# CHANGING ROLE OF LIBRARY PROFESSIONALS IN *THE DIGITAL ERA*

**Dr. kiran Tiwari**
**Senior librarian**
Jaipur Nationa University
Jagatpura, Jaipur – 302017, Rajasthan, India
Mail ID: kiran-tiwari8@hotmail.com
Mob. No.: 9460222641

## Abstract

*Changing the traditional library collection for digital or virtual collection presented the librarian with new opportunities. Internet, web environments and associated sophisticated devices have given a librarian a new dynamic role to play and serve a new information based society better than hitherto. Due to the powerful features of the web, distributed, heterogeneous, collaborative, multimedia, multi-protocol, hypermedia-oriented architecture, the World Wide Web has revolutionized the way people deliver information, and new possibilities in areas such as digital libraries, virtual Has opened up. Library, scientific information retrieval and dissemination. Not only is the world connected, but the use of the internet and the web has also changed the fundamental roles, paradigms, and organizational culture of library professionals and library professionals. In the article the infinite scope of the internet and the web, the traditional roles of the librarian, the new roles for the electronic library and librarian, the role of library professionals in the internet and web environments specifically described as intermediary, facilitator, end-user trainer, web site builder is. The researchers, interface designers, knowledge managers and information resources workers, and the strengths, weaknesses, threats and opportunities involved in the relationship between the librarian and the web are also described.*

## Introduction

The emergence of a vast reservoir of information on the Internet creates a kind of danger or opportunity for the librarian, the library professionals who are traditional gatekeepers of knowledge, are at risk of being biased if they are not familiar with the latest information technology. In their daily work routine, their skills are ignored if the necessary ICT skills are not achieved, without their advice it is thought that they are not huge in this digital era. However, by adopting Information Communication Technology, the librarian has been rebuilt and the library professionals are now doing new work in this digital era. The availability of information on the Internet, and its widespread use, actually presents the librarian with an opportunity, not a threat. Technology savvy users realize that they need help, which librarian can provide. In the era of current technical / internet, library professionals will have to change themselves because the information business is being changed. The number of academics and publishers is increasing, which firmly believe that once the electronic magazines have been changed, especially within the scientific, medical and technical (STM) markets of magazines;

Libraries will not have any role in the communication chain of scholars. Electronic magazines can be published directly by the publisher (which is a small research group, a learned society or a major internal publishing group), the user can be distributed from the desktop. Such a scenario is definitely possible, but it is unlikely for many reasons. Even assuming that all academics and researchers had technical expertise to deal with the range of hardware and software required to access various types of relevant electronic products, the person who bought the necessary title for himself from his pocket cannot. Some forms of departmental / faculty or central purchases will be required for research (Rowland, 1998). Apart from this, a person's academic must keep in mind that the title they are interested in to distribute on their desktop can be of interest to other colleagues of the premises. They do not want to read and sign a complicated license agreement so that the title can be networked across the entire premises. Even if they did, who would be responsible for implementing the security requirements imposed by most publishers? Thus, the library is using technology to improve the management of information of scholars to strengthen and accelerate the information of the scholars not organized locally. In the last several years, a significant change has been observed in the collection development policies and practices. Print media is rapidly giving electronic form of content (Sharma, 2009). Annie (2008) said in reference to Tscones and Papathodoro (2006): "In addition to transition from electronic medium to electronic medium, electronic information has increased; it has provided new tools and applications for users to get information and Available for recovery. Electronic resources are invaluable research tools that are print-based in the traditional library settings Commenting on the benefits of electronic resources, Dadji (2007) writes that electronic resources are invaluable research tools that complement print-based resources in traditional library settings, according to them, their profits are included : Access to information due to geographical location or finance, access to more current information, and related content related to additional resources The provision of comprehensive links for R., makes it possible for the rapid emergence and development of electronic information technologies, to visualize various methods to organize the collection and the library has traditionally provided it, while in the development of library funding Gathering at a crisis point, these new technologies have the potential to reduce costs and reach the information. Provides ways to overcome Navjyoti (2007) also found that rapid publication and availability on the desktop are a major benefit which attracts research scholars. At present, the librarian provides a valuable service by providing quick and easy access to academic and research partners. It matters little to the researcher that behind the scenes, librarian is working with selection, acquisition, licensing, hardware requirements and software. What really matters is that information relevant to research, teaching and learning support is available quickly and easily. And library professionals are currently playing an important role in this process.

