the new portal of the AIS?*

This question aimed at testing the role of the portal in KM within the AIS. As the portal is very new and launched just a few months ago it was first necessary to establish

whether the participant can answer questions about the portal at all.

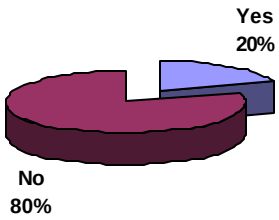
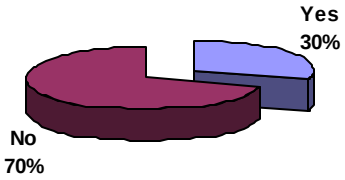
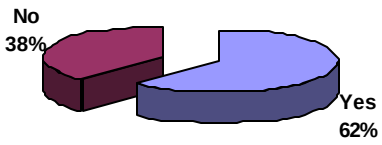
Inter Library Loans	
Cataloguing	
Information Provision	

Fig. 12

According to the results only 20 % of the IBL participants and 30 % of the cataloguing participants uses the portal of the AIS. The process that seems to use the portal the most currently is the information provision participants, with 62 % of them using the new portal.

3.3.17 *Question 17: If YES to question 16, can staff add knowledge onto the portal, for use bycolleagues?*

This question was aimed at establishing the kind of knowledge on the portal of the AIS. Is it only explicit knowledge like database access, knowledge for the academics and clients or can staff put their own tacit knowledge on for other staff to see and use. Specifically it was stressed that this question doesn't refer to the customisation option portals possess in general.

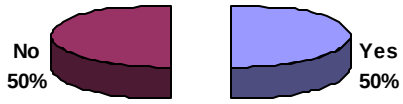
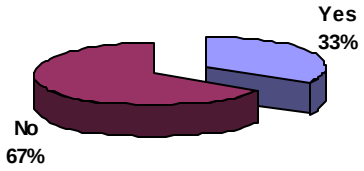
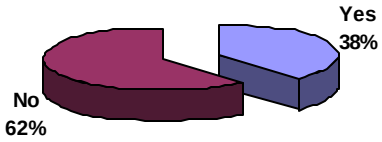
Inter Library Loans	
Cataloguing	
Information Provision	

Fig. 13

The results within this graphs indicates that the portal doesn't really allow the adding of tacit knowledge of employees to be open to the rest of the employees for use. IBL participants gave a no percentage of 50 %, cataloguing participants gave a no percentage of 67 % and the information provision participants gave a 62 % no-response.

3.3.18 *Question 18: If NO to question 16, what is the reason for not using the portal?*

This question aimed to establish why people don't yet use this new portal. Is the portal a too new technology or are there fear for learning and change or is the portal just not meaning anything to them in their daily work? There will be an indication of how many of the participants supported a certain statement.

Inter Library Loans	o Still waiting for the implementation. (1) o Had no training on the usage of the portal. (1) o Don't have the need to use it to complete my tasks. (2)
Cataloguing	o Had no training (1) o Don't have enough time to explore the portal (2) o I don't have any knowledge about it (1) o Have not registered yet (1) o Not applicable to my work (2)
Information Provision	o Not enough time to explore the portal – cant keep track (5) o Don't have any knowledge about the portal. (1) o I perceive it as an overly formalized desktop (1) o Not user friendly at all. (1)

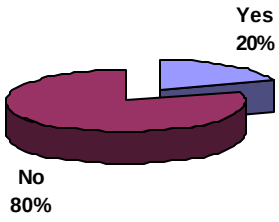
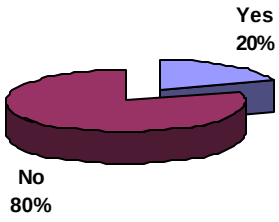
Table 5

Table five indicates that the main supported reason for not using the portal within inter library loans is that there exist no real need to use it for completing tasks (2). Within cataloguing it was indicated that they do not have enough time to explore the portal (2) and that it is not applicable to their work (2). Information provision

participants indicated the main reason for not using the portal as not having enough time to explore the portal – they cannot keep track (5). The other reasons for not using the portal is indicated in the table above. The main reasons for not using the portal within IBL and cataloguing seems to be the fact that the portal isn't really contributing to the work being done within these processes. Within information provision the main reasons seem to be a lack of time to explore this new technology.

3.3.19 *Question 19: Are employees within your work process rewarded for sharing their tacit knowledge?*

This question is aimed to establish if any incentives exist for knowledge sharing within the different processes.

Inter Library Loans	
Cataloguing	

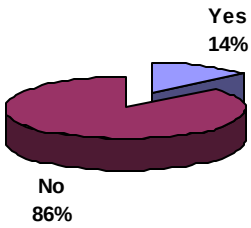
Information Provision	

Fig. 14

These graphs show that there exist no incentives for knowledge sharing within any of the three the processes. The participants of IBL and cataloguing showed an 80 % no-response, while 86 % of the information provision participants gave a no response to the existence of incentives for sharing knowledge.

3.3.20 *Question 20: If NO to question 19, give reason(s).*

This question was aimed at establishing employee's feelings about incentives for knowledge sharing and why they think there are no incentives in place. There will be an indication of how many of the participants supported a certain statement.

Inter Library Loans	o It just doesn't exist at all. (4) o It is not within the culture of the AIS to share knowledge, why then will there be a reward system for sharing knowledge at all? (3) o It has only recently been acknowledge that tacit knowledge is very valuable to an organization. (1)
Cataloguing	o No infrastructure in place. (4) o No special reward for anything around here. (1) o The system of this University do not provide for this (1) o Top management don't care. (2)
Information Provision	o Management too busy with other things. (3) o No infrastructure in place. (11) o It is difficult to set a fair reward system for sharing tacit knowledge. (3) o It seems as if experience doesn't count at all. (1)

Table 6

Table six indicates what the reasons are for no incentives as given by participants answering no to question 19. Note that only the reasons supported by most of the participants will be discussed see also the rest of the reasons within the table above. Inter library loan participants indicated that there just don't exist a reward system at all. (4). Cataloguing (4) and information provision (11) participants indicated the absence of any infrastructure.

3.3.21 *Question 21: If yes to question 19 explain how you are rewarded?*

This question was aimed at establishing how they are rewarded if they get rewards. There will be an indication of how many of the participants supported a certain statement.

Inter Library Loans	o Higher position. (1) o Money. (1)
Cataloguing	o Verbal appreciation from clients. (1) o Monthly income – I suppose. (1)
Information Provision	o Appreciation shown by my leader. (2) o The reward is indirectly: respect from team mates, opportunities to participate in projects etc. (1)

Table 7

Table seven indicates how participants that answered yes to question 19 are rewarded for sharing their tacit knowledge with colleagues. Inter library loans indicated the rewards as being a higher position (1) and money (1). Cataloguing indicated verbal appreciation from clients (1) and monthly income (1) as rewards. Within information provision rewards was seen as appreciation as shown by

the leader (2) and indirect rewards like respect from team - mates and opportunities to participate in projects (1).

