The Status of Librarians' Knowledge Sharing by the Usage of Web 2.0 Tools: A Case Study of Central Libraries of Tabriz Governmental Universities

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Abstract: *The main aim of this research is to survey the status of the use of web 2.0 tools in knowledge sharing of 37 librarians who work in central libraries of Tabriz Governmental Universities. Findings indicate that they desire to use such tools. The most important reasons for the usage of web 2.0 tools in knowledge sharing are speed and ease of use, managing personal knowledge, easier communication with users and colleagues. More than half of them stated that lack of knowledge in the use of these tools and lack of familiarity with these services are the main obstacles. The relationship between age, gender, education, level of experience, library section they belong to and (a) the rate of usage of web 2.0 tools in knowledge sharing, and (b) the level of familiarity with knowledge sharing concept is not significant. However, there is significant relationship between librarians' education and the usage of web alerting as well as between the level of familiarity with knowledge sharing concept and the level of use of some web 2.0 tools.*

Keywords: *Knowledge sharing, web 2.0, Tabriz governmental university, librarians*

Introduction

Nowadays, with the advent of modern information tools, users collaborate and participate more and share knowledge by means of Web 2.0 tools. Academic librarians due to the professional nature of their job and their interaction with professors, students and researchers ought to empower users' skills in the usage of modern information tools such as Web 2.0 tools. So librarians using these tools will be able to share their knowledge with their colleagues in order to meet their users' needs faster and more efficiently. In the next step, they can teach their users how to use these tools for knowledge sharing in a collaborative way.

Knowledge sharing is the key element in fruitful and effective knowledge management programmes (Riege, 2005). Targeted knowledge sharing in organizations causes individuals and organizations to learn faster, develop creativity and, finally, improve individual and organizational functionality (King, 2001). People usually do the activities they have a tendency to do. It's expected that people are interested in sharing knowledge with positive attitudes towards it (Gao, 2004). Knowledge sharing requires sustainable commitment, creativity and interactive learning process (Khatemianfar & Parirokh, 2009). Sharing knowledge creates new knowledge and improves the effectiveness of organizational performance (Kim & Lee, 2005).

Most of the researchers believe that sharing and transferring knowledge, particularly in this age, is significant and organizations should continuously learn to be creative to survive in a competitive environment (Joshi & Nissen, 2005). Without sharing knowledge, knowledge management will not be effective and organizations will have to leave the competitive atmosphere gradually (Khatemianfar & Parirokh, 2006).

Literature Review

The term "Web 2.0" was coined by O'Reilly (2005). It refers to a perceived second generation of community-driven web services such as social networking sites, blogs, wikis, etc. which facilitate a more socially connected web where everyone is able to communicate, participate, collaborate and add to and edit the information space (Anderson, 2007; Ankolekar, Krötzsch, Tran, & Vrandecic, 2008; Pachler & Daly, 2009; Rollett, Lux, Strohmaier, Dösinger, & Tochtermann, 2007). Given the aforementioned characteristics, Web 2.0 has also been commonly referred to as the

"social web". Participation is a key feature of Web 2.0, which is structured around open programming interface that allows any user to freely create, assemble, organize (tag), locate and share content (Boulos & Wheeler, 2007; Sotirios & Alya, 2009). Web 2.0 is very close in its principles and attributes to knowledge management. Web 2.0 should have effects on knowledge management in organizations. The adoption of Web 2.0 tools will increase participation of users (Levy, 2009).

Recently Web 2.0 websites such as wikis and blogs have enhanced digital sharing (e.g., videos, images, journals, etc.). Users no longer just passively receive information. Now they can respond by sharing their knowledge with others (Dave & Koskela, 2009). In contrast to complicated web programming languages and print publishing, most Web 2.0 sites are free and have made it easy for users to create a personal space where they can share information immediately, hence making collecting, establishing, sharing, and transmitting information more rapid (Huang, Chen, Kuo, & Jeng, 2008; Tseng & Huang, 2011).

The aim of effective knowledge management is to enable everyone to gain from the intellect, imagination, potential and enthusiasm of people working in and with organizations (McKenzie & van Winkelen, 2004). Although there are philosophical arguments around whether knowledge can be managed at all, in practice, most organizations attempt to manage knowledge creation and sharing through a mixture of people, process and technological tools and techniques that are designed to improve performance and add value (Payne, 2008).