## A modify from Traditional to Virtual Libraries

Development is already happening. Traditional closed access libraries are heading towards the Open Access Library. The Open Access Library is moving towards automatic libraries. The truth is that no one knows what the future of libraries will be. In the following paragraph, attempts have been made to classify various types of libraries on the basis of the techniques used. It is best to mention that there is no strict line of demarcation between the next four types of libraries.

1. Traditional Library: The collection of traditional libraries is mostly print media, manuscripts etc. and are not well organized. Documents are getting worse, it's not easy to find archive information and therefore it does not easily reach the user, again the traditional libraries are limited within a physical limit.

2. Automatic library: A library with machine-readable catalog, computerized acquisition, movement and OPAC is called an automatic library. The hold of such libraries is similar to traditional libraries.

3. Electronics Library: When the automatic library lane (local area networking) and CD-ROM goes to networking and starts buying e-journals and other such publications, it is known as an electronic library. The resources of electronic libraries are in both print and electronic forms. Electronic media is used to retrieve and distribute information.

4. Digital Library: This is the next step of the electronic library. High-speed optical fiber is used for LAN in digital library and access is higher than WAN and provides a wide range of Internet-based services, such as audio and video conferencing and others. Most digital library computers are in readable form and work as a point of access to other on line sources.

5. Hybrid Library: Library, which are working in both electronic or digital and print environments, are known as Hybrid Libraries. Actually it is a transitional situation between print and digital environments. It is estimated that in the near future the library will be of hybrid nature, there are some very strong points in favor of this approach, the habit of using paper reading habits, handling and reading a paper document, then digitized (in case) digitized) Documents need to read some tools), incompatible standard of electronic product, different display standard of digital product and high attached problem etc. LISWiki, (2011).

The equipment used by the librarian in their daily work has changed a lot during recent years. Today, hardly any library is fully equipped as it was a few years ago. In addition to traditional means like card catalogs and microfich readers, most libraries now offer public access catalogs (OPACs), CD-connected public PC-drives, scanners, or internet-connected public terminals. The growing number of libraries is creating a home page on the World Wide Web, from where users get access to a variety of services without having to enter a library. Many libraries are in transit from the traditional towards the Digital Library. We are witness to a change from libraries who provide information about electronic information (electronic and print) to provide access to full texts of documents. Not only recent publications, but also many historical library holdings are being digitized (for example, see Corbin and Collety, 1995). These electronic collections allow users to consult content at any

time without any harm to delicate documents from everywhere. Regardless of the digitization projects, electronic media is not prominent in any way compared to print materials. There are still plenty of papers in our libraries, and we expect that it will be like this for a long time. Paper-based libraries will be co-existent with the Digital Library for the future's future, because electronic publishing is not being developed at the expense of the print media, but apart from them. The concept of the library has long been extended beyond the physical building of the library and library services always include access to sources which are physically located outside the library. During the years, the librarian has collaborated in many ways. Central listing, association list of magazines, cooperative collection development and interactive loan resource are just a few examples of sharing. Due to the budget deficit, many libraries have changed their acquisition policy to `` in case of bus cannot buy every item. Through collaboration and mutual services between libraries, we can provide a large range of resources to our users and can complete their information, which is capable of quick, cheap, and fully in comparison to a library. Will happen, While projects that can be seen as a good thing during the rich years with the purpose of helping each other and they become a necessity in times of financial constraints, they play a much more important role in the library professionals

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5. Hybrid Library: Library, which are working in both electronic or digital and print environments, are known as Hybrid Libraries. Actually it is a transitional situation between print and digital environments. It is estimated that in the near future the library will be of hybrid nature, there are some very strong points in favor of this approach, the habit of using paper-reading habits, handling and reading a paper document, then digitized (in the case of

digitized) document Some tools are needed to read), Incompatible standard of electronic product, different display standard of digital product and higher Attached problem etc. LISWiki, (2011).

