Changing Roles of Library Professionals in the Knowledge Society

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Abstract. Library is an effective source of information to be shared by people of all kinds. A good library hosts everything under the sun in the form of words to enrich the knowledge of the users. Providing information about everything under the sun, under one roof in one geographical location is next to impossible. Hence there must be a way to share information that is spread over, and that can be achieved only through the effective use of electronic media. Complete computerization of all the libraries and a dedicated, centralized server to host information available at different libraries will help in effective sharing of information. A library is completely computerized only if the user irrespective of background or knowledge, is able to access information available in the library from anywhere just by typing few letters/words.

Key words: digital library, the Internet, digital revolution, world wide web, electronic information service (EIS), metadata, semantic web, ontology, knowledge organization systems (KOS), knowledge management

Introduction

Greater revolution has occurred in the library culture in recent years. Electronic journals are facilitating the more timely exchange of theory and research among scholars. New media not only add value to interactive communications, but also provide powerful new means of accessing information to support teaching, learning and research.

It is not surprising that the academic library has witnessed more technological change over the past decade. With the ever-growing electronic availability of information on both national and global networks, many libraries have turned their attention to providing access rather than building local collections. With the advance of the

technological revolution, librarians will play a major role to provide all types of information in meeting user's expectation.

Flesh-and-blood librarians undoubtedly continue to fulfill a very useful role for years to come. In particular, they will continue to refine their client-centered function as intermediaries and facilitators.

While librarian will continue to serve some of their current roles, what are some of the new or changing roles they will play in an increasingly networked information environment?

To effectively build this technological library – this electronic community librarians must collaborate more with personnel from other departments of the institution. In today's networked information environment, any library action must be part of a wider institutional infrastructure committed to furthering new educational approaches.
There must be a strong communication and an effective partnership between the institution's library and its computing service. Librarians need technologists' systems, computing, network, and other technical expertise, while information technologists can learn much from the library's knowledge of users' needs.

The main goal of librarians should be to ensure all members of the institution know what information resources are available to them and how the library staff can facilitate access of them, within the physical walls of the library or elsewhere.

As users are accessing more and more bibliographic and full-text databases as well as utilizing the vast resources of the Internet from outside the library, librarians will need to reach out to them to offer the help they need.

Librarians can help in the design of technology based information services and share their intimate knowledge of what users want and need. As an example, the users could benefit greatly from database help screens that have been designed with input from library professionals. One reason why library users still seek the face –to – face assistance of librarians is that they understand users' needs, and the difficulties they can encounter in learning new electronic tools. Skilled librarians now

have years of experience in helping patrons utilize electronic media, an experience that equips them well to work closely with Information Technology personnel on the design of systems interfaces, help screens, computer instructional programs, and other software that user institution constituents will use.

Librarians need to be polite, friendly and always able to behave in a courteous, patient and tactful manner. They need to give the user their complete attention. – with proper but not excessive eye contact – during the interaction. To deal with that interaction, even if it consists only of issuing a book, while simultaneously having a conversation with a colleague is extremely poor in terms of customer care.

Electronic document selection as simply expressed and generally understood is a function which, relates to the choosing of reading material. It must be documents in all forms, and reading materials comprising not merely traditional forms, but also serials, government documents, manuscripts, reports, patents, statistical datasets, knowledge bases, software etc. which are the ingredients of a modern library's holdings. Librarian must select material according to his user requirement. Librarian must possess reasonable knowledge of electronic resources and adequate grinding in the techniques of their evaluation and selection. Today more and more information is being stored digitally and disseminated electronically and all types of materials are available CD-ROM and online. The librarian should have knowledge of electronic sources of information, knowledge of users' needs. While selecting electronic documents the librarian should obviously refer to the users of the library, both actual and potential, and their needs or demand for reading material, either expressed or anticipated.

Librarians can request a publisher to test out the product on a trial basis to make decisions about the appropriateness of an electronic resource for his library. Trial periods help eliminate the guesswork in selection of electronic resources. The other option is to visit or talk to other librarians about how a particular electronic resource performs in their library. In addition to these options, there are a number of selection tools available in print and over the Internet for the selection of e-resources.