3.3.22 *Question 22: What impact does the existing reward system of UP have on sharing of tacit knowledge between employees?*

This question was aimed at establishing whether the existing reward system has any influence on the knowledge sharing culture of the employees of the different processes. There will be an indication of how many of the participants supported a certain statement.

Inter Library Loans	o The present reward system does not meet this need. (2) o Don't know of any reward system at UP. (3) o The current reward system encourage people to keep their knowledge only to themselves, it means if one can demonstrate what you can do, and by showing how much you can do, the better the chances for promotion. (3) o It is not conducive to a culture of knowledge sharing – I will rather keep my knowledge to myself, as I will look very good when I get evaluated. (2)
Cataloguing	o Employees don't put effort into sharing when they are not being rewarded – it thus discourages any form of knowledge sharing. (1) o No impact. (5) o It discourages people to share their valuable knowledge. (4)
Information Provision	o I experience it more negative than positive. (1) o Employees who expect rewards for sharing ideas will not be motivated to share due to the lack of concrete rewards. (2) o People don't share, as this will take away the knowledge they possess as this knowledge can mean promotion to them. (9) o The fear exists that somebody will take your knowledge and at the end will be rewarded and not you. (2) o I am very sceptical about the reward system, as it doesn't encourage a culture of knowledge sharing at all. (4)

Table 8

This table indicates what participants think of the current reward system and its impact on knowledge sharing between employees. Only the reasons supported by most of the participants will be given shortly, see the rest of the reasons in the above table. IBL participants showed that they don't know of the existence of any reward system (3) and some indicated that he current reward system encourage people to keep their knowledge only to themselves, they claim this means if one can demonstrate what you can do, and show how much you can do, the better the chances fro promotion (3). Cataloguing participants showed that the reward system have not impact at all (5). Information provision participants maintained that people don't share as sharing knowledge will take away the power they possess. This knowledge can mean promotion to them (9). The above results indicate that the current reward system of the University of Pretoria is not conducive to knowledge sharing within the different processes within the AIS as it discourages people to share their knowledge.

3.3.23 *Question 23: Do you think KM within the library context is necessary and important?*

This question was aimed at establishing the importance of KM within the library context.

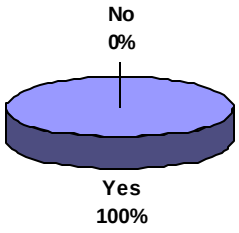
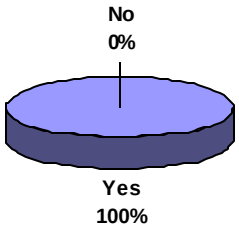
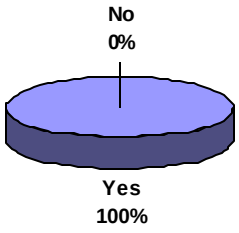
Inter Library Loans	
Cataloguing	
Information Provision	

Fig. 15

The graphs in figure 15 indicate that KM is perceived as very important within the library context. The results show that within all the three processes a 100 % yes response stresses the importance of KM within the library context.

3.3.24 *Question 24: If YES to question 23, list the reason(s) why KM in the library context is important.*

This question was aimed at establishing the drivers for KM. There will be an indication of how many of the participants supported a certain statement.

Inter Library Loans	o It is necessary to get a better understanding of your organization and colleagues. (1) o To keep oneself in business. (2) o To empower students. (2) o Aid employees to become more sufficient in the execution of thei r tasks. (3) o Better time management. (1) o Processes will be more streamlined. (1)
Cataloguing	o To prevent inventing the wheel over and over again. (2) o Unmanaged knowledge is worthless. (2) o Better task performance. (4) o Less duplication. (1) o To stay competitive and in business. (2)
Information Provision	o Due to competition in the provision of service, globalisation and loss of expertise KM is very necessary. Also, to create a good working environment. (1) o It is necessary so that knowledge wont leave the organization with an employee when he/she is leaving the organization. (4) o To contribute to your ability to achieve goals of the AIS and UP it the broader sense. (4) o Higher productivity. (5) o Without KM there will be no standard operational procedures within th e organization. (1) o Easier adaptation to change. (1) o I think that we have been working with KM for years – it is just another word for what is and has been done by librarians, especially academic and research institutions for many years. (2) o It will ensure our future in business. (2) o Libraries need to change from seeing themselves as non-profit organizations and start to see themselves as knowledge providers with a profit. There is a lot of competition around like other information services such as Sabinet etc., which will reap off all our clients unless we learn to manage all our knowledge. Explicit and Tacit. (1)

Table 9

The main drivers for KM within the library context as given in table nine (only the most supported reasons above):

- To aid employees to become more sufficient in the execution of their tasks.
- To keep oneself in business, to be competitive.
- Better task performance.
- Prevent inventing the wheel over and over, less duplication.
- Higher productivity
- To keep knowledge within the organization. Prevent tacit knowledge leaving the organization with someone leaving the organization.

3.3.25 *Question 25: Which aspects of you organization seem to create barriers to effective KM?*

Straight forwardly this question was aimed at establishing some barriers to KM within the library context. There will be an indication of how many participants supported a certain statement.

Inter Library Loans	o Jealous employees. (4) o Technology – not a true enabler of KM. (2) o Not enough training. (2) o No communication between the service unit leader and the staff. (2)
Cataloguing	o People who are rigid and selfish in sharing their knowledge. (1) o No rewards. (4) o Jealousy. (1) o People creating their own little kingdoms. (1) o People scared to share their knowledge because they see their knowledge as power. (2) o Bad interpersonal relationships. (1)
Information Provision	o Lack of appropriate IT. (3) o No knowledge sharing culture. (5) o No encouragement from top management. (3) o Knowledge sharing is time consuming. (3) o No strategy on KM in AIS. (4) o Lack of reward system. (1) o Selfishness/jealousy. (1) o The feeling under employees that management has hidden agendas – they are not completely open and honest. (1)

Table 10

The main barriers to KM within the AIS as given in table ten can be given as (only the most supported reasons above):

- Jealousy under employees.
- No incentives or rewards.
- No knowledge sharing culture.
- No strategy on KM in place within the AIS.
- Technology – not a true enabler of KM.
- No encouragement from top management.

3.4 Summary

In this chapter information was gathered in connection to KM within the academic library at the University of Pretoria. Questionnaires were distributed to employees within three processes. Issues addressed were how they see KM within the library, how the culture of the library is with relation to KM, how IT is used as enabler of KM, and what the barriers and drivers to KM are. The results of the questionnaires were reported. Within the next chapter an analysis of the results will be made and conclusions made about KM within the AIS.