The tools used by library professionals in their daily work have changed vastly during recent years. Today, hardly any library is equipped exactly as it was only a few years ago. In addition to traditional means like card catalogs and microfiche readers, most libraries now also offer an online public access catalog (OPAC), public PCs equipped with CD-ROM drives, scanners, or public terminals connected to the Internet. An increasing number of libraries are building homepages on the World Wide Web from where users have access to a variety of services without physically entering a library. Many libraries are in transit from the traditional towards the digital library. We witness a shift from libraries offering information about (electronic and print) information towards providing access to full texts of documents. Not only recent publications, but also many historical library holdings are being digitized (see e.g., Corbin and Coletti, 1995). These electronic collections allow users from everywhere at any time to consult the material without doing any harm to fragile documents. Despite numerous digitization projects, electronic media by no means are dominant compared to print material. There is still a lot of paper in our libraries, and we expect this to be the case for a long time to come. The paper-based library will co-exist with the digital library for the foreseeable future, because electronic publications are not developing at the expense of print media, but in addition to them. The notion of library has long expanded beyond the physical building of the library and the library services always included access to sources that are physically located outside the library. Over the course of the years, library professionals have collaborated in many ways. Central cataloging, union lists of journals, cooperative collection development and interlibrary loan are only a few examples of resource sharing. Forced by decreasing budgets, many libraries have redefined their acquisitions policy from purchasing documents ``just in case" to ``just in time", since no library can afford to purchase every item that might be needed by one user one day. Through collaboration and reciprocal services among libraries, we can provide a much larger range of resources to our users and fulfill their information needs quicker, cheaper, and more completely than one library alone would be able to do. While projects that aim at helping each other might be seen as a nicety during prosperous years and become a necessity in times of economical restraints, they play an ever more essential role in the electronic environment. James Michael suggested a blueprint for the library without walls that consisted of five elements (Michael, 1994):

1. interconnectivity - connecting to a network
2. interoperability - the ability of one computer to talk to another
3. integration - of internal and external resources into one single user interface
4. intermediation - reference services, navigational help and instruction provided by library professionals
5. interdependency - because one single library cannot own all the resources that might ever be needed by users

This last item, interdependency, is the final step for the ``Global Digital Library" to become reality. In the electronic environment, even more than in the traditional paper-based world, no library can (or may) store all the documents to which it provides access. Digital libraries are only possible if reliable partners cooperate on a long-term basis. Authors, libraries, publishers, archive - the concept of one player in the electronic publishing sector as a self-sufficient

entity has been overcome for good. The digital library indeed brings us closer together than ever.

## Limitless Scope of Internet and World Wide Web

Internet, network of networks, connects several computers and resources around the world using the language called TCP/IP (Transmission Control Protocol/Internet Protocol). During the early years of Internet use, the access was mainly for basic database searching in large systems such as Online
Computer Library Centre (OCLC), Research Libraries Information Network (RLIN), Bibliographic Retrieval System (BRS), and DIALOG. With the growth of the Internet and the addition of more diverse electronic resources, the capacity for searching the Internet also increased. Since 1993, the Internet has experienced unprecedented growth in terms of networks, host computers and users. Prior to the Internet dissemination of information was limited to the delivery of formal print publications.
In contrast, nowadays a person is able to create a Web page or send an e-mail message for disseminating information. Furthermore, people are able to use e-mail or teleconferencing to exchange information with others in real-time collaborative sessions. World Wide Web (WWW) or Web is the practical and existing real world application of the age-old dreams of a universal information database - information that would not only be accessible to people around the world, but information that would link to other pieces of information so that only the most useful information would be quickly found by a user. World Wide Web, developed by Tim Berners-Lee of European Particle Physics Laboratory (CERN), can be defined as a "distributed heterogeneous collaborative multimedia information system".
The most fundamental and powerful features of the Web are its:
1. Support to distribute information in a number of different sites all over the Internet
2. Capacity to incorporate all types of media objects (video, sound, images, text, etc.) into a single document.
3. Utilization of hypertext or hypermedia-oriented architecture in which a document has embedded links to other documents, which can exist locally or anywhere in the world
4. Ability to span the depths of heterogeneous client/server platforms. One can view from any client platform (DOS, UNIX, etc.) a data object stored on virtually any server platform that supports almost all protocol types i.e. Email (Simple Mail Transfer Protocol), Telnet (Telnet Protocol), FTP (File Transfer Protocol), USENET (Network News Transfer Protocol), Gopher (Gopher Protocol) and Web pages (HyperText Transfer Protocol).
5. Ability to support construction of information resources all over the Internet.
6. Revolutionizing the way people access information, and opening new possibilities in areas such as digital libraries, virtual libraries, scientific information retrieval and dissemination, education, commerce, entertainment, government and health care. Many libraries are in transit from the traditional towards the digital library. Not only recent publications, but also many historical library holdings are being digitized. These digital collections allow users from anywhere at any time to consult the material without doing any harm to the fragile documents. Despite numerous digitization projects, electronic media is still not as dominant as print media. There are still a lot of printed pages in our libraries, and we expect this to be the case for a long time to come. The paper-based library will coexist with the digital library for the foreseeable future, because electronic publications are not developing at the expense of print media, but in addition to them (Grothkopf, 1997). Also physical convenience and emotional attachment of people to printed books are factors that ensure their survival.