Knowledge Organization Systems (KOS)

The term Knowledge Organization System is intended to encompass all types of schemes for organizing information and promoting knowledge management. KOS include classification and categorization schemes that organize materials at a general level, subject headings that provide more detailed access, and authority files that control variant versions of key information such as geographic names and personal names. KOS also include highly structured vocabularies, such as thesauri, and traditional schemes, such as semantic networks and ontologies. Because KOS are mechanisms for organizing information, they are at the heart of every library, museum and archive (Hodge, 2000).

Types of KOS

Term lists
- Authority files
- Glossaries
- Dictionaries
- Gazetteers

Classifications and Categories
- Subject headings
- Classification schemes
- Taxonomies
- Categorization schemes

Relationship lists
- Thesauri
- Semantic networks
- Ontologies

Common Characteristics of the KOS (Hodge, 2000)
- The KOS imposes a particular view of the world on a collection and the items in it.
- The same entity can be characterized in different ways, depending on the KOS that is used.

There must be sufficient commonality between the concept expressed in a KOS and the real-world object to which that concept refers that a knowledgeable person could apply the system with reasonable reliability. Likewise, a person seeking relevant material by using a KOS

must be able to connect his or her concept with its representation in the system.

The Internet
The Internet can provide comprehensive information in a diversity of subjects for a variety of needs and to various categories of users at any point of time. The Internet is the largest single resource of information available on a network of computers, which can be accessed anytime through any Internet-connected computer irrespective of its location. The Internet is changing the roles of information professionals and way we process and transfer information. Information is everywhere on the Internet, existing in large quantities and continuously being created, revised and updated. This information exists in several formats and is created for multiple purposes. Various kinds of information exist on the Internet which comprises different levels of quality or reliability. It ranges from very high quality to low quality and includes every shade in between. Identification, location and selection of worthwhile and useful digital collections have become one of the important jobs of modern professional librarians.

World Wide Web
With the digital revolution, data and information can now be transmitted to all corners of the world, and that is significant for almost all humanity, and it is significant for libraries. The World Wide Web has many of the features of a digital library, and if the web did not exist our conception of digital libraries would be very different. The web is undoubtedly the means via which most digital libraries are accessed, but it is not a digital library itself as it lacks characteristics of a digital library. It is not a managed environment, it has no collection development principles and most significant of all, the digital objects are not perceived as having durable value.

Librarians are always at the forefront of the latest technologies in order to find new ways to optimize the management of libraries and resources, and to provide improved services.

Electronic Information Service (EIS)
To establish a successful electronic information service (EIS), it is essential that you define the scope of the service you are establishing.

This will require strategic planning, including an information audit of needs of the customers and management, which will require consultation with customers, both current and potential.

You will need to agree who the users are, so as to be able to cater adequately for their information needs now and in the future. Your users will need some help in identifying how their needs can be met from electronic sources.

Digital libraries offer new levels of access to broader audiences of users and new opportunities for the library and information science field to advance both theory and practice. Digital libraries can help move the nation towards realizing the enormously powerful vision of 'anytime, anywhere' access to the best and the latest of human thought and culture, so that no classroom, individual or a society is isolated from knowledge resources. Digital libraries bring the library to the user, overcoming all geographical barriers.

Metadata

This is defined as 'data about data' or 'information about information'. In the other words, metadata is data that describe information resources (Safari, 2004). A short descriptive note on a book, an informal description of search hits by search engines, a catalog and MARC (Machine Readable Cataloging) record, are data that describe an information resources and hence metadata. To refine this popular definition, metadata is considered "structured" data about data.

Metadata is any data that supports the effective use of data, including information that can facilitate knowledge management, knowledge access and analysis. The data that metadata capture to describe an information resource can be divided into two categories such as intrinsic and extrinsic data. Intrinsic data are characteristics extracted directly from the information resource such as title, author, and subject. The extrinsic data are those related to the administration and other non-bibliographic data such as author e-mail, author department, password or digital signature. The first is useful for knowledge management and administrative purpose which the second facilitates resource descriptions, identification and discovery.

Metadata therefore, captures the wide range of intrinsic or extrinsic information about a variety of objects. These intrinsic or extrinsic characteristics and features are described in the individually structured data elements that facilitate object use, identification and discovery (Safari, 2004).