CHAPTER 4: Discussion and evaluation of results

4.1 Introduction

The intention with this chapter is to answer certain questions with relation to KM within the library environment as was asked within chapter 1 of this study. This will be done by comparing the information gained within the synoptic literature study (Chapter 2) with results gained from the questionnaires (Chapter 3).
The central issues under discussion will be:

- How is KM defined within the AIS?
- The sources of knowledge within the processes
- The culture of the AIS and the impact it has on KM
- Methods and techniques in obtaining knowledge within the different processes
- IT as enabler for KM
- Incentives for the sharing of knowledge
- Drivers for KM within each process
- Barriers to KM within each pro cess

4.2 How is KM defined within the AIS

With the literature study (Chapter 2) it was identified that there is not really a consensus on the definition of KM. For this study KM was defined as:
"Knowledge management is to create and maintain an environment in which people are encouraged to innovate, share, learn and use knowledge for the benefit of the organization and the people who work in it – you can mobilize "knowledge *(TFPL: 2001) The theoretical standing point for defining KM within this study is: KM indicates the*

management of tacit organizational knowledge within a environment conducive to knowledge sharing. The general idea thus relates to unlocking the knowledge of employees so that this knowledge becomes available as an organizational resource, which is not dependent on the particular individuals. The question then arose how employees of the AIS define KM. The results of the questionnaires showed that within each of the three processes investigated the most supported definitions were aimed at the management of explicit knowledge. Very few participants indicated that KM included the management of tacit knowledge.

The AIS manages explicit knowledge well. Tom Davenport (DiMattia: 1997) considers librarians as a central part of managing explicit knowledge. "They know more about gathering, categorizing and distributing knowledge than just about anyone, and they are usually good at eliciting the knowledge requirements of their customers, but the issue of managing tacit knowledge do not receive much attention within libraries"*. This view of Davenport was proven with this definitions of KM as given by the participants within this study. The perception exist under employees within three of the processes within the AIS that they are already doing KM for years. With the boundaries set to this study in chapter one by specifying that this study only focuses on the management of tacit organizational knowledge it is maintained that three of the processes within the AIS define KM with relation to explicit knowledge.*

4.3 The sources of knowledge within the processes

In the demarcation of this study (Chapter 1, par 1.3.2) it was stressed that this study will concentrate on the management of tacit knowledge and not explicit knowledge. The question arises whether the AIS see the sources of knowledge in their organization as tacit sources of explicit sources. Within questions 4, 8 and 9 it was indicated that the

sources used by employees within all three processes were mainly explicit sources like databases, internetetc. Within the information provision process there was also the usage of more tacit sources. It is clear that there isn't really an environment within the AIS conducive to the sharing, learning and use of tacit knowledge for the benefit of the organization and the people who work in it – tacit knowledge isn't really mobilized as employees tend to use more explicit sources to complete there tasks.

4.4 The culture of the AIS and the impact it has on KM

In Chapter 2 (paragraph 2.4) TFPL (2001:onlie) shows that effective knowledge management requires a supportive, collaborative culture with a high emphasis on openness and knowledge sharing. A culture where employees interact with each other to share knowledge and learn from each other and where they use technology to help with the flow of tacit knowledge through the organization. The question arose whether the AIS has such a culture conducive to knowledge sharing? The results of questions 5, 6, 7 and 9 alternatively showed that participants within each of the three processes do not perceive tacit knowledge as being shared within their process. The main reason given was the reluctance of employees to share what they see as their "power base". Keeping their knowledge to themselves gives them a sense of security. The lower percentage of participants who believed that tacit knowledge is shared within their process indicated meetings, and email as the main ways of sharing and transferring their knowledge. In addition there is no real indication of a supportive, collaborative culture and no emphasis on openness and knowledge sharing within any of these processes.

4.5 Methods and techniques in obtaining knowledge within the different processes

In Chapter 2 (par 2.4) it was shown that human networks are one of the key vehicles for sharing and obtaining knowledge. To build a sharing culture, enhance the networks that already exist. Enable them with tools, resources and legitimisation. Make the visible artefacts of knowledge sharing – the events, language, Web sites – match the style of the organization, even if you intend to lead it into new behaviour and approach. What are the methods and techniques the employees within the different processes in the AIS use to obtain knowledge? In question 10 it was indicated that within IBL and Cataloguing the methods in obtaining knowledge is by using mainly manuals. Within the information provision process the Internet was the main way participants managed to obtain their knowledge. All of these are ways to obtain explicit knowledge. Within the inter library loan the nearest way of finding tacit knowledge was by means of training All the other methods given showed ways of obtaining explicit knowledge only. The cataloguing participants showed a high score to also obtaining knowledge from their colleagues who are a way of obtaining tacit knowledge. The information provision obtained knowledge secondly from databases and after that from colleagues. As McDermott (2001) showed in chapter 2 (par. 2.4) that human networks are one of the key vehicles for sharing and obtaining knowledge it is evident that human networks isn't the main means of obtaining knowledge within these processes within the AIS. The only process that indicated usage of human networks was the cataloguing process.

4.6 IT as enabler for KM in the AIS

In Chapter 2 (paragraph 2.7) it is shown that a variety of technologies can make up a knowledge-management system: Intranets, data warehousing, decision -support tools and groupware are just a few

examples. Organizations are of belief that if once setting up an intranet you have created a knowledge management system. This is only the beginning. You still must tap the intellectual capital of the organization. The question arises whether the AIS uses any IT as enabler for KM and if so what technologies are used?

In question 11 the participants of cataloguing and information provision indicated that IT is currently used to assist the management of tacit knowledge within the AIS. The IBL participants had the opposite view indicating that IT is not used to assist KM within the AIS. The technologies proposed as given in question 12 were the intranet, portal, email and cop's. Does existing technologies in the AIS encourage - as given by Stoddart (2001: 19) (paragraph 2.7) - information sharing, information publishing, and facilitate document management?

Robinson (1999: 95) gives in Chapter 2 (paragraph 2.7) a number of proposed attributes (note that not all of these attributes were covered within the questionnaire as this study isn't focussed just on IT for KM) for an Intranet conducive for effective KM. The questionnaires were set out to see if the intranet of the AIS has any of these attributes namely:

- **Structure and simplicity**: In question 15 it was indicated within all three of the processes that the intranet is not user-friendly and easy to use. It seems as if there were not a great deal of thought put into planning the structure of the intranet as some of the participants indicated in question 15 that the intranet is not kept up to date with the latest knowledge and that three is not really any knowledge of current significance on the Intranet.
- **To cater for individual interest groups**: In question 15 it was indicated that participants feel that the intranet don't really cater for individual interest groups, as they can't really find anything of significance to their specific needs on the intranet. There isn't

really being catered for the peculiarities of the individual processes on the intranet.

- **Access**: It seems as if equal access to all staff is provided, regardless of location. It was noted that within question 15 there were two participants that indicated that the intranet wasn't accessible to everyone. It also became evident within question 13 that employees cannot add their own knowledge on the intranet themselves and that only specified persons are allowed to make changes or add information.