The tools used by the library professionals in their daily work have changed vastly during recent years. In addition to traditional card catalogs and microfiche readers, most libraries now offer an Online Public Access Catalog (OPAC), public PCs equipped with CD-ROM drives, DVD drives, scanners, or terminal connected to the Internet. An increasing number of libraries are building home pages on the World Wide Web from where users have access to a variety of services without physically entering a library. Also, information push and pull technologies have given librarian an opportunity to automate
the required information gathering and dissemination to the users.

## The Traditional Roles of Librarian

The traditional roles of the librarian in the era of print can be defined as follows.
Collection development and acquisition: to select and purchase material - printed journals, abstracts and indexes, monographs, etc.
Cataloguing and classification: to organize and provide access to information - physically and via lists and catalogues.
Circulation: to reserve materials for and lend materials to users, and recover materials from them.
Reference work: to advise library users and to provide and facilitate quick and easy access to information.
Preservation, conservation and archiving: to archive, preserve and conserve information in perpetuity.
User education: to provide information skills training.
Selection and acquisition

## Selection

According to Clarke (1997) selection is the act of evaluating and choosing materials to be added to the library collection. In academic and research libraries, library professionals have always taken guidance from subject experts on purchases for teaching materials, academic staff provide reading lists to their students and request the library to acquire copies of the publications on their lists while academic library professionals suggest purchases to academic staff and inform them about the cost implications of different purchasing decisions, for research journals, departments are often asked to prioritize journals in their field for purchase. The library budget may be allocated, notionally or even totally, to different departments in order to ensure equity between subject fields in purchasing.

## Acquisition

Clarke (1997) asserts that acquisition in general applies to the function of obtaining the library materials which make up the library collection. The library professionals are always familiar with the mechanics of acquisition. While monographs may be purchased by libraries directly from publishers, through booksellers, or through library supply companies, journals have traditionally been purchased by libraries through subscription agents. Since there are hundreds of libraries and thousands of publishers, mainly small, the task for each library of maintaining subscriptions with each publisher directly would be an excessive administrative overload. The agents provide a valuable "sorting" function, allowing each library to submit a single order and each publisher to receive orders conveniently batched. This service now almost totally computerized is provided by the agents for a charge averaging about 12% of

the subscription price split approximately 6% paid by the publishers and 6% by the libraries (Rowland, 1998). It would cost both parties a lot more than this to maintain all their bilateral links without the middleman. Agents also provide catalogues, as do the larger publishers, so it is relatively easy for library staff to ascertain what journals exist and how much they cost.

## Cataloguing and classification

Cataloguing according to Aina (2004) is the process of preparing cataloguing entries for all books and non book materials in the library. It is the duty of the librarian to prepare a catalogue entry for every of the library materials available to users so that users can easily locate such materials among the huge collection of the library when they are in need of it. Classification on the other hand as described by Aniogbolu (2012) is the process of grouping things according to their likenesses and separates them according to their differences. He further stressed that classification in library is therefore the systematic arrangement of book and other information materials by subject in a logical sequence by bringing together on the shelves all books on a particular subject, thus all book on a given subject are arrange in close proximity on the shelf through the process of standard and recognized classification schemes or system. It is the duty of the librarian to classify library materials so that users will not waste much effort locating the materials they are interested in and also, so that they can have access to varieties of materials when they go to the library.