For the knowledge-based company, managing organizational knowledge is a way of establishing a competitive advantage. Knowledge sharing is central to this goal (Kimblea & Bourdonb, 2008). Knowledge sharing is not only the biggest challenge and obstacle in knowledge management, but also the most important factor in measuring the performance of the knowledge management or organizational learning. Within an organization, knowledge sharing can be done through informal, unsystematic and non-daily routines (Zahra, Neubaum & Larrañeta, 2007).

Web 2.0 has reinvented the concept of knowledge management towards the vision of facilitating interaction, cooperation and knowledge changes between individuals, groups and communities. This vision acknowledges the synergy between both personal and collective dimensions in managing knowledge work (Kirchner, Razmerita & Nabeth, 2009). New knowledge management tools enable knowledge-intensive organizations to better capitalize, share and reuse knowledge and thus to be more efficient, more flexible and more innovative. Web 2.0 tools (including social media) generate strategic advantages for companies, multiplying opportunities for collaboration and knowledge sharing (Business Technology Office, 2007). Furthermore, the use of social media (and its techniques) is expected to grow significantly over the next few years (Razmeritn & Kirchner, 2011).

According to Kuhlen (2003), the understanding of knowledge management has undergone a paradigm shift from a static, knowledge-warehouse approach towards a more dynamic communication-based or network approach. Similarly, Hazlett, McAdam and Gallagher (2005) maintain that the literature in knowledge management has moved away from focusing on the explicit dimensions of knowledge (i.e. the computational paradigm) to the tacit dimension of knowledge (i.e. the organic paradigm). The latter paradigm, unlike the former one, Hazlett, McAdam, Gallagher (2005) argue, is a dynamic, people-centric approach that takes into account cultural problems and motivational issues in knowledge sharing (Sotirios & Alya, 2009).

The knowledge management literature has identified a wide range of factors that influence the knowledge sharing behavior. These factors can be categorized as technological, organizational or environmental, and individual or personal factors (Ardichvili, Page & Wentling, 2003; Barson, Foster, Struck, Ratchev, Pawar, Weber & Wunram, 2000). The questionnaire we used in this study is designed according to these factors.

The most related research to this study is carried out by Sotirios and Alya (2009). In their study 11 in-depth interviews were conducted and, additionally, secondary data were collected. Grounded approach was used to analyze data. Research findings indicated four key determinants of knowledge sharing by the use of Web 2.0 technologies: history, outcome expectations, perceived organizational or management support and trust. "Trust" is highlighted to be a key determinant of participation in Web 2.0 platforms. It is highly recommended that top management take an active leadership role in introducing Web 2.0 technologies, communicating their benefits and articulating how they fit into the organization's knowledge management strategy and, ultimately, how they could help achieve organizational objectives.

It is equally important to provide the necessary training and have the appropriate reward systems in place. It is also important for management to avoid mandating or enforcing knowledge sharing using Web 2.0. Tseng and Huang (2011) investigated the correlation between knowledge sharing through Wikipedia and job performance. The results indicated that there is a significant correlation between the two, implying that enterprises could employ Wikipedia to increase willingness among workers to share knowledge and enhance job performance. The findings of Kang, Chen, Ko and Fang (2010) can be used as reference resources by those who want to employ wiki system as the on-line knowledge-sharing tool in organizations. In their paper, researchers followed the phenomenological research methodology. The results show that the essence of experience of knowledge sharing by applying wiki collaboration

system can be grouped under four themes: mass collaboration with co-workers to construct knowledge, infrastructure of wiki collaboration system, collaborative knowledge sharing design, and scaffolding as the learning facilitator.

Payne (2008) indicated that social software has the potential to help organizations develop collaboration capability, but the bottom-up features that make it attractive to users can also make it unattractive to groups of people with a stake in preserving existing organizational structures.

The present study addresses the use of Web 2.0 tools for knowledge sharing.

Aim and Scope of the Research

The main aim of this research is to survey the status of the use of Web 2.0 tools for knowledge sharing by librarians who work in central libraries of Tabriz governmental universities. Survey focused on the following: librarians' familiarity with knowledge sharing, their believes about the influence of Web 2.0 on knowledge sharing, their reasons for using these tools, their usage rate and familiarity with Web 2.0 tools, main obstacles in the use of Web 2.0 for knowledge sharing. What strategies are important to promote librarians' skills to use Web 2.0 tools for knowledge sharing and what educational measures should be taken to educate them to use these tools to share their knowledge were also investigated.

