The utilisation of an intranet as a knowledge management tool in academic libraries

Hamilton Mphidi, *Information Specialist in the Academic Information Service, University of Pretoria, Pretoria, South Africa*
Retha Snyman, *Professor in the Department of Information Science, University of Pretoria, Pretoria, South Africa*

Abstract

The intranet has emerged as one of today's most effective tools for knowledge management. This article reports on the extent to which three South African academic libraries, selected by means of the purposive sampling method, utilise the intranet as a knowledge management tool. Based on the literature, knowledge management and an intranet are briefly defined. The advantages of the intranet as a knowledge management tool as well as the content of an intranet are discussed. The opinions about knowledge management and the utilisation of the intranet as a knowledge management tool in the three academic libraries are weighed up against the findings in the literature. It is clear that a strong awareness exists of the importance of knowledge management and the value of the intranet as a knowledge management tool. However, the potential of the intranet as a knowledge management tool is not utilised fully.
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[Tables at the bottom of the document]

Introduction

The intranet and knowledge management are not new concepts. Many organisations have realised that an intranet can empower their employees. It can also boost the organisation's competitive advantage, improve employee's morale and improve communication among clients and suppliers (Yen and Chou, 2001, p. 80). Intranets also offer new ways to manage and communicate data, information and knowledge (Kim, 2003, p. 66). A literature review indicates that research has been done on the utilisation of an intranet as a knowledge management tool in, for example, law firms and the business environment (Robinson, 1999, p. 95; Du Rand, 2000, p. 1). However, little research has been done on the utilisation of an intranet as a knowledge management tool in academic libraries, especially in South Africa.

Therefore, the purpose of this article is to determine the extent to which academic libraries in South Africa utilise the intranet as a knowledge

management tool. Findings from other environments, such as the business environment, as found in the literature, will serve as background for the discussion. Based on the literature, knowledge management and an intranet are briefly defined. The advantages of an intranet as a knowledge management tool as well as the content of an intranet are also discussed. Opinions about knowledge management and the utilisation of an intranet as a knowledge management tool in three academic libraries in South Africa, are subsequently weighed up against the findings in the literature.

This article focuses specifically on three academic libraries in South Africa, selected by means of the purposive sampling method, and referred simply to as libraries A, B and C for privacy purposes. In purposive sampling the researcher may prefer to select a sample based entirely on his/her knowledge of the population and the objectives of the research (Powell, 1997, p. 69). When designing a survey of large academic libraries that utilise intranets, the easiest way of obtaining a sample of such libraries would be to select libraries known to be utilising intranets and that are willing to participate in the research. The research would be based on the assumption that such a sample would be reasonably typical of all academic libraries utilising an intranet. During the research, individual semi-structured interviews were carried out with the representatives of the libraries.

Value of knowledge management for academic libraries

Knowledge management is defined by the Gartner Group (2000, p. 1) as a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving and sharing all the information assets of an organisation. Balcombe (1999, p. 1) defines knowledge management as systematically capturing, sharing, using and creating knowledge to add value to the organisation. It also refers to effectively identifying, acquiring, developing, resolving, using, storing and sharing knowledge, to create an approach for transforming tacit knowledge into explicit knowledge (Shanhong, 2000, p. 13).

For the purpose of this article and based on the abovementioned definitions, knowledge management can be defined as a process of identifying, capturing, sharing and exploiting knowledge (both tacit and explicit). In order to determine the value of the intranet as a knowledge management tool at the three academic libraries, it is necessary to determine their understanding of knowledge management. Table I presents definitions of knowledge management as provided by the three academic libraries.

The definitions provided by the three academic libraries corresponded with the definitions obtained from the literature. It is also clear that they fully understood what knowledge management is. Apart from their understanding of knowledge management, their understanding of the value of knowledge management was also examined.

Knowledge management is essential. In the literature, various authors emphasise that the value of knowledge management is to organise knowledge to enable people and the organisation itself to act as effectively as

possible (Wiig as cited in Jantz, 2001, p. 34). Schwarzwalder (1999, p. 65) argues that knowledge management is valuable to help organisations to use what they already know, and to work smarter and more quickly and to make more money. Knowledge management involves capturing the knowledge, wisdom, and added value experiences of individuals within an organisation, making it easy to find again and in so doing, preserving it as an organisational asset (Perez, 1999, p. 75). Knowledge management harnesses the knowledge resources and knowledge capabilities of the organisation in order to enable the organisation to learn and adapt to its changing environments. It also facilitates continuous and ongoing processes of learning and unlearning, thus ensuring that the need for imposing top-down radical change is minimized (Malhotra, 1998, p. 1).