Results on the AIS intranet of the AIS indicates that it is static a non-collaborative, and do not stimulate knowledge sharing. The intranet contain "nice to have" data and information. There is no vital knowledge that can be used for decision-making. The information on the AIS intranet is information convenient to have. The knowledge isn't necessarily essential for decision-making

The Portal of the AIS is a new technology and it first was necessary to see how many participants are using the portal before they could answer any questions on the portal. Results showed in question 16 that within the inter library loans and cataloguing processes the majority of participants are not using the portal at all, while in the information provision process the majority of participants are using the portal. Within Chapter 2 (paragraph 2.7) it was shown my Grammer (2000:79) that the ideal type of portal for KM is the EKP (enterprise knowledge portal). A list with attributes was given on what to look at in a sound EKP for enabling KM within an organization. As this study only wanted to establish if IT is used for KM within the AIS and how it is used the questionnaire couldn't cover all the aspects mentioned by Grammer in Chapter 2. The aspects that were seen as the most important to evaluate were if employees were able to share and collaborate on content of the portal of the AIS by being able to add their own knowledge and if they had the ability and means to create tacit input into the portal. Results in question 17 indicated that the portal of the

AIS is not well suited to the transfer of tacit knowledge. The portal is oriented toward explicit knowledge or document centric knowledge and not tacit knowledge. It seems as if the portal is ill equipped to do the knowledge management job within the AIS and do not improve the sharing of tacit knowledge between employees.

It is evident that successful knowledge management is not about implementing fancy new technologies. In the AIS and among most organizations the technological support tools needed are already available – e.g. electronic mail, intranet, and portal. Regardless of the format or specific content of the knowledge object, the act of describing one's tacit knowledge with a controlled vocabulary so that it can be easily found, and posting it in a shared repository show the enabling role the KM technology is supposed to play within KM.

4.7 Incentives for the sharing of knowledge in the AIS

In Chapter 2 (paragraph 2.4) Balcombe (1999:93) states that it is a given that new behaviours will not emerge if, what is measured and rewarded are the old behaviours. Workers must be reassured that they will still be valued after they give up their know how. McDermott (2001)(Chapter 2, paragraph 2.4) shows that sharing knowledge must be built into routine performance appraisal. It is clear that creating appropriate rewards, recognition and compensation to drive KM is essential.

Results to question 19, 20, 21, and 22 revealed that the employees of these three processes are not rewarded for sharing knowledge at all. The current reward system at the University of Pretoria inhibits knowledge sharing. Workers can feel " *If my knowledge is a valuable resource, why should I share it? If my job is to create knowledge, why should I put my job at risk by using yours instead of mine?*" To enter our knowledge into a system is like Davenport (2001) states not only

threatening, but also just plain effort, so we have to be highly motivated to undertake such work. It is clear that the employees within these three processes feel that they will not be valued anymore after giving up their knowledge. It became evident that knowledge sharing is not built into routing performance appraisal and that there exists no appropriate rewards, recognition and compensation to drive KM within the AIS.

4.8 Drivers for KM in the AIS

In Chapter 2 (paragraph 2.3) of this study the drivers for KM in general were discussed. The basic drivers for KM were identified as globalisation, competitiveness and customer focus. Attention was also given to the drivers of KM within the library environment (Chapter 2, paragraph 2.3). Applied to the library context the drivers for KM can be summed up as follows (Bonfield: 1999):

- Because knowledge is the basis of our services.
- Because knowledge helps us cope with change.
- Because we are leaders in information sharing, and knowledge - sharing is the next natural step.

The following drivers for KM within the library environment were listed out of the responses to question 24:

- To stay competitive and in business.
- Employees can become more sufficient in the execution of their tasks.
- Processes will be streamlined within the library.
- To prevent duplication.
- Unmanaged knowledge is worthless.
- Better task performance.
- To keep knowledge within the organization.

- To contribute to the ability to achieve goals of the AIS and UP in the broader sense.
- Easier adaptation to change.
- It will ensure our future in business.

The above indicates that within the library context there is also the basic drivers for KM like the need to be competitive and to adapt to a changing turbulent environment. Effective knowledge management will pay off in fewer mistakes, less redundancy, quicker problem solving, better decision making, enhanced customer relations and improved service within the AIS.

4.9 Barriers to KM in the AIS

Lang (2001) shows in Chapter 2 (paragraph 2.3) that several hindrances to knowledge creation and utilization in organizations exist. It became evident out of the results of the whole questionnaire that these hindrances also exist within the AIS:

- There is inadequate care of those organisational relationships that promote knowledge creation. Results to question 25 shows aspects like jealous employees, no communication between service unit leaders and staff.
- There are insufficient linkage between knowledge management and corporate strategy as results indicated that there exists no strategy for KM within the AIS.
- There is lack of holism in knowledge management efforts, as responses indicate no encouragement from top management. There exist no reward system for sharing knowledge.
- Poor verbal skills hinder the actual process of knowledge creation in organizations, as there was indication in the responses that there exist bad interpersonal relationships. There was also indicated that people are rigid and selfish in sharing

their knowledge and they are scared to share their knowledge because they see their knowledge as power.

Clearly there exist a lot of barriers to KM, of which culture; lack of communication and management aspects seems the biggest within the AIS. It is necessary for the AIS to be aware of these barriers if they want to sustain a competitive environment of knowledge sharing and use from within.

4.10 Summary

The purpose of this chapter was to bring the information gained on KM of the AIS in Chapter 3 in relation with the bigger picture of KM. It was measured to the literature gained on the subject in Chapter 2. The final conclusive analysis and recommendations to the AIS will be done within the next chapter where guidelines for a KM strategy will also be proposed for the AIS.

CHAPTER 5: Recommendations and a proposed Knowledge Management Strategy to the AIS

5.1 Introduction

Although many of the essential elements of knowledge management are not new, the integration of those elements into an overall strategy for effectively managing knowledge to achieve strategic business advantage is still an evolving science. Various types of knowledge strategies are being deployed by organizations around the world. It is becoming clearer that organizations are starting to assess their strategies to gain optimal maximisation from their knowledge resources. In Chapter 4 it became evident that there exist certain gaps and problems with relation to KM in the AIS at the University of Pretoria. In order to address these problems there will be certain suggestion made to the AIS within this chapter and at the end a KM strategy will be proposed. Note that there will not be a precise strategy proposed for the AIS, but only guidelines on how they can develop their own KM strategy. There exist a lot of KM strategies but every KM strategy will be different because the business issues and imperatives for each organization are different.

5.2 Recommended shifts needed within the AIS to establish effective KM

To achieve effective knowledge management in the AIS there are certain shifts that has to be made in each process connected to the information life cycle.

5.2.1 *Shifts from only managing explicit knowledge to managing tacit knowledge*.

