The transforming role of research libraries in knowledge management

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Abstract

Knowledge management (KM) has come to represent an entire process by which researchers not only publish their findings, but also disseminate them within and beyond their academic communities. Successful KM uses information as an asset and incorporates organizational norms and values which support the creation and sharing of knowledge. As KM strengthens within the scholarly communication processes, and as disciplines and institutions commit to increase visibility and provide open access to digital intellectual assets, academic and research libraries need to dedicate more resources to develop repository infrastructures for authors to deposit their works and to improve the knowledge environment within the institutions. Due to the libraries’ expanding responsibilities, they must assume the roles of the educator, advocate, infrastructure designer, project partner, publisher, and information manager.

The University Library of Debrecen plays a significant role in open access advocacy and in adapting new directions of scholarly communication. As part of the dissemination process, a portal system (iDEa) has been developed which is utilized to showcase the institution’s assets and knowledge bank. This project demonstrates the active participation of the University of Debrecen in the global knowledge management initiatives and the effort to meet both the international and national demands and standards of knowledge dissemination.

Key words: knowledge management, scholarly communication, visibility,

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The explosive development of information technologies in the second half of the 20th century resulted in a dramatic increase of information both in traditional and new information resources. At one hand, such information overload contributes to the access of a wide range of knowledge, on the other hand accumulated data can be seen chaotic and confusing leading to misunderstandings and insecurity. Thus, on today’s information superhighway the main challenge is not primarily accessing information, but mapping out and effectively using the available information.
Knowledge has become a strategic resource, the utilization of which is not entirely a technological issue, but also a matter of human adaptation of resources. In Katalin Géró’s definition: knowledge is information based on structured data which are understood, interpreted and incorporated into the discourse of the user (1). Besides the access and comprehension of data, knowledge also entails its utilization in an environment determined by the experiences of the user and its sharing with other users.

In our global society where the physical and time boundaries lose their primary significance, the management of information and communication technologies and processes gain power in economic and social discourses.

**Knowledge management (KM)**

Knowledge management is a relatively new concept, used first in business communication and concerned with the exploitation and development of the knowledge assets of an organization in order to reach goals (2). In its traditional understanding, knowledge management involves all activities with the purpose of collecting, organizing and utilizing various documented (explicit) and intangible (tacit) knowledge, like expertise and experience. Management also implies all processes related to identification, creation and sharing of knowledge. Successful KM uses information as an asset and incorporates organizational norms and values which support the creation and sharing of knowledge.

Based on previous analysis, Hwa-Wei Lee (3) identifies four types of perspectives on knowledge management: (1) to create information repositories to store knowledge mainly in documentary form, (2) to increase access and transfer of knowledge, (3) to improve the knowledge environment where the organizational norms and values advance the creation, sharing and use of information, and (4) to recognize the value of information.

These views on knowledge management assimilate various management processes, such as generating new knowledge, accessing existing resources, disseminating information, facilitating the creation of information and measuring the value and impact of assets and processes.

**The role of libraries in knowledge management**

Libraries, especially research and academic libraries, should have a leading role in the digital age. Operating as knowledge centers and intellectual hubs for student and research communities, where people can interact and the creation of knowledge is facilitated, libraries play a key role in providing and expanding access of knowledge to their users.

Libraries support the processes of knowledge management since they provide access to information, evaluate knowledge resources, transfer information to students and researchers, and consequently participate in the generation and circulation of new knowledge. Therefore, libraries invest financial and human resources to improve knowledge management systems to capture and present web information effectively, such as content management, search engines, text and data mining systems.

Libraries pay special attention to their primary goal of knowledge management: user services. Following the continuously changing needs of the
users, libraries tailor their services to the interest and needs of their members. The mainly web user library visitors increasingly expect customization, interactivity and continuous customer support, therefore libraries should definitely employ a user-focused approach instead of a library-focused view. In this regard, libraries should follow the latest developments of information technologies in order to effectively ensure transfer of knowledge and sharing of resources.

However, knowledge management involves not only the development of a modern and ethical infrastructure for information collection and transfer, but also the establishment of an organizational culture in which sharing knowledge and building an organizational knowledge base are incorporated in the daily work of students, staff and researchers.