If libraries use and share knowledge, it will improve their services (Jantz, 2001, p. 34). According to Malhotra (2000, p. 54) knowledge management enables libraries to organise and provide access to intangible resources that help librarians and administrators to carry out their tasks. Shanhong (2000, p. 7) argues that knowledge management injects new blood into the library culture, which results in mutual trust, open exchange, studying, sharing and developing the knowledge operation mechanism of libraries. Dillon (1999, p. 3) also states that knowledge management has value in the sense that it emerges as a powerful focal point for exploiting technology to add value to many information-processing environments. This is particularly true for universities and libraries.

If knowledge management is applied in libraries, personal knowledge may be turned into corporate knowledge that can be widely shared throughout the library and applied appropriately. Knowledge management can help employees to produce outputs that tap into their skills, talents, thoughts and ideas, so that decision-making is improved concerning strategic issues, competitors, customers, distribution channels, products and services. Academic libraries are also learning organizations; if knowledge management occurs within these libraries, this can be of great value for creating and maintaining a learning culture. Knowledge management also benefits internal communication: while employees share their expertise with each other, they simultaneously learn from each other to fulfil the needs of their clients. The opinions of the three academic libraries with regard to the value of knowledge management are presented in Table II.

All three academic libraries were aware of what knowledge management is as well as the value of knowledge management for the sharing and use of knowledge. This is proven by their definitions as provided in Table I and the values of knowledge management as provided in Table II.

Definition and value of an intranet as a knowledge management tool

To persuade people to share knowledge, they have to be motivated and provided with the necessary tools. If given the right tools and guidance, the individual will be able to make the knowledge sharing process as efficient as

possible. Intranets have emerged as one of today's most effective ways of sharing information and knowledge in organisations. They act as the nervous and circulatory systems for a company, supporting business processes as well as the flow of information (Kim, 2003, p. 66). Therefore, it is necessary to define an intranet and determine the value of an intranet as a knowledge management tool.

An intranet has been defined by Parks (cited in Yen and Chou, 2001, p. 80) as follows: "a private computer network based on the data communication standards and technologies of the public Internet". Curry and Stancich (2000, p. 250) define an intranet as a private computing network, internal to an organisation, allowing access only to authorised users. Blackmore (1997, p. 67) describes an intranet as simply a means of exploiting Internet technologies within an organisation-based computer environment to aid the progression towards the seamless navigation of both Internet-based and inhouse-generated learning materials.

Summarising the above definitions, an intranet can be defined as a network that uses Internet concepts and technologies within an organisation in order to be accessed by employees to share knowledge. In addition, such knowledge is stored electronically and access is usually controlled by password.

Intranets benefit organisations in many ways. The main advantages include the following:

- *Consistency:* the same explicit knowledge can be viewed by any employee. There is no need to worry about several copies of outdated information circulating around the office. The intranet will always be available as long as the network is online (Stevens, 1996, p. 76; Blackmore, 1997, p. 70; Mears, 1999, p. 27).
- *Interactivity:* the emergence of Web development tools such as Java and Shockwave have enhanced the scope of websites. One can create discussion groups, comprehension tests and other two-way communication tools (Stevens, 1996, p. 76; Curry and Stancich, 2000, p. 259; Kim, 2003, p. 66).
- *Ease and low cost for update:* with an intranet one can easily and inexpensively updates online publications. This can be done as frequently as needed (Stevens, 1996, p. 76; Mears, 1999, p. 27; Robinson, 1999, p. 97; Curry and Stancich, 2000, p. 260; Yen and Chou, 2001, p. 82; Intracs, 2002, p. 1).
- *User-friendly interface:* an intranet application typically uses an interface that is conducive to point-and-click navigation. If employees can easily get to the information they seek, they are much more likely to look for that information. An intranet is easy to learn (Stevens, 1996, p. 76; Mears, 1999, p. 27; Curry and Stancich, 2000, p. 260; Intracs, 2002, p. 1).
- *Centralisation:* employees can access information from a central database at any time and in any number of geographical locations (Stevens, 1996, p. 72; Mears, 1999, p. 27).