Taking the metadata definition as structured data about data reveals that metadata is not new. Standard bibliographic information, indexing and cataloging information and classifications are all structured data that describe the characteristics and contents of information resources to facilitate their discovery and use. But what is new, is a new information environment with new challenges and problems that have made metadata for more eminent than before, expanding the metadata efforts beyond the traditional library environment (Safari, 2004).

In the traditional libraries, the user can consult with the librarian, as an intermediary, to interpret the metadata used for resource description; but in the web the story is different. The information provided by a wide range of resource description communities, each with his own metadata, and accessed through one portal.

Semantic Web
The next generation of web, called semantic web, is based on the machine-processable semantics of the information, stored in the machine processable metdata. This is not a separate web but an extension of the current web in which the information is given well-defined meaning, better enabling computers and humans to work in cooperation (Berners-Lee, 1998).

Ontology
Ontology is a concept borrowed from philosophy where ontology is a systematic account of existence. This term has a different meaning in the context of knowledge representation: an explicit specification of a conceptualization (Gruber, 1993).

The prerequisite of this web, as its definition implies, is metadata that explicity represent semantics of data which called ontology. This is the newest label to be attached to some KOSs. The knowledge management community is developing ontologies as specific concept models. They

can represent complex relationships among objects, and include the rules and axioms missing from semantic networks. Ontologies that describe knowledge in a specific area are often connected with systems for data mining and knowledge management.

Ontology as a new emerging form of metadata is revolutionizing the current classificatory approaches towards semantic metadata. Consulting the traditional metadata systems with ontological view, such as thesauri, and card catalog systems as well as converting the controlled vocabularies into the ontology indicates this change.

The ontologies have the following add values (Qin & Parling, 2001) –
- Higher levels of conception of descriptive vocabulary
- Deeper semantics for class/subclass and cross-class relationships
- Ability to express such concepts and relationships in a description language
- Reusability and share – ability of the ontological constructs in heterogeneous systems

Knowledge Management (KM)
Knowledge management caters to the critical issues of organizational adaptation, survival and competence in face of increasingly discontinuous environmental change. Essentially it embodies organizational process that seek synergistic combination of data and information processing capacity of information technologies, and the creative and innovative capacity of human beings (Malhotra, 2000).

Knowledge management is a systematic approach that ranges from technology-driven methods of accessing, controlling, and delivering information to massive efforts in transforming corporate culture.

KM is not only about managing knowledge assets but managing the process including developing knowledge, preserving knowledge, using knowledge and sharing knowledge (Vinitha & Mymoon, 2005). KM involves the systematic process of finding, selecting, organizing, distilling and presenting information in a way that improves an employee's comprehension in a specific area of interest.

KM is a conscious strategy of getting the right knowledge to the right people at the right time and helping people to share and put information into action in ways that strive to improve organization performance.

Conclusion
In Sri Lanka, most of the libraries use CDS/ISIS windows version for content organization. In this digital environment we do keyword indexing widely for knowledge management. It is very fruitful way of managing the knowledge. In this process it is very easy to locate a document without wasting precious time of its users. And also it helps to select the right documents for the right user. In the Regional Centre for Strategic Studies library, where I am the Librarian, do this task widely. It is the most practical way to give the better services to the user.

In a digital environment librarian should familiar with search engines such as google, yahoo etc. and relevant websites according to their users needs. In a traditional library system, librarian use d to compile cumulative indexes for the benefit of their users. But in a digital system librarians can use various databases, library networks, search engines, websites etc. to search information.

In the Regional Centre for Strategic Studies (RCSS) library, we use traditional and non-traditional knowledge organization systems for content organization. In the digital environment, we use classification systems such as UDC, DDC to organize the knowledge. And also we use traditional card catalogue as well as electronic database. In a developing country like Sri Lanka, we have to face electricity failures and at that time physical catalogue is very useful. In the RCSS library we used to store documents electronically and physically available as printed documents. Both ways user can reach their needs. If the user can't visit the library he can obtain visit the e-version of the documents after consulting the librarian through e-mail. In this environment KOSs act as a bridge in between users and their needs.

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