The AIS must realise that KM is not just about the explicit management of knowledge. There is a tacit dimension that is bluntly ignored which lead the employees of the AIS to question this 'fuss' being made about this new buzz word namely knowledge management. Noh (2000:250) shows that tacit knowledge is hard to formalise communicate and share with others. It is stressed that the success of knowledge management lies in how to formalise tacit knowledge and reuse it in a wide variety of decision-makings.

The AIS should understand that KM in not about managing or organizing books, or journals, searching the Internet for clients or arranging for the circulation of materials. However each of these can in some way be part of the KM process. KM is about using organizational knowledge like the application of employee's competencies, skills, talents, thoughts, experiences and creative ideas. This tacit knowledge if well managed, can help the AIS achieve sustainable competitive advantage in the global market. Within each of the processes of the information life cycle the management of this tacit knowledge can lead to faster decision-making, and fewer pertinent factors necessary for a decision. It is suggested that the AIS should give urgent attention to the shift from only managing explicit knowledge to also manage tacit knowledge.

5.2.2 Shift to nurture a knowledge culture

A knowledge sharing culture is one in which people share their knowledge and learn from others, and as a matter of course, they see it as the right thing to do. It is thus recommended that the AIS give urgent attention and to make a major shift with

regards to this for optimal knowledge management within each of the processes. The study showed clearly that knowledge sharing within the processes is a huge barrier to KM. Employees in the AIS must choose to interact and share knowledge at a level over and above that required getting their job done. For knowledge to be shared at an organizational level, for it to connect, there has to be voluntary action on behalf of the individual. When an employee is about to leave, is there a process to try to capture their knowledge, or at least mine it for what can be captured and extracted for sharing with others? Do the AIS understand the value of handover period, rather than just focusing on the cost? Can the tacit knowledge of the employee be tapped even after he has left the organization? It is suggested that the AIS answer these questions openly and get solutions to them.

Suggestions to the AIS with regard to creating a sharing culture within the AIS are the following (Stevens: 2000):

- **Hire people who will share**: creating a culture in which employees share knowledge starts with the hiring process. Only bring in people that your employees feel they would like to work and share with.
- **Develop trust** Buckman Laboratories isn't big on incentives or recognition programs. Instead they try to encourage knowledge sharing by developing an atmosphere of trust among employees. Their trust building process began with a code of ethics, a 10-point manifesto that reads in part: "We treat each other with dignity and respect, striving to maintain continuous and positive communications…" Buckman points out that the code of ethics would have lithe value if employees didn't believe that the company took it seriously. Accordingly, the code was made public during a three-day conference. The

company also showed commitment to base all decisions on the code's principles. For example, many evaluation points on the employee appraisal forms address whether the employee's behaviour conforms to the code of ethics. Although the code does not explicitly mention knowledge sharing, the company culture reinforces that notion. Supervisors consider how often employees have responded to questions posted by other employees and how often they've posted ideas or thoughts on the company intranet. "We don't promote people unless they demonstrate that they share knowledge.

Final suggestions to the AIS: consider instituting rewards and recognition programs to demonstrate knowledge-sharing behaviours that the company advocates. Evaluate knowledge sharing behaviours as part of employee appraisals. Involve current employees in the hiring process to maintain a team that works well.

5.2.3 Shifts with relation to incentives within the AIS.

Smith (2000: 28) shows to the urgency to incentives and recognition that should provide and encourage employees to exhibit knowledge sharing behaviour to contribute their own best practices and to reuse those of others. The AIS will have to consider the value of his employees after they have shared everything they know. Successful knowledge sharing cannot take place in a competition - oriented environment where people feel that they would be jeopardizing their own status and job security by giving up knowledge. In practice in the bigger University environment the AIS should maybe look at more informal incentives, in the form of recognition by management

etc. Within the organization this can often be more powerful incentive, than the formal incentive system.

Suggestions to the AIS with regard to incentives will be posed in the form of a success story at another organization (Stevens: 2000):

"There is a strong knowledge sharing culture at Harris Government Communication Systems Division (a diversified manufacturer of airborne, space-borne and ground-based communication systems in Melbourne, Fla.) The company has two recognition programs. One called the Wall of Fame is in the first corridor people walk through upon entering the building. It contains plaques with the names of employees who have excelled at knowledge sharing. People in this group may have responded to many posted queries or posted a major report online. The second program recognizes employees who use knowledge to contribute directly to the company's success, such as by fining an existing product component that can be used in a new communications satellite and saving the company from having to design a new component from scratch. They receive a certificate and are mentioned in the company newsletter; of course the information is also included in their permanent file. These two recognition programs work for two reasons. First, they reward employees. Secondly, the programs demonstrate the company's commitments to share knowledge. "

5.2.4 Shifts in using IT as true enablers of KM.

Among the issues suggested to the AIS to consider when providing information technology for effective KM are:
(Denning, in Hunt: 2000)

- **Responsiveness to user needs**: continuous efforts must be made to ensure that the information technology in use meets the varied and changing needs of users.
- **Content structure**: classification and cataloguing is necessary within large systems so that knowledge can be easily found and quickly retrieved.
- **Content quality requirements**: standards for admitting new content into the system need to be established and met to ensure operational relevance and high value.
- **Integration with existing systems**: since most knowledge sharing programs aim at embedding knowledge sharing in the work of staff as seamlessly as possible, it is key to integrate knowledge-related technology with pre - existing technology choices.
- **Scalability**: solutions that seem to work well in small groups (e.g. HTML web pages) may not be appropriate to extrapolation organization-wide or on a global basis.

A specific suggestion to the new portal application is that the portal should be a enterprise knowledge portal (EKP) in as sense that it combines enterprise information portal (EIP) aspects while also capturing tacit knowledge, integrating access to expertise and embedding application functionality. This suggestion is made in the view of what was founded within the questionnaires when the participants indicated that the portal doesn't really cater for the management of tacit organizational knowledge but that this portal focuses more on the knowledge management of explicit knowledge for the academic community. This portal was developed with the main intention of providing a web-portal for academics (Pienaar: 2001) at the University of Pretoria. It is suggested that this portal is also used for the management of tacit knowledge within the AIS itself, where employees will be enabled to interact with the portal.

It is suggested to the AIS that the IT like the Intranet and portal should deal as effectively with tacit knowledge as with explicit knowledge. Tacit knowledge is the real source for the dynamic exchanges between people that often result in new, innovative and highly competitive ideas

5.2.5 Shift by establishing a KM strategy for the AIS.

It is important for the AIS to put a KM strategy in place to ensure that knowledge is available when and where needed by employees. Before the AIS can develop a KM strategy they must understand the existing barriers to knowledge management as these barriers may impede on the whole process of developing a KM strategy. Within this study a few barriers to KM within the AIS was identified. Urgent attention should be given to the following barriers within the AIS:

- **Cultural barriers:** Bonfield (1999:28) shows in relation to culture that employees tend to focus on their own targets and also see it as in competition with others. This is an aspect that must get urgent attention within the AIS by cultivating a sharing culture. It is suggested that the AIS take note of the useful tips as given by McDermott (2001) in Chapter 2 (paragraph 2.4) on how to align knowledge sharing with the culture of an organization. To overcome the culture of not sharing knowledge the AIS should give urgent attention to a reward system within the AIS.
- **Technological barriers:** Employees of the AIS need access to, and be able to use and feel comfortable with the intranet and portal for knowledge sharing. They must be enabled to put their own intellectual capital on the portal/intranet.