- *Simplicity in creation and maintenance:* an intranet can be created and maintained with a minimum of programming expertise. Once the basic shell is in place, supportstaff at a specific department can easily make most updates to information (Stevens, 1996, p. 76; Blackmore, 1997, p. 70; Fichter, 2001, p. 74; Intracs, 2002, p. 1).
- *Keeping up with the workforce:* as more and more young employees enter the workforce, keeping up with new technology will become increasingly important. Employees will become less willing to receive training information through slides or print outs because they are used to being intellectually stimulated through electronic media. Employees can use the intranet to learn from one another (Stevens, 1996, p. 76; Blackmore, 1997, pp. 70-1; Greenberg, 1998, p. 2; Fichter, 2001, p. 74).
- *Flexibility:* an intranet provides one access point to the organisation's databases and allows a remote worker to access the knowledge available as if she/he is in his/her own office (Stevens, 1996, p. 72; Robinson, 1999, p. 97; Intracs, 2002, p. 1; Choo and Detlor, cited in Van Brakel, 2003).
- *Improved services:* the use of an intranet improves the way in which services are rendered (Fichter, 2001, p. 74).
- *Faster speed:* as long as the network is running, knowledge can be accessed easily and quickly (Blackmore, 1997, p. 70; Curry and Stancich, 2000, p. 259; Fichter, 2001, p. 74; Yen and Chou, 2001, p. 82).
- *Ease of use for accessing and publishing information:* it is easy to publish one's research by placing it on the intranet so that others can access it (Mears, 1999, p. 27; Fichter, 2001, p. 74; Intracs, 2002, p. 1).
- *Timeouness:* depending on the use of the intranet and barring serious technical problems, messages will be delivered on time (Stevens, 1996, p. 75; Mears, 1999, p. 27; Yen and Chou, 2001, p. 82).
- *Accuracy:* information and data are as accurate as supplied by people and will not change between two requests. Information and data will remain accurate and remain the same for all users accessing it (Mears, 1999, p. 27; Fichter, 2001, p. 74).
- *Save trees:* the intranet is a step closer to a paperless working environment, because the more the intranet progresses, the less paper will be used (Mears, 1999, p. 27).
- *Effectiveness and efficiency:* using an intranet it requires the organisation to review and evaluate its working practices and this is a valuable exercise in itself (Robinson, 1999, p. 97; Curry and Stancich, 2000, p. 259).

From the above it is clear that an intranet, if used optimally, has the capability to be a valuable knowledge management tool for facilitating communication and knowledge sharing within organisations such as academic libraries. Web-based intranets provide a universal cross-platform network that allows working groups to communicate, share information, assign and track tasks, and manage complex projects. This leads to employees being more informed and being able to make better and faster decisions with regard to tasks. The

intranet also contains the most current information and knowledge, in a format that can be easily accessed, updated, expanded and searched. Intranets are a major step in the transition towards a paperless office – employees can access and move information electronically, rather than through traditional paper bureaucracies, which are slow and expensive to maintain.

All three academic libraries in the study indicated that they realised that the intranet could be a valuable knowledge management tool. It served as a repository of explicit knowledge in their libraries, and original documents could be placed on the intranet, allowing the same information to be viewed by any employee. Additionally, library A mentioned that it valued the intranet because it facilitated communication within the organisation and reduced the use of paper. Library C valued the intranet because it encouraged knowledge sharing, which helped to improve employee performance.

But for an intranet to be of real value, the contents should be relevant, accurate, informative and up to date.

Contents of an intranet

The content of an intranet is the engine that drives the intranet as a knowledge management tool. To be of value to an organisation it must be up to date and of interest to employees. According to Kim (2003, p. 67) one of the biggest mistakes made by companies is to design the site around what they want employees to know, rather than what employees find useful. The content of the intranet depends on the needs of the employees and will therefore differ from organisation to organisation. However, Robinson (1999, p. 96) stresses that an intranet should at least have discussion forums and bulletin boards, since intranets are excellent media for sharing knowledge. He added that intranet content needs to be managed carefully so that it is:

- always fresh and up to date; and
- concentrates on sharing best practices and the "how was it done factor".

Jussilainen (1999, p. 113) also mentioned that it is vital that all information available on the intranet must be up to date and valid.

A number of authors (Jussilainen, 1999; Mears, 1999; Robinson, 1999, p. 96; Parks, cited in Yen and Chou, 2001) agree that the following information should be available on the intranet:

- *News:* all matters concerning staff.
- *Directories:* a list of contact details of personnel.
- *Annual budget:* annual budget of the enterprise provided by the mother organisation.
- *Reports:* feedback on activities, meetings, business and seminars.
- *Agreements:* e.g. between the institution and vendors or partners.