Findings will help to develop strategies to promote critical thinking skills of librarians and their abilities to share knowledge which eventually help them providing better services to users.

Research Hypotheses

- There is a significant difference between gender, age, level of education, experience, library section they belong to and
    o   the level of use of Web 2.0 tools in knowledge sharing by the librarians;
    o   the level of familiarity with knowledge sharing concept.
- There is a significant difference between the level of use of Web 2.0 tools and the level of familiarity of knowledge sharing concept.

Operational Definitions

Knowledge sharing (KS): It is a process that through which people can transmit their knowledge interactively, so that individual knowledge turns to organizational knowledge, as a result there is an opportunity to learn new experiences and exercise their experiences, skills and capabilities (Yu, Wilkins & Ma, 2004).

Librarians: 37 people who are working in 4 Tabriz governmental universities included 4 universities named Azerbaijan University of Tarbiat Moallem, Tabriz University, Tabriz Islamic Art University and Sahand University of Technology.

Web 2.0 tools: RSS, Weblog, Podcast, Wiki, Facebook, Instant message, watermark sites (such as Digg), Google alert, Twitter, Flickr and Google Doc, etc..

Findings

Findings show that 40.5% of research community included women and 59.5% men. The largest group of subjects were 30-35 years old (37.8%). All librarians hold degrees in Library and Information Science in different levels,: 83.8% bachelor level, 13.5% master level, and 2.7% doctoral level.

Some 5.4% of research community has experience less than 5 years, 29.7% between 5 to 10 years, 21.6% between 15 – 20 years and 16.2% more than 20 years. More than half of librarians work in cataloging/classification and circulation departments of libraries (Figure 1).
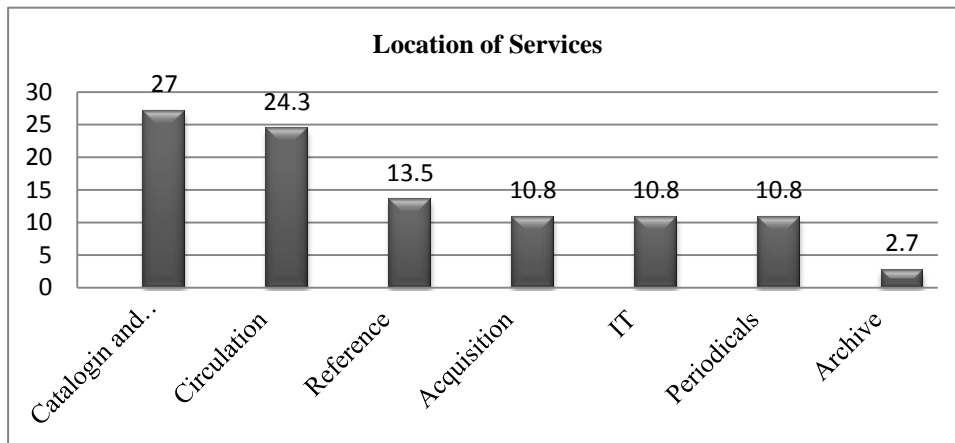
Location of Services

Figure 1. Section librarians belong to

Librarians' Concepts for Knowledge Sharing

Almost a quarter of librarians are much (21.6%) and very much (2.7%) familiar with the concept of knowledge sharing while more than 20% have little (18.9%) or very little (2.7%) familiarity with it. More than 60% believed that the use of Web 2.0 tools have an influence on facilitating and sharing knowledge.

All librarians mentioned that by knowledge sharing they can keep themselves up to date. Almost all of them believe that sharing knowledge empowers their self-confidence and make them more successful in meeting users' information needs. On the average, 62.1% of the research community use Web 2.0 tools often and very often to share their knowledge. The status of the use of these tools by librarians is acceptable, although it needs to be promoted further.