## Reference service

Reference service is the provisions of personal service by the reference librarian or his assistant to each user to enable him or her obtain the relevant information required. It is a personalized service in every sense of the word in that the user is given a direct informal aid or assistance in interpreting library collection for study and research.

## Preservation and conservation

Documents in the library must be taken care of or else they would deteriorate rapidly. It is therefore important that library materials must be preserved so that they can be available to the users when needed (Aina, 2004). It is the duty of the librarian to make sure that library materials are well preserved so that users can have access to such materials when they visit the library irrespective of how old the material is provided it is relevant to the users

## User education

The library provides user education in order to equip a user with enough knowledge on the use of library. This will enable the user to use the library resources effectively and efficiently. According to Aina (2004) educating user in the library could be one to one session, library orientation/tour or classroom instructions. It is the duty of the reference librarian to a new user round the various sections of the library where the librarian will explain the activities that go on in the different sections of the library without necessarily distract the staff of the various sections. During this section, the user is exposed to the basic services of a library.

## The Electronic Library: New Roles for library professionals

Smith (2001) defined a digital library as an organized and focused collection of digital objects, including text, images, video and audio, with the methods of access and retrieval and for the selection, creation, organization, maintenance and sharing of collection. The

environment in which library professionals work is changing in terms of greater access to a range of information, increased speed in acquiring information, greater complexity in locating, analyzing and linking information, constantly changing technology and adaptation, lack of standardization of both hardware and software, continuous learning for users and staff, management of financial investment for technology. The question of librarian's role in the new environment of exponentially growing Internet and World Wide Web has been addressed by a number of authors. On one hand, it has been postulated that library professionals would play a more dynamic role than at present as guides to the information seekers in an exploding universe of information. In another way, the rise of digitized information is an opportunity to elevate the role of librarian and leads to the emergence of a new breed of librarian: "The Cyber Librarian" or "Cybrarian" - a specialist in locating information on the Internet (Hathorn, 1997). At the extreme of the spectrum, on the other hand, total obsolescence and eclipse of library professionals in a scenario where knowledge base is diversified and wide and the developments in the fields like Artificial Intelligence, Neural Networks result in powerful, cost effective, user-friendly search strategies and methods (Brodie, 1995). The future scenario, however, may not be near any of these extremes. This is apparent from the facts like the information quantity has enormously increased and codification and classification of this information to facilitate easy location is best done now as well as in foreseeable future by the library professionals. The familiarization with new gadgets and methodology of locating information for vast majority of population requires guides and library professionals can easily fit into this role with training. The leveraging of the available information to suit the needs of the clientele is also best done by the library professionals. So also, with the ever growing electronic availability of information in both national and global networks, many libraries have turned their attention to providing access rather than building local collections in seeking to enable patrons locate materials (increasingly full text) where they require it most in dormitories, in offices, in classroom, or at home, librarian are stressing the need to provide resources to faculty and students at locations other than the library building. As Hauptman and Anderson point out that what users deserve is a seamless system that will integrate all types of information, whether accessible on site or deliverable from some distant location. Users just want to retrieve the information (Hauptman and Anderson 1994). With the advancement of technological revolution library professionals will play a major role in meeting expectations and to be in the forefront of helping faculty students and others gain access to the vast multitudes of information whether digitized, print or multimedia at a time when intellectual capital is encroaching on physical capital as the driving force in the world economy and order (Graves et al 1993). Brodie and McLean (1995) assert that for at least the next decade or so, the library as a building with four walls will continue to exist. A complete technological transformation resulting in a true virtual library where no human library professionals or information specialists come into contact with the public is not yet nigh for most institutions. Flesh-and-blood library professionals will 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. Indeed, with the proliferation of new technologies on campus, there will probably be a greater need to have many intermediaries deal with the public. It will be more and more critical that libraries consistently keep the user at the forefront of their mission. In the technological library, there should no longer be any justification for the criticism that library professionals too often treat users as "adversaries rather than as allies.