- *Archives:* repository of information stored and organised for easy retrieval.
- *Policies:* principles of action adopted or proposed by the organisation.
- *Templates of letters:* kept centrally and can be completed. Data can be sent through or a printout generated.
- *Management information:* messages from top management can be made available on the intranet.
- *Training materials:* training materials and policies can be linked using the actual electronic documents.
- *Electronic magazines:* refers to magazines which are available online or stored in electronic format.
- *Forms:* includes application forms for employment, experiential training, leave and conference attendance.
- *Discussion forums:* tools which facilitate interactive communication via the intranet, allowing all users to contribute their knowledge.
- *Bulletin boards:* an information source where notices, announcement, brief news and advertisement are placed.
- *Points of interest:* includes suggestions, comments, recommendations as well as any matter of interest which employees need to raise.

The above-mentioned information items should be included on the intranet because they provide depth to the intranet. Furthermore, they can assist in sharing knowledge. Valuable records can be stored in the archives and retrieved when needed. Availability of such information can save time. It improves productivity because, for example, employees need not leave their offices to look for, e.g. leave forms; they can easily download the forms from their computers in their offices. Employees are also given the opportunity to share their point of interest with the rest of the colleagues.

Based on the foregoing discussion, the following factors will be taken into consideration in the comparison of the contents of the intranets of the three academic libraries in the study:

- How does the content of the libraries intranet compare with the content items identified in the literature?
- How relevant is the current content to the users of these intranets?
- How up to date is the content?

Table III compares the content of the intranets of the three libraries with the items listed in the literature.

Although all three libraries said they were satisfied with the content of their intranets it is evident from Table III that the content of the intranets of all three libraries was very limited. libraries A and B respectively had only seven and four of the fifteen sources identified in the literature, while library C included only two of the identified sources on its intranet. None of the libraries complied with the minimum requirements for an intranet as stated by Robinson (1999, p. 96). As previously indicated, Robinson stresses that for the sharing of knowledge the intranet should at least have discussion forums and bulletin

boards. Apart from policies that were available on the intranets of all three libraries, only the intranet of library A included items of value for effective decision making, i.e. the budget and management information.

Notwithstanding the fact that the intranets of libraries A and B did not cover the core information as identified in the literature, additional information items unique to the activities of libraries were included on the intranets of these two libraries (see Table IV). Library C basically only provided links to other sources such as databases and electronic journals. The only other additional information found available on the intranet of library C was information about library services which was possibly of more use to its users than to staff.

According to the guest books of the intranets, the staff of libraries A and B frequently visited the intranets while the staff of library C seldom visited its intranet even if they had been made aware of its existence.

During the interviews it was indicated that the content of the intranets of libraries A and B was updated weekly while the content of library C was outdated because it had been updated over the previous three months.

From the analysis of the content, the updating frequency and the site visits by the staff, it can be derived that libraries A and B had a reasonably effective intranet in operation. The fact that the intranets were visited frequently indicated that the content must be relevant to the basic needs of the staff. The relevancy was further reinforced by the regular updating of the information. Owing to the limited content and the lack of regular updating, the intranet of library C was not attractive or relevant to the staff who were supposed to use it. Therefore, it can be concluded that library C did not realise the potential of the intranet as a knowledge management tool.

Utilisation of intranet by staff for sharing organisational knowledge

An intranet can be used for many purposes and in many ways depending on the type of library. Weiner (1999, p. 66) argues that libraries use an intranet for the following purposes: to provide communication support and proprietary information for use by the internal library community. Knight (2002, p. 1) states that an intranet is used by libraries to improve communication and information dissemination.

In addition, it is indicated that a good intranet should be interactive. This implies that staff members should be able to add their knowledge to the intranet (Stevens, 1996, p. 76). All personnel linked to the intranet and authorised to do so, should be able to access it from any computer linked to the network (Mears, 1999, p. 27).

As indicated, all three libraries in the study utilised the intranet. However, the extent of use differed. Library A employees utilised the intranet for the following purposes:

- to obtain information about other library sections;
- to get basic information such as a roster for weekends, conferences announcements, marketing news and training materials;
- to gain access to databases via the intranet;
- to get the latest news about staff;
- to download cataloguing and classification manuals;
- to clarify some policies, e.g. acquisitions policy; and
- to download application forms for conference attendance.