Familiarity with the Usage of Web 2.0 Tools

Almost 60% of librarians are much and very much familiar with instant messaging, 48.6% with wikis and 43.2% with social networks (Fig. 2). Very few librarians are familiar with Flickr (2.7%), Twitter (2.7%) and bookmarking sites such as Dig (5.4%).
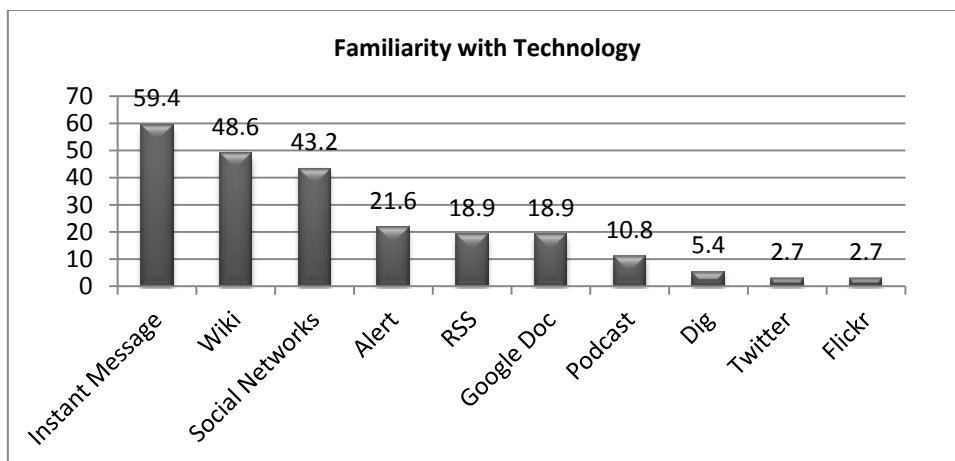
Familiarity with Technology

Figure 2. Familiarity with Web 2.0 tools (much and very much)

Use of Web 2.0 Tools for Knowledge Sharing

More than half of librarians use instant messaging often and very often to share knowledge while very few librarians use Dig, or Twitter or Flickr to do so (Fig. 3).
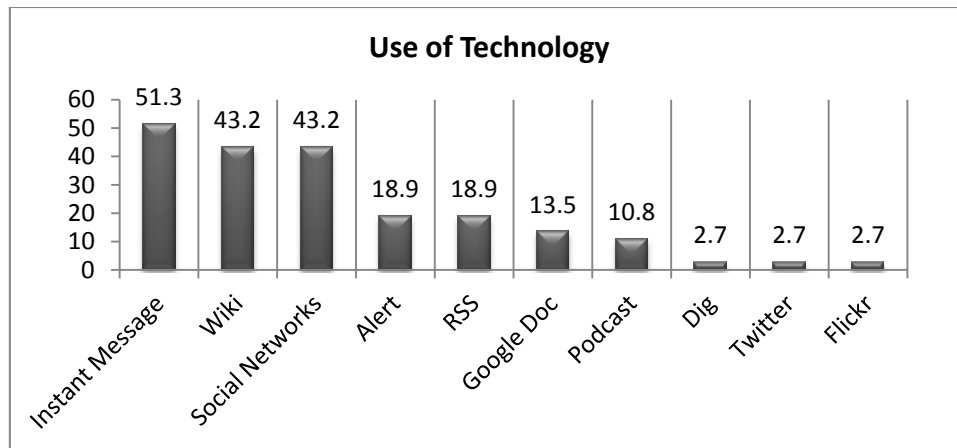
Figure 3. Use of Web 2.0 tools (much and very much)

Reasons for the Use of Web 2.0 Tools for Knowledge Sharing

In regard to main reasons for librarians' usage of Web 2.0 tools, the most important reasons are, respectively, speed of usage, ease of use, personal knowledge management (because it is a collection of processes that a person uses to gather, classify, store, search, retrieve, and share knowledge in his or her daily activities, also it is a bottom-up approach to knowledge management), easier communication with far away users and colleagues, finding answers for topical questions, discussion about new concepts and ideas, avoiding answering similar questions, receiving help and feedback and helping to reduce numbers of emails.

Main Obstacles for Effective Use of Web 2.0 Tools

Table 1 summarizes the main obstacles of effective usage of Web 2.0 tools. More than half of librarians believe that the lack of knowledge, lack of familiarity with these services, inadequate hardware and software facilities, inadequate awareness of the value of the usage of these tools, lack of support at the university with filtering are the most important obstacles of the effective usage of Web 2.0 tools.