While library professionals will continue to serve some of their current roles, below are some of the new or changing roles they will play in an increasingly networked information and digital environment.

## Role of Librarian in Internet and World Wide Web Environment

Internet and World Wide Web are very powerful and bringing changes not only in library professionalship but also in his daily professional activities. Ever since the creation of United States Machine Readable Cataloguing (USMARC) record in the late 1960's and the resulting proliferation of online catalogs, library professionals have been spurred by technological developments to become more efficient organizers, indexers, abstractors, archivers, in addition to assuming new roles such as, intermediary, facilitator, end-user trainer/educator, web organizer & designer, researcher, interface designer, knowledge manager/ professional and sifter of information resources. While the librarian plays many roles in an organization, it is difficult to identify a role as primary one as the same changes from time-to-time depending on the organizational objectives and requirements.

## Library professionals as Search Intermediary

In an organization, though library professionals began training end-users to perform their own searches, the demand for searches by information professionals have not decreased. End-users having been trained and having performed some of their own searches became aware of the complexities of searching, the limitations of some of the resources and of the searching process especially on World Wide Web. So, a more educated user who continues to perform simple searches on his own behalf, returns to the librarian or information specialist to perform the more complex searches. The effect on library professionals has been an increase in workload because the searches are more complex and the amount of time per search has increased. Hence, there will always be a role for the search intermediary. An Intermediary is defined by Peter Ingwersen (Ingwersen, 1992) as "A person or mechanism placed physically between IR (Information Retrieval) systems and actual user with the
purpose to transform interactively requests for information to query formulations that suit the retrieval components of one or several IR systems, to model and support the actual user as to his information need and underlying goals, and to provide information of potential value to that user from IR systems". Traditionally a human intermediary is a librarian or an information specialist. An IR system includes text-presentations, classification and indexing systems, and IR techniques in catalogues and databases or other information sources. However, research in this field is directed towards implementing non-human intermediary functions into online IR systems through user interfaces and system setting. In addition to more efficient and more effective searches by library professionals, research has determined that a single librarian or information professional can save the equivalent amount of time of three, or four, or even five end-users. In other words library professionals are three, or four, or five times more efficient and more effective than end-users are at performing their own information searching activities (Griffiths, 1995). This, probably, is the most important point to remember, because it is why library professionals will continue to play a role in the newly emerging digital information world. So, those searches which are not straightforward will always tend to be delegated to an intermediary for querying and providing packaged answer, drawing on a range of resources like print, online bibliographic databases, Internet and Web documents. In India, the availability of infrastructure for exploiting the Web fully like high speed Internet connectivity, access to CDROM databases are in the process of catching up with the advanced countries like USA. However, the lack of the same is not a damper to the enthusiast of young library & information science professionals in the making. They have the idea and vision of what the Web can do and means to them.

## Librarian as Facilitator

The availability of electronic documents on Internet and the support extended by World Wide Web to access these documents have recently increased tremendously. Several print journals have shifted their platform to Web, which includes free and paid publications. In this scenario, it is imperative for the traditional librarian to acquire necessary skills in effective use of modern gadgets and associated software to locate and retrieve the widely dispersed information in the cyberspace. Not only he has to acquaint himself but also gain a degree of proficiency to effectively guide and train the information seekers in their usage. Thus, the traditional librarian has to play the role of facilitator in identification, gathering and arranging information infrastructure such as network access, software access, licenses and passwords to use charged resources like FirstSearch, UnCover, Ovid etc. The role of the facilitator if characterized by qualifications would be closely related to the ones of the librarian. It is likely to emerge that the traditional intermediary function of the librarian by its nature could create a basis for the role of the facilitator in a networked community (Schreiber and Moring, 1997). Normally, the facilitator does not solve the total information problems of users. He addresses the communications and information needs of the users in one way or another and makes an identification of resources for fulfilling the needs of users.

