Preparing Librarians For Digital Future

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1.0 Introduction

All over the world, people have witnessed the transformation of libraries. These transformational changes which affected mostly academic libraries, have seen changes on how services are provided, research being conducted, facilities being upgraded and learning made possible. Hawkins (2001) stated that "the Web is not a library, and access to it is far from egalitarian. This needs to be clearly understood". This shows that most people believe that internet can replace the library and they can get all types of informational sources from it. Therefore, the librarians should take on the challenge of guiding the users on how to evaluate and identify the accurate and correct sources using the right method. This can be achieved only if the librarians are well prepared and are aware of the new transformational changes occurring in the libraries.

Traditionally librarians are known as individuals working in the library building and are responsible in carrying out tasks such as: cataloging, acquisition, circulation, customer service, user education, etc. They are also involved in acquiring, organizing and preserving the printed materials besides helping and guiding the readers in searching and locating the information they need. In the last decade this situation has rapidly changed due to the advancement in information technology, communication and internet connection. For centuries librarians have been known as the information providers using the manual and traditional methods but now due to current trends, librarians need to adapt to the new working environment which will help them in providing faster, complete, and effective ways of accessing information for their users. Databases and reference sources can be queried via the Internet or the World Wide Web while newsgroups and mailing lists provide an opportunity to discuss mutual concerns and exchange of knowledge quickly and directly.

According to Rao and Babu (2001), the interconnection of world through the use of Internet and Web has changed the fundamental roles, paradigms and culture of libraries and librarians once for all. The base of recorded information is growing at an accelerating rate in increasing the variety of formats such as texts, numeric, graphic, video, audio, images, etc.   In addition, the increasing numbers of computing and telecommunication technologies are emerging to create new options and opportunities for the development of information capture, storage, retrieval and delivery.

Librarians have no reason to fear for their jobs as there is a new role for them in the digital world. Librarians too can contribute in the development of library and assist in the building of common links between data, resources, and services. With the advent of Web 2.0 technologies, user-generated content is dramatically increasing the volume of information every second. A tremendous amount of useful content now bypasses the publishing process and goes straight online by blog or wiki. Business and education are using social networking and virtual worlds to exchange information and encourage innovation. With this changing growth of environment, the perception is that all the information an organization requires is available for free through generally available search engines. Another common perception is that finding the information you need on the Internet is fast, convenient and easy.

Therefore, it is very important for all the librarians to assist and manage the information properly with the purpose of fulfilling the users need. Adapting to the constantly changing environment has become one of the challenges for librarians. As a consequence, librarians need to carry out tasks in reaching out and educating their users by applying the latest technology. In response to that, they have to actively promote the vision of their library which allows faculty members, students, and the public to take part in this new digital environment.

Librarians must be well prepared and alert with these new changes. In order to adapt to these changes, they must be able to learn and explore new things. Moreover, they must also know both the potentials and complexities of the technology used. England and Shaffer (1994) identified four distinct new roles for the librarian (as researcher, publisher, member of the digital library design team and teacher or consultant) and provided a useful starting point for an examination of the various ways in which the role of the digital librarian is manifesting itself at a strategic level.

2.0 Librarian roles in digital age

In the Digital Age, librarians can no longer only be an information provider only or the guardian of information superhighway. Technological changes, usage of electronic sources and the implementation of retrieval information systems have changed the ways library users, academic members and researchers search, retrieve and apply information. The quick and easy access to information through the Internet has created an easy path to information and data and made it available to anyone with internet access.

In this digital/internet era, librarians have to change themselves as the information profession is changing. The new generation of library users or "technology savvy users" realized that they need help from the librarians to guide and teach them how to search and access information using the latest technology and internet facilities provided by the library. In order to

change, librarians need to be aware and be ready to take on the new responsibility such as:

i. **Information Organizer and Provider** – Able to provide services and instructions regardless of place or time.

ii. **Teacher or Educator** – Able to educate and guide users instead of gathering and disseminating information to them. The most important task carried by the new version of Librarian/Information Professional is educating their library users. Librarians often carry out information searches requested by the users especially in Academic Libraries. This situation can be quite burdensome for some librarians since a small number of librarians need to serve a very large number of requests from various library users. It is necessary for the users to do the information searching or research themselves and to help them in this matter; librarians need to educate them first.