Knowledge management implies an overarching perspective which pervades the views, opinions and actions of the members of the institution, and the technological infrastructure represents the indispensable tool to realize this perspective. Successful and effective knowledge transfer not only implies the adaptation of a unified institutional perspective, but also means an active participation in communicating this particular view to others.

Visibility of knowledge
Internal and external communication of assets and results of the institution and their scholars is a critical aspect of knowledge management. Through the increasing utilization of the internet as a communication channel, researchers are able to enhance their online visibility and the level of connectivity. The main characteristics of a networked researcher is that he/she is clearly identified online as a scholar. The online identity of an academic is connected to other facets of networking knowledge on the internet:

- presence: the extent of the researcher’s online visibility,
- connections: the relevance of your work to other scholarly activities,
- conversation: the level of engagement of a scholar with other researchers,
- sharing: the extent the researcher allow access to and distribution of his/her results,
- reputation: the impact of your work in other researches.

These building blocks of a networked academic identity are not mutually exclusive, and they do not have to be all present at the same time to measure the online visibility of a scholar (4).

Open access researches show that increased online visibility of research results raise the impact of the scholar’s work. (5) Thus, researchers should consider a well-defined approach to develop and maintain an online scholarly identity, since the visibility of their research outputs and activities has a direct effect on their academic reputation and cooperation with other researchers.

Successful knowledge management requires the transfer and sharing of assets and knowledge. Institutions, utilizing knowledge management as a strategic concept of operation, must support the access and transfer of scholarly results of their researchers. Besides ensuring the technological infrastructure to deposit and manage knowledge within the institution,
administration should advance a community discourse which reinforces open access to and free sharing of results. Such institutional standpoint can not only increase the visibility of its researchers, but also enhance the impact of the institution which ultimately helps its integration into the global scholarly discourse.

**Knowledge management at the University Library of Debrecen**

The University of Debrecen (Debreceni Egyetem) is a public higher education institution, founded in 1912, which has become an intellectual center in Hungary. The University, with its student body of 30,000, 15 faculties, and academic staff of 1500 and non-academic staff of about 5000, does everything in its power to serve the role of one of the most prestigious universities of the country. The University of Debrecen aims at high standard of education programmes, producing highly qualified experts for the north-eastern region primarily, as well as competitive scientific personnel for international programmes. The University considers the participation in international projects a high priority, since joining the global channels of scholarly communication increases the visibility and impact of our researchers’ results.

The University Library of Debrecen is an integrated library with 7 units situated on 5 different university campuses. Within a structurally unified system in which more 2,000,000 documents are in circulation and close to 50,000 printed and electronic journals are available to be used, the different library units operate with special attention to the users’ primary demands of given disciplines.

The Library adopts the main principles of KM both in its daily operations and also in strategic planning.

1. It creates information repositories and provides the infrastructure to collect scholarly results within the institution. The University Library of Debrecen was the first among higher education libraries in Hungary to establish and manage an institutional repository (DEA). Besides receiving and archiving scientific literature, the repository plays a significant role in the promotion of self-archiving and open access publishing. The University signed the Berlin Declaration on Open Access to Knowledge in 2007.

2. It increases the access and the transfer of knowledge. The Library provides access to the content of 43 subscribed and another 40 open access repositories. Furthermore, participating in the national document supply system, the 20% of the national interlibrary circulation is supplied by the Library. The University Library also coordinates the Hungarian Open Repositories association which is dedicated to promoting Hungarian research both nationally and internationally and to achieving effective dissemination of scientific outputs through the implementation of a national infrastructure of open access repositories. With the increasing presence of the open access movement, the momentum of providing free access to scholarly results has reached the University of Debrecen, as well. Thus, the Library dedicates human and infrastuctural resources to
strengthen open access advocacy. By taking part in international programs which work to develop the legal, technical and social basis of open access publishing and archiving, the Library gathers best practices to establish both on institutional and national levels the basic grounds for open access scholarly work.