## Library professionals as End-User Trainer/ Educator

The number and variety of information sources available, whether locally or remotely via the WWW have increased greatly, and users in many cases have not been able to keep up with all of the choices open to them. Few users of the libraries are effective and efficient in accessing information resources. However, no matter how sophisticated interfaces and search engines come up in future information access systems, people still would need to be educated regarding their usage. Users will need to possess an understanding of essential information gathering skills and tools. The areas in which training is given by the librarian would include not only the use of electronic primary journals from many different publishers, but also the use of abstracts and indexing databases, databanks, CD-ROM publications and document delivery services. End-user training aspect of librarian would also include organization of information resources, search strategies, tools, information searching skills, awareness of resource constraints and alerts to users on new resources in their subject area. The librarian therefore, has a critical role in the digital library of future as educator or end-user trainer.

## Librarian as Web Site Builder or Publisher

The traditional skill of a librarian in locating, evaluating and organizing the information would be of immense use in the creation, development and content filling of a Web site for the organization and library. Web site of an organization provides access to external resources, where Web pages specific to their discipline are available. Managing organization's own information on the Web site includes details of course information, directories, statutes, annual reports, etc., The role of the librarian while creating a web page is to deliver information about the library and its services like hours of service, location of services, details of library staff, library policies, an interface to the library Online Public Access Catalog (OPAC), etc.

## Librarian as Researcher

Library professionals are highly skilled in the research process and possess a unique knowledge of the breadth and depth of information resources in various subject specialties. Library professionals are increasingly going to participate in and be critical members of research teams. By facilitating access to information – finding it, analyzing, synthesizing, and packaging - library professionals would move to the beginning of the information production cycle, playing a more substantial role in the information creation process. Teams within an organization should have an information professional who is responsible for the information gathering skills of the team.

## Librarian as Interface Designer

Interface design is going to become increasingly important and increasingly relevant to the way people access and use digital technologies. A beneficial way for library professionals to break out of their insularity is to become much more closely involved and collaborate in the work of computer and information scientists in tasks such as design, organization, development, and maintenance of digital library repositories, interfaces, search engines, networks and Web documents. Librarian can help in the design of technology-based information services and share their intimate knowledge of what users want and need as they have years of experience in helping patrons utilize electronic media and subsequently using Internet and World Wide Web.

## Librarian as Knowledge Manager/ Professional

Knowledge Management (KM) involves the identification and analysis of available and required knowledge, and the subsequent planning and control of actions to develop knowledge assets so as to fulfill organizational objectives. Organizations worldwide are realizing the advantages of enlisting library professionals in the KM systems. Librarian as a part of KM system can effectively participate in the process of knowledge creation which includes mechanisms for knowledge capture, exploitation and protection besides in required infrastructure creation by the virtue of capabilities gained as Information Managers of the organization. The creation of the knowledge center in an organization normally involves contributions from three groups of experts such as users, knowledge professionals and technology experts. Knowledge professionals are the individuals in the knowledge center who have the skills, training and know-how to organize knowledge into systems and structures that facilitate the productive use of knowledge resources. They include library professionals, managers, archivists, and others. library professionals to become Knowledge Managers or Professionals should possess variety of talents and perform the work with high level of skill and expertise. They should be able to ex tract, filter and disseminate vital external knowledge, and work side by side with users in collecting and analyzing strategic intelligence throughout the organization. library professionals, in future, would move from the background to the center of the organization. They would shed their traditional role as a part of support group, uninvolved in any critical functions, to a prominent position to jointly hold the reins of knowledge management with users and the technology experts. They would help steer and shape the knowledge policies, structures, processes, and systems that will nurture organizational learning
(Seonghee, 1999).

## Librarian as Sifter of Information Resources

Normally, sifter or siftware is described as "software programs to extract unknown, valid, and actionable patterns, associations, changes, anomalies, and rules from large databases".
This process is also known as "Data Mining". The Internet and Web provide access to vast information resources. The term "sifter" may be used for the skilled librarian who helps users make sense and order of the resources. The future belongs neither to the conduit or content players but to those who control the filtering, searching, and sense-making tools to navigate through the expanses of cyberspace (Saffo, 1994). In another words, the librarian can be a key player in the emerging scenario.

## Electronic Reference Service Librarian

Kenney (2002) posit that digital reference is also called chat reference, virtual