From time to time, the number and variety of information sources available, whether from printed sources or via the World Wide Web, have increased greatly, and users are having difficulties in keeping up with all of the choices now open to them. Therefore, librarians need to educate their library users on how to search, find, evaluate and store the information. Librarians in most IPTA/IPTS have greatly enhanced their provision of user education, especially in regards to electronic sources of information, which is now known as the most dominant activity by Librarians. Cataloging, Circulation and Customer Service is slowly being delegated to paraprofessionals. Librarians now have the same important roles as academic staff whereby they are involved in giving training and guidance especially in the use of electronic journals from many different publishers, abstracts and indexes databases, databanks, CD-ROM publications, document delivery services, Citation Styles, evaluation criteria for internet sources and many more.

According to Green (2009), "Librarians get public and educational data out into the open where it can be visualized, manipulated and learnt and they can make all the digital stuff available to people and most of it will be used by the users. In short, librarians are the information literacy experts who will help users find good information and also information management gurus".

iii. **Navigator, Browsing and Filtering Experts** – aware about new trends in technology and approaches. They should be able to know and understand how the digital reference services works and extract the electronic information from digital information sources.

iv. **Library 2.0**
Librarians in library 2.0 can act as a facilitators as well as providing support to users. Users interact with and create resources with one another and with librarians. In some ways, it is a virtual reality for libraries. A library's presence on the Web in Library 2.0 includes the presence of that library's constituency and utilizes the same

applications and technologies as its community, a concept Habib (2006) recognizes in a very useful model for Library 2.0 in regards to academic libraries.

Web 2.0 is popularly known for its power of networking. Therefore, the benefits of Web 2.0 are in promoting knowledge sharing, enabling libraries to be more user-centered and allowing users to have informal relations with their library by using applications such as Facebook, Twitter, MySpace, etc. For example Nanyang Technological University library used blog since 2006 and a year later NTU extended blogs to all their subject libraries, whereby each blog had different looks to provide information i.e. extensive collection for specific group of users. In People's Republic of China university libraries they used RSS feeds to firstly provide library news and event, new books or available database. Next, they also used RSS feeds to notify personal information produced by patrons' such as circulation records. Lastly, RSS feeds were also used as the syndication of subject-related information that allowed users with timely and easy access. The uniqueness of Library 2.0 is it creates digital communities which enable users from different levels and different places to participate in conversations using the same medium such as Facebook. The Library 2.0 also initiates human conversation and knowledge sharing process that are available digitally. It enables the library to be reachable in different ways 24 hours a day, 7 days a week. Normally the librarians will play an important role to ensure that this implementation of Library 2.0 is fully used by the library users. Communication between the librarians and their users through social network has been proven to be the best way to attract their attention towards the library.

v. **Consultant**
Librarians should be prepared to answer any queries by users 24 hours a day, 7 days a week . There is no reason for them to delay the process. In order to adapt to the digital era, ways for the librarians to answer all questions enquired by the library users either through e-mail, facebook, twitter, skype, telephone, etc. need to be identified. A library can also upload videos about itself in Youtube for users who want to know more about that particular library.

vi. **Initiate the Outreach Program for Library Users**
In preparing the librarians towards the digital future, librarians should take the initiative to approach their users instead of waiting for the users to approach them first. They can recommend latest books, e-journals, online databases based on the user's topic/research title. This has to be done as some library users are reluctant to ask the Reference Librarian as they feel that the librarians are reluctant to help them with their queries. Therefore, librarians especially the Reference Librarian should take the first step by going around the library and approaching the users who seem to be having difficulties in identifying the materials that they are looking for. Indirectly this will attract other users' attention and they will also start to request for the same service.

In the digital era, the role of librarians can change gradually through the rapid growth of new technologies. According to Zhou (2005), librarians nowadays will further develop to be the information navigators and information experts in the society. Zhou (2005) compared with the traditional librarians; their work contents are very different. He insisted that one of the librarian's roles in preparing themselves towards the digital era is to provide readers with various, dynamic and advanced services in the initiative and innovative pattern, including;

- analyzing and processing different kind of information resources;
- activating and finding potential value hidden in any information;
- providing added-value information products and services to the right users at right time and right place;
- providing personalized and tailored services.

Futhermore, Zhou (2005) stated that librarians' tasks in the digital era are as follows:

- select, acquire, preserve, organize and manage digital collections;
- design the technical architecture of digital library;
- describe the content and attributes of items (metadata);
- plan, implement, and support digital services such as information navigation, consultation and transmit services;
- establish friendly user interface over network;
- set up relative standards and policies for the digital library;
- design, maintain and transmit add-valued information products;
- protect digital intellectual property in network environment; and
- ensure information security.