(3) It is dedicated to improve the knowledge environment. The primary purpose of the Library is to create a virtual and a physical space where the creation and the transfer of knowledge is supported and enhanced according to the global standards of scholarly communication. In the past 8 years, two new modern library buildings were opened which not only in design, but also in functionality meet the requirements of modern library operations. The existing library units are re-thought and re-structured according to the changing demands of the students and researchers in order to best suit the studying and researching needs of the users. The Library also represent a virtual research space where available information resources and the expertise of library professionals reinforce the transfer of knowledge by developing and maintaining library websites or organizing user education trainings so students and researchers can effectively utilize the online presence of the Library.

(4) It disseminates information and facilitates the creation of new results. By joining the global circulation of scientific knowledge, the University Library of Debrecen must pay special attention to the visibility of the institution. The internal and external communication of our results and assets helps students and the young generation of researchers to learn about the methods and tools of scholarly communication, while it helps researchers to get acquainted with one another’s work. The exchange of information among scholars may not only contribute to research cooperations and information sharing, but also enhances the creation of new results.

Information portal of the University – iDEa
The iDEa portal of the University of Debrecen (www.idea.unideb.hu) presents a state of the art medium for researchers, teachers and students to search and disseminate scholarly results. The portal functions as an up-to-date and effective tool in academic discourse.

The portal consists of three separate, but interlinked parts which cover various aspects of academic life.

- **Science**: this new site provides an opportunity for the researchers and the research units of the institution to enhance the visibility of their research outputs. It also offers up to date information about the institution’s academic activities and creates a new forum for information dissemination.

- **Talents**: it is a continuously updated online scientific and social forum for the future generations of researchers. It offers assistance for doctoral students and members of Students Associations in providing quick and easy access to research information. Accommodating new
user demands and expectations, the portal serves as a communication forum for the growing research generations.

- **Tradition**: this section of the portal offers a review of the institution’s research past. It is a virtual exhibition assembling information about the lives and work of former Rectors and distinguished researchers of the university and showcasing paintings, sculpters and other art pieces related to them.

As an essential part of the iDEa portal, the Research Profiles (http://tudoster.idea.unideb.hu/) present the academic activities and the professional profiles of the institution’s researchers. The easy-to-use and functional site offers various up-to-date tools providing effective help for university staff and students. The primary goals of the Research Profiles are introducing the works and results of research units and creating an electronic calling card for our researchers which provides a comprehensive picture about the researchers’ scholarly and teaching activities and their off-campus lives.

The iDEa portal system embodies the main aspects of knowledge management. It creates a forum to exchange information on scholarly work within the institution. Researchers can have an easy access to their publication list, and furthermore, they can get a picture about other scholars’ work and their research associations. The portal also offers information about the results of research fields and subjects and about the researchers working within them. Such data help professionals to initiate relations with one another.

The Research Profiles go beyond the primary purpose of knowledge management, which is to increase access to knowledge; they serve as a dissemination tool assisting the transfer and exchange of knowledge. They greatly contribute to the visibility of our researchers. The researcher’s profile offers a basic picture about the researcher and help to unite all existing database or research profiles under his/her name by incorporating these links into his/her iDEA profile. This way this institutional datasheet can actually operate as a calling card, since it includes all research related information about the scholar.

The university can also utilize these Profiles to showcase the institution’s assets and knowledge bank. The impact of the researchers’ work is demonstrated through the statistical charts the profiles offer based on the publication and citation information. The increasing number of titles in the researchers’ publication list opened up to access freely may also indicate the institution’s active participation in the open access movement.

**Conclusion**

Knowledge management is a vital force driving the development of information access and exchange. It advances changes in the communication and technological infrastructure of an institution in order to meet both the
international and national demands and standards of knowledge dissemination.

The University of Debrecen actively participates in the global scholarly communication processes and supports projects which increases the visibility and impact of the institution within the European research communities. The iDEa project, coordinated by the University Library, is a very good example of this effort demonstrating not only the institution’s willingness to join the international circulation of knowledge, but also the organizing power of KM principles which advance technological, infrastructural and social changes both on institutional and national levels.

**References:**