The biggest barrier to effective knowledge management is a culture that rewards knowledge hoarding. You will not be able to change this with only new software, what is needed is leadership and management. The last suggestion to the AIS in connection to the barriers to eliminate before attending to their KM strategy is maybe to change the language they use for knowledge management. It may be that employees has built up a barrier to the word 'knowledge management' as it is a term they have heard of for years. Maybe use terms like: " knowledge sharing" or "knowledge skills".

5.3 A guide to strategy formulation for the AIS

5.3.1 *A knowledge based theory of Strategy Formulation*

Sveiby (2000) gives a knowledge-based theory to guide KM strategy formulation. He defines knowledge as a *capacity-to-act.* The emphasis of this definition is on the action element. "*A capacity-to-act can only be shown in action*". He uses the notion of *Individual Competence* as a synonym to capacity-to-act. Sveiby (2000) shows the importance of a knowledge-based theory to the formulation of a KM strategy in an organization. He shows that strategy formulation should start with the competence of people. People are seen as the only true agents in business. People in organizations create external and internal structures in order to express themselves. People in organizations can use their competence to create value in mainly two directions: externally and internally. The external structure consists of relationships with customers, suppliers, and the reputation of the firm. When people work internally they create an internal structure .The internal structure consists of patents, concepts, models, computer, and administrative

systems. These are created by the employees and are thus generally “owned” by the organization.

Sveiby (2000) shows that knowledge transfers should be leveraged to create value. In contrast to the value chain created by the transfer of tangible goods the intangible value grows each time a transfer of knowledge takes place because knowledge does not leave the creator. The knowledge the one person learns from another adds to the knowledge of someone else but it doesn’t leave the first person that shared his/her knowledge. Thus, from an organizations viewpoint the knowledge has effectively doubled. The key to value creation lies in how effective these communications and conversions are and Sveiby (2000) shows the major strategy for formulation is*: “how can the leverage be used to create value for the firm?”*

Given the above framework, Sveiby (2000) distinguishes nine basic knowledge transfers, which create value for the organization. These guidelines are suggested for the AIS and can form the backbone of a knowledge strategy for the AIS. This is aimed at improving the capacity-to-act of people both inside and outside the AIS.

5.3.2 The nine knowledge transfers - suggestions to the AIS

The nine knowledge transfers exist in most organizations. However, they tend not to be coordinated in a coherent strategy. As Sveiby (2000) shows, most organizations have legacy systems and cultures that block the leverage. (Sveiby: 2000)

- **Knowledge transfers between individuals**. Knowledge transfer between individuals concerns how to best enable the communication between employees within the

organization. The strategic question is: " How can we improve the transfer of competence between people in our organization?" How willing are people to share what they know? Answers to such questions can lead towards activities focussed on trust building, enabling team activities, induction programs, job rotation, master/apprentice schemes, etc. *Suggestions to the AIS*: Create an atmosphere of openness, flexibility and sharing. Emphasize "live interaction" between employees. The literature suggests stand-up coffee bars, impromptu meetings and dialogue rooms. Electronic mail should not be the main means of communication in the AIS, face-to-face communication must be encouraged much more. Encourage employees to use the tearoom for their lunch and tea hours. The tearoom should be full and not empty! The current reward system of the AIS only encourages individual competition and will block efforts to enhance knowledge sharing. Think of an incentive system for knowledge sharing within the AIS.

- **Knowledge transfers from individuals to external structure.** Knowledge transfers from individuals to external structure concern how the organizations employees transfer their knowledge to the outer world. The strategic question is: " How can the organizations employees improve the competence of customers, suppliers and other stakeholders " Answer to such questions lead towards activities focussed on enabling employees to help customers learn about the products, getting rid of red-tape, enabling job rotation with customers, holding product seminars and providing customer education. *Suggestions to the AIS*: More active marketing of the products of the library, market the different services rendered by the library. Show customers

how the professional people within the library use the products like databases etc. to get to the best results.

- **Knowledge transfers from external structure to individuals.** Employees learn a lot from customer, supplier and community feedback: Ideas new experiences, feedback and new technical knowledge. Knowledge transfers from the external structure to individuals concern how the organizations employees can learn form the external structure. The strategic question is: How can the organizations customers, suppliers and other stakeholders improve the competence of the employees? Answers to such questions lead towards activities focused on creating and maintaining good personal relationships between the organizations own people and the people outside the organization. *Suggestions to the AIS:* Try to better understand and even anticipate customer needs. Are they frustrated with customer service? Do they complain that the left hand doesn't know what the right hand is doing? Do they comment on how the AIS are not listening to their concerns? Capture such knowledge so that it can influence strategy formulation.

- **Knowledge transfers from competence to internal structure**. Huge investments are made in order to convert tacitly held individual competence into data repositories. The strategic question is: How can we improve the conversion of individually held competence to systems, tools and templates? Answers to such questions lead towards activities focused tools, templates, process and systems so they can be shared more easily and efficiently. *Suggestions to the AIS*: enable employees to share their tacit knowledge via the intranet of portal. They

must easily put information on the system by themselves without intervention of a gatekeeper.

- **Knowledge transfers from internal structure to individual competence**. Sveiby (2000) shows that this is the counterpart of the above-mentioned point. Once competence is captured in a system, it needs to be made available to other individuals in such a way that they improve their capacity to act, otherwise the investment is a waste. The strategic question is:" How can we improve individuals competence by using systems, tools and templates?" Answers to such questions lead towards activities focused on improving the human-computer interface of systems, action-based learning processes, simulations and interactive e-learning environments. *Suggestion to the AIS*: Better the Intranet/ Portal interfaces so that employees can easily retrieve their fellow employees tacit knowledge. Beware of only putting explicit knowledge like manuals, database access etc. on the system.

- **Knowledge transfers within the external structure**. What do the customers tell each other about the services of an organization? Sveiby (2000) shows that a knowledge perspective adds a richer range of possible activities to the traditional customer satisfaction surveys, by focussing on how the competence of customers I transferred between the stakeholders in the external structure. The strategic question is: " Hoe can we enable the conversations among the customers, suppliers and other stakeholders so they improve their competence?" Answers to such questions lead towards activities focused on partnering alliances, improving the quality of the offering, conducting product seminars and alumni

programs. *Suggestions to the AIS*: Keep on with the alliance with the CSIR library; improve the image of the libraries products. Run seminars for students/lecturers featuring publishers, authors etc. as speakers.

- **Knowledge transfers from external to internal structure**. Knowledge transfers from external to internal structure concern that knowledge the organization can gain from the external world and how the learning can be converted into action. The strategic question is " How can competence from the customers, suppliers and other stakeholders improve the organizations systems, tools and processes and products?" Answers to such questions lead towards activities focused on empowering call centres to interpret customer complaints, creating alliances to generate ideas for new products, R & D alliances. *Suggestions to AIS*: Strengthen alliance s with CSIR, create a 12-hour call centre to handle students/ lecturers problems experienced online with databases, handle complaints and interpret the complaints.

- **Knowledge transfers from internal to external structure.** Sveiby (2000) shows that this is counterpart to the above-mentioned section. The strategic question is: " How can the organizations systems, tools and proc esses and products improve the competence of the customers, suppliers and other stakeholders?" Answers to such questions lead towards activities focused on making the organizations systems, tools & processes effective in serving the customer, extranets, product tracking, help desks, e-business etc. *Suggestions to AIS*: Establish a customer information database. This will ensure personalized information retrieval for every client by knowing his or her exact needs!

- **Knowledge transfers within internal structure**. The internal structure is the support backbone of the organization. The strategic question is: "How can the organizations systems, tools and processes and products be effectively integrated?" Answers to such questions lead towards activities focused on streamlining databases, building integrated IT systems, improving the office layout etc. *Suggestions to the AIS*: Use the new portal effectively to integrate databases etc. held individually or locally.

5.4 Lessons learned internationally

Butler (1999) shows at the *8th Asia-Pacific Specials, Health and law librarian conference* the global lessons that has been learned from both the public and private sector. She also shows the key barriers to effectively embracing knowledge management strategies. The AIS can use this to keep alert and to learn from others mistakes and not repeating them. The most common lessons learned from both the public and the private sector are as given by Butler (1999):

- **One size does not fit all**: every KM strategy will be different because the business issues and imperatives for each organization are different.
- **Knowledge management is a strategy, not a goal:** KM must be part of the ongoing strategic direction of the organization, and as such becomes integral to the organization's continuous improvement and attainment of best practice.
- **International lessons learned:** knowledge management is about leveraging what is known, so the most valuable lesson that an organization can learn when undertaking KM is to look at the lessons already learned in other organizations.

- **First content, then technology:** identifying the knowledge to be captured or transferred is a much higher priority than identifying what technology is required to support knowledge activities. Technology must be the enabler, not the driver.
- **Focus on the right KM opportunity:** as part of the knowledge audit or scoping process, it is imperative to identify those business issues and risks, which will best be overcome through effective knowledge management.
- **Incorporate KM into business strategy:** it is absolutely imperative for knowledge initiatives to be actively endorsed and supported by the senior management of the organization, and to articulate the organization's commitment in business strategy documentation when possible.
- **Set definitive goals for KM:** ensure that each step that is taken is carefully planned, documented and evaluated. Ongoing funding for any new initiative is usually subject to timely and effective delivery.
- **Score quick wins**: identify key knowledge hot spots and show proof of concept quickly. People lose interest if they can't see results.

Butler (1999) shows that organizations around the world identified the following key barriers to successfully implementing knowledge strategies .It can also be viewed in relation to the barriers to KM identified earlier in Chapter 2:

- **Management sponsorship**: without top down support, organisational wide knowledge management has little to no chance of success. Despite the best effort of staff trying to change from below, knowledge must be viewed as integral to the ongoing development of the business if it is to be truly successful.
- **Culture**: most organizations do not have a culture that naturally supports the sharing of knowledge, even knowledge intensive

organizations. The cultural aspects of the organization must be addressed at a senior level as part of the holistic approach to managing knowledge

- **People management** a major barrier to effective knowledge management in many organizations is the failure to address the people aspect. Clear communication, change management, performance management, and appropriate incentive schemes must be considered as part of the strategy
- **Technology**: whilst technology is the ultimate enabler to effective knowledge management, it can equally be a major barrier. Organizations who make do with existing technology or go and buy "knowledge" solutions before identifying the broader strategy run the risk of failure.

5.5 Conclusion

The above realities indicate that knowledge management needs a concerted effort to get embedded into organizations day to day activities. If knowledge management is to have any relevance or impact on the AIS it must be embedded in the organizations KM strategy and culture. It must be linked to the other strategies of the AIS and it must be visible to the bottom line. The real purpose of the KM strategy is to connect people to people to enable them to share what expertise and knowledge they have at any given moment. The intention is not to warehouse everything employees ever knew. The goal is rather to connect questions to answers or, to people who can help find the answers. People and their choice to exchange knowledge is very complex within organizations, but is should be a driving issue in considering a KM strategy. People are fundamental to most organizational strategies.

Within this chapter shifts was proposed to the AIS and also some guidelines for establishing a KM strategy. It has shown that knowledge

management is not a simple question of capturing, storing and transferring knowledge but requires people interaction and willingness to share tacit knowledge to create value for the organization. The KM strategy of the AIS also needs to create a fit between the technological and the social systems of the AIS. Technology can be used to increase the efficiency of people and enhance the flow of knowledge within the AIS but this is only the enabler. Without the changing of organizational culture knowledge management will result in less than optimum outcome of the knowledge management initiative.

CHAPTER 6: Final conclusion

6.1 Introduction

The aim with this study was to get a feeling of how knowledge management is seen within the library environment. This study wasn't meant to make a change but the intention was to get the academic library community to think about KM and of the advantages KM has. As a profession we have both a challenge and an opportunity ahead of us, to ensure that we remain centre stage in the development of knowledge management procedures, strategies and technologies. By looking at the drivers for KM one could clearly see how important KM is for any organizations especially the academic library in the 21st century. The central issues addressed in this study were:

- How do the AIS define KM?
- Is tacit knowledge being shared within the AIS?
- What is the specific culture with relation to KM within the AIS?
- Is there a system of incentives for knowledge sharing within the AIS?
- What are the barriers to KM within the library environment?
- What are the drivers for KM within the library environment?
- How is IT used as an enabler for KM in the AIS

It was the intention to answer these questions through a synoptic literature study on KM in general and then also in relation with the library environment. Thereafter information was gathered by means of a survey on the AIS itself by using questionnaires. To see whether these questions has been answered attention will be given to the following aspects:

- Answers to the central problem statements asked in chapter one.
- Important findings.
- Evaluation of methods used.
- Gaps within this study.
- Recommendations for further research.

6.2 The extent to which this study answered the central problem statements/questions

The extent to which this study answered the problem statements/questions is discussed, with reference to the specific research questions as posed within chapter 1 of this study.

6.2.1 *Libraries tend to concentrate on explicit knowledge for knowledge management and not tacit knowledge*.

The survey results did indeed show that the AIS participants mainly see KM as the management of explicit knowledge. Tacit knowledge is frequently overlooked in the AIS.

6.2.2 Is tacit knowledge being shared between employees of the AIS?

The survey showed that knowledge is shared between employees but more in relation to explicit knowledge and not tacit knowledge. There is no culture conducive to knowledge sharing within the AIS.

6.2.3 Can current knowledge management technologies of the AIS handle this tacit information?

Results indicated that the AIS do have KM technologies in place namely a portal and an intranet. It became evident that these technologies don't really handle tacit information at this stage.

6.2.4 What are the drivers and barriers to KM within the AIS?

It was established that KM is seen as very necessary for the library to adapt to change, to stay competitive and to be more productive. The barriers to KM within the AIS were mainly due to the fact that the culture of the AIS is not conducive to knowledge sharing. There is also no existing reward systems and technology in place as an enablers and drivers of KM.

6.2.5 A proposed knowledge strategy for the AIS.

It was seen as necessary to propose guidelines for the AIS for a KM strategy. This will help them to manage their tacit knowledge and prevent obstacles from reaching their KM goals and aims.

6.3 Important findings

The most important findings of this study are contained in Chapter 3, 4 and 5 the above mentioned is only synoptic statements matched against the problems and questions as identified in chapter 1 of this study. In summarizing it can be concluded that results obtained on KM within the AIS can be used for future KM strategies and in addressing certain important aspects like the cultural issues within the AIS, the incentives for sharing and also IT as enablers like the intranet and portal. In this study it became clear that the AIS have not embraced knowledge management as an underlying philosophy.

6.4 Evaluation of methods used within this study

Literature reviews were used on recent developments within knowledge management. This field is ever changing, and there may be some new future developments to keep updated with. The research method used was a case study. Questionnaires were used as data

gathering techniques. The main focus of the case study was to evaluate the recent opinions and feelings with regard to knowledge management within the library context. Questionnaires were used to get information on KM within the AIS. The results cannot be generalized and connections and caus ality cannot be established. With regards to the aim and scope of this study this is seen as adequate.

6.5 Gaps within the study

Due to the exploratory nature of this study there consists some gaps. A more in- depth study can be conducted on separate aspects of this study. On the aspect of Information Technology for KM a study of its own can be conducted. The case study was of a very limited extent. A more statistically accepted test sample can have a more precise and different results at the end. The suggestions and recommendations to the AIS within this study cannot really be generalized for wider consideration by other academic libraries, although this can establish some important starting points in evaluating KM within academic libraries in general.

6.6 Suggestions for further research

Knowledge management research must balance people and technology issues and rediscover the basic role of knowledge management in libraries. As outlined in the beginning, this study attempted to assess the relevance and importance of KM within an academic Library.

A number of research questions that warrant further research came up during the research project:

- How can organizations gain usage rights over employee's knowledge?
- How is a knowledge culture within an organization developed?
- The role of the CKO (chief knowledge officer) in establishing a knowledge support function to implement KM within libraries.

6.7 Final thoughts

For an organization to move from the old paradigm of " knowledge is power" to one in which collective knowledge sharing is power requires the leadership and skills of highly motivated leaders. Exploiting knowledge management can be a major competitive advantage for libraries, which can translate into better service to users. KM can help transform the library into a more efficient, knowledge sharing organization. This study is concluded with the following quote: *"Your greatest competitive resource as a firm is the knowledge of your people – what they understand about customers, supply chain partners, technologies, work processes and competitors. But if you can't leverage that knowledge, your competitive advantage is undercut. If it remains trapped in individual minds or work teams – unshared, unchallenged, scarcely used – it is barely an asset at all."* – Introduction to the knowledge advantage annual event, Ernest & young, San Diego, December 1996 (In: Broadbent: 1997).

Addendum: Cover letter and Questionnaire

Ferdinand Postma Library
fpbcvm@puknet.puk.ac.za
Fax: 018-299 2999
8 October 2001

Dear

Study to ascertain Knowledge Management within the AIS.

A questionnaire regarding knowledge management within the Academic Information Service is attached to this email. This study is being done for the fulfilment for a Masters in Information Technology at the University of Pretoria.

Please reply by return of e-mail or fax before or on Wednesday October the 17th 2001.

For any further comments or questions contact me at:

Email: fpbcvm@puknet.puk.ac.za
Tel: 018-299 2836
Fax: 018-299 2999

Thank you for your time.
Christine Mallo

Knowledge Management Questionnaire by Christine Mallo
Academic Information Service (AIS)
University of Pretoria
October 2001

Where appropriate, mark boxes on the questionnaire with an X.

1. Under which of the under-mentioned processes of the information life cycle does your position resort?

Inter Library Loan	
Cataloguing	
Information provision	

2. What position do you hold in the AIS?

_____
_____
_____

3. Give your own definition of knowledge management within the library context.

_____
_____
_____
_____
_____
_____
_____

The following questions will refer to the process chosen by you in question 2. Please answer accordingly.

4. Who / What do you consider to be the best sources of knowledge – to assist you in doing your everyday job - within your work process?

_____
_____
_____
_____
_____

5. Is tacit knowledge (knowledge that resides within peoples' heads) shared between employees within your work process?

Yes	
No	

6. If NO in question 5, mention the reason(s).

_____
_____
_____
_____

7. If YES in question 5, explain how tacit knowledge is shared between employees.

_____
_____
_____

8. Is it easy to locate knowledge and information to complete your work tasks?

Yes	
No	

9. If NO to question 8, explain.

_____
_____
_____
_____

10. If YES to question 8, explain how you go about locating information/ knowledge to complete a work task?

_____
_____
_____
_____

11. Is Information Technology currently used to assist in managing organizational tacit knowledge?

Yes	
No	

12. If YES to question 11, name the technologies used.

_____
_____
_____
_____

13. Can staff add their own knowledge to the Intranet of the AIS?

Yes	
No	

14. Would you say the Staff of the AIS is using the Intranet optimally?

Yes	
No	

15. If NO to question 14 give reason(s) for you answer.

_____

_____

_____

_____

16. Are you using the new portal of the AIS?

Yes	
No	

17. If YES to question 16, can staff of the AIS add knowledge/information onto the portal, for use by colleagues (not referring to the customisation option)?

Yes	
No	

18. If NO to question 16, what is the reason(s) for not using the portal?

_____

_____

_____

_____

19. Are employees within your work process rewarded for sharing their tacit knowledge/?

Yes	
No	

20. If NO to question 19, give reason(s).

_____

_____

_____

_____

21. If YES to question 19, explain how they are rewarded?

_____

_____

_____

22. What impact (do you think) the existing reward system of the University of Pretoria has on the sharing of tacit knowledge between colleagues?

_____

_____

_____

_____

_____

23. Do you think knowledge management within the library context is necessary and important?

Yes	
No	

24. If YES to question 23, list the reasons why knowledge management in the AIS is necessary and important?

_____
_____
_____
_____
_____
_____
_____

25. Which aspects of your organization seem to create barriers to effective KM?

_____
_____
_____
_____
_____

Thank you for the time taken to complete this questionnaire!

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