3.0 Requirement skills for librarians

In order to meet the needs and demands of users in the digital era, librarians need to make sure that they are ready for these changes and fully understand their roles and responsibilities especially in the nature of library work and the function of libraries. Marcum (2003) said that in the digital world, libraries and librarians should not be working in isolation. In the digital age, librarians should be on the skills to handle resources and the technology context for digital libraries, tools and rules (protocols) of interoperability.

Barton, (2006) mentioned that with the advent of digital information and the Internet, librarians were also required to develop specific technical skills, in areas such as database management, web site design and digitization, as well as an understanding of how these skills should be applied to the best effect within the library service as a whole. The term "digital librarian" was coined to refer to staff with this technical skill set and a correspondingly technical remit within the hybrid library service. As Hastings and Tennant (1996) point out, the pace of technological change is such that, when selecting would-be digital librarians, personal qualities,

which are innate, are more important than specific technical skills, which can be learned.

And, as Deegan and Tanner (2001, p. 225) point out:

In developing skills for managing, creating and providing services in the digital environment, education will become ever more important. There will be an increase need for educational organizations to inform students of the new realities and the new skills that they will need in the digital environment. The more information professionals understand about the manner in which documents are encoded, the better they will be able to ensure that those documents will be preserved in a manner that protect their authenticity and integrity.

Borgman (1986, 1996) proposes a model for knowledge and skills the users and/or librarians will need. It includes:

- Conceptual knowledge

  This will denote the user's model or understanding of the type of digital library with which they are dealing. The conceptual knowledge of the search process is used for translating an information need into a plan for executing the search. The success of searching in digital libraries depends heavily on the user's ability to construct a mental model of the given information space (Dillon, 2000). In contrast with the conceptual knowledge which is used to plan and refine searches, semantic and syntactic knowledge is more concerned with details and with individual systems or applications

- Semantic and syntactic knowledge;

  Semantic knowledge means knowledge of the operations available to execute a search plan. Shneiderman (1992) defines syntactic knowledge as the user's understanding of the commands or actions in a specific system. An expert user possesses the following semantic and syntactic knowledge:

  ✓ understanding of the general characteristics common to most information systems;

  ✓ understanding of the features characteristic for specific kinds of information systems; and

  ✓ ability to become familiar with the features of a new system, and then to adapt the search strategy to these features.

- Technical Skills

  By "technical skills" it is meant those basic computer skills which are prerequisite for developing conceptual, syntactic, and semantic knowledge, within the context of a digital library. These skills include knowing how to use computer devices and being familiar with the

digital conventions, e.g. screen display. It is important to be aware that the levels of these skills in the population are very diverse, and also that different applications and systems require very diverse levels of these skills. Borgman (2003) states that "as digital libraries are designed for more general audiences, a broader range of skill levels will need to be accommodated in many applications".

4.0 Issues and challenges

According to Thamaraiselvi (2009) the most pressing and pervasive issues challenging libraries and librarians alike in this digital era are:

i.   New generation of learners
ii.   Copyright Act
iii.   Privacy/Confidentiality
iv.   Online/Virtual Crimes and Security
v.   Technology Challenges
vi.   Manpower
vii.   Collection of e-digital resources
viii.   Organizational structure
viiii. Preservation/Archiving Digital Resources
x.   Lack of clarity in vision

Wastawy (n.d.) explained the 21st century librarians should have these criteria:

i.   Stay in advance of need
ii.   Believe in themselves and what they can offer
iii.   Shouldn't take their existence for granted
iv.   Develop themselves especially in latest technologies and trends
v.   Learn from each other to exchange knowledge
vi.   Seize the opportunities whenever possible
vii.   Be confident
viii.   Get out more and engage to learn new knowledge and experience
viiii. Believe in themselves and claim the future

5.0 Conclusion

The greatest research needs are to understand how roles and responsibilities change in the digital environment. The nature of library work and the function of libraries will change dramatically. In the digital world, libraries and librarians do not—cannot—work in isolation. The nature of digital information is such that both its creators and publishers along with technologists must join librarians in organizing its preservation. When librarians provide access to publishers' electronic products, they typically do not own those products or the intellectual property rights in them. Preservation for long-term access, a traditional responsibility of

research libraries, must now be achieved through collaboration among heretofore unlikely partners.

User studies become increasingly important as libraries move from housing materials to providing electronic access to them, becoming gateways to material instead of owners. In order to succeed in this new business, libraries must understand how users look for and find the information they need, and if access provision becomes the primary role, libraries must determine how they can add value to the information retrieval process.

The confluence of these issues will force us to think in new ways about the requirements for those who will serve in the information roles. Right approaches are needed in recruiting, educating, and providing ongoing training to those who will be responsible for the library of the future.

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