Table 1. Main obstacles for the use of Web 2.0 tool

Main obstacles	Percent
Lack of knowledge in the usage of these tools	64.9
Lack of their familiarity with these services	59.5
Inadequate hardware and software facilities	56.8
Inadequate awareness of the value of the usage of these tools	54.1
Inadequate feeling of professional responsibility	51.4
Lack of the support of these tools in the university with filtering	51.4
Lack of skilled librarians	27.0
Fear of inadvertently shared confidential information	21.6
Not used by other colleagues	18.9
Lack of confidence in the usefulness of knowledge sharing	16.2
Lack of confidence in the quality of shared information through these tools	8.1
Lack of trust in others to shared information through these tools	8.1

Strategies to Promote Librarians' Usage of Web 2.0 Tools for Knowledge Sharing

Findings indicate that librarians think holding workshops (54.1%), in-service training (51.4%), usage of internet and electronic resources (29.7%) are much and very much needed to promote the use of Web 2.0 tools for knowledge sharing (Table 2).

Table 2. Desired strategies

Strategies	Very much (%)
Holding workshops	54.1
in-service training	51.4
holding familiarity tours about Web 2.0 tools	35.1
Usage of Internet & electronic resources	29.7
short term computer training courses	24.3
Presenting educational pamphlets	24.3
long term computer training courses	21.6
Membership and participating at LIS associations	13.5
Usage of online databases, such as Eric, Emerald, Elsevier	13.5
Usage of LIS journals & quarterlies	8.1

Training Opportunities Offered to Teach Modern Tools for Knowledge Sharing

One third (32.4%) of librarians mentioned that holding workshops, 8.1% preparing facilities to take part in scientific conferences, 40.54% professional short term education and 5.4% presenting educational pamphlets are the prepared educational measures that are presented by central libraries of Tabriz governmental universities to educate librarians in order to promote their skills to use Web 2.0 tools for knowledge sharing efficiently.

Hypothesis Tests

To test the research hypotheses, Mann Whitney and Kruskal-Wallis tests are used. Findings indicate that there is no significant difference ($p > .05$) between gender, age, level of education, experience, library section they belong to and (a) the rate of usage of Web 2.0 tools in knowledge sharing, (b) the level of familiarity with knowledge sharing concept. However, there is a significant difference between the librarians' education and the usage of web alerting. Also, there is a significant difference between the level of familiarity of knowledge sharing concept and the level of usage of Web 2.0 tools (RSS, Weblog, Podcast, Social network, Web alert, Twitter).

Conclusion

Findings indicate that librarians are most familiar with instant messaging while they are less familiar with Flickr and Twitter due to filtering. Weblogs are used most often as Web 2.0 tools to share knowledge.

The results of the hypothesis testing indicate that there is a significant difference between the librarians' education and the usage of web alerting. As a result, using professional staff in the realm of library and information science who are familiar and up-to-date with of the use of IT (Web 2.0) in libraries seems to be a good strategy to offer better and more effective services to users. Also, offering an educational course in the field of "modern information tools (such as Web 2.0 tools) in academic libraries" will be helpful.

There is a significant difference between the level of familiarity of knowledge sharing concept and the level of the usage of Web 2.0 tools (RSS, Weblog, Podcast, Social network, Web alert, Twitter). So, holding educational workshops on the topic of "knowledge sharing concept for librarians" will raise the awareness and help them use these collaborative tools effectively. Factors such as education level and the level of familiarity of knowledge sharing will improve the level of the usage of Web 2.0 tools.

Librarians should try to keep themselves up-to-date and do their best to adapt themselves to new technologies. They should make efforts to collaborate and share their knowledge with their colleagues through in-depth training sessions, intensive educational courses, workshops and pamphlets, which could be helpful in terms of updating their knowledge and promoting their skills to offer better and efficient services to end users.

There is a constant avalanche of information flowing out there; it is vital for librarians or information scientists to promote critical thinking, creative and research skills – and become better (informed) librarians, scholars and lifelong learners of tomorrow. But, more importantly, they should try out promoting their skills to share knowledge by the use of modern tools to improve collections and services. So, managers ought to force their staff to share their knowledge collaboratively via modern interactional tools and try out to reward them for instance for "top and up-to-date weblog", "post on wiki" or "watermarked resources on related sites". Eventually, through this approach they will find that missing piece to the organization's knowledge management puzzle, create new knowledge and manage it effectively.

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