In library B employees utilised the intranet to:

- obtain daily information such as procedures on how to perform certain tasks (e.g. how to register students from other institutions);
- access agendas and minutes of the meetings;
- download manuals (e.g. cataloguing manuals);
- get passwords of different databases; and
- retrieve annual reports on certain aspects (e.g. financial report).

As previously mentioned, staff of library C seldom made use of the intranet. When it was used, the sole purpose was to access databases and electronic journals and to obtain the library policy.

From the above it is clear that the use of the intranets in libraries A, B and C correlated with the types of information items available on these intranets. These items encourage or limit the use of the intranets. It can therefore be concluded that if the contents of an intranet can be brought in line with the content identified in the literature, an organisation's intranet will be used more intensively.

The intranets of the three libraries in the study were accessible to employees via computers linked to the network. However, not all employees were allowed to add their knowledge to the intranet themselves. The employees responsible for the intranets were the only persons who could add or remove information from the intranets. This impacted very negatively on the implementation of discussion forums and bulletin boards as well as the dissemination of information among staff.

Conclusion and recommendation

Knowledge management and the sharing of knowledge can help libraries with the improvement of the quality of their service as well as the creation and maintenance of a learning culture. Intranets have emerged as one of today's most effective ways of sharing information and knowledge in organisations. Intranets as a knowledge management tool provide people the opportunity to be more informed and to be able to make better and faster decisions.

The purpose of this article was to report on the extent to which academic libraries in South Africa utilised the intranet as a knowledge management tool. Although the three academic libraries interviewed cannot be regarded as

representative of all the academic libraries in South Africa, it is clear that a strong awareness existed of the importance of knowledge management and the value of the intranet as a knowledge management tool. Further, although one can accept that the content and use of the intranet may differ from library to library, it can be derived from the research that academic libraries do not utilise the full potential of the intranet.

The content of an intranet is the engine that drives the intranet as a knowledge management tool. To be of value, the intranet must be up to date and of interest to and address the needs of the employees. Comparing the contents and the utilisation of the intranets of libraries A, B and C with the suggested content in the literature, it is clear that there is much room for improvement in all three libraries. Considering the suggested content, the advantages of the intranet as well as the interest and needs of the users, the intranet in academic libraries can be developed as a valuable tool for knowledge management and the sharing of knowledge.

Table I Definitions of knowledge management as provided by libraries A, B and C

Table I Definitions of knowledge management as provided by libraries A, B and C

Library A	Library B	Library C
A process of identifying, acquiring, organising, using and sharing knowledge with other people	The management of knowledge to make it easy for staff members to be able to share and utilise knowledge amongst one another	The collecting, storing, using and sharing of knowledge amongst employees to enable them to make effective decisions within their job

Table II Values of knowledge management in libraries A, B and C

Table II Values of knowledge management in libraries A, B and C

Library A	Library B	Library C
Knowledge management transforms tacit knowledge into explicit knowledge; therefore makes it easier to be shared within the library	Knowledge management provides the opportunity for librarians to manage and share organisational knowledge assets	Knowledge management encourages knowledge sharing within the library and helps to improve employee performance

Table III Comparison of content of the intranets of the libraries A, B and C
with items listed in the literature

Literature	Library A	Library B	Library C
Staff news	✔	✔	✔
Directories	✔	✔	✗
Budget	✔	✗	✗
Reports	✗	✔	✗
Agreements	✗	✗	✗
Archives	✗	✗	✗
Policies	✔	✔	✔
Templates of letters	✗	✗	✗
Management information	✔	✗	✗
Training materials	✔	✗	✗
Electronic magazines	✗	✗	✗
Forms	✔	✗	✗
Discussion forums	✗	✗	✗
Bulletin board	✗	✗	✗
Point of interest	✗	✗	✗

Table IV Additional information on the intranets of the three libraries

Table IV Additional information on the intranets of the three libraries

Library A	Library B	Library C
Links to databases	Links to databases	Links to databases
Information about projects	Information about projects	–
Manuals	Manuals	–
Roster for weekend shifts	Procedures of performing certain tasks (e.g. interlending procedures)	Information about library service
Conference announcements	Information about meetings (agenda and minutes of previous meetings)	Links to electronic journals
Information about physical environment	Frequently asked questions and possible answers	Link to online public access catalogue (OPAC)
Health and security information	Passwords to databases	–
Information on social fun activities	Link to GAELIC homepage	–
Marketing news	–	–
Information technology matters	–	–
Names of editing team and their e-mail addresses	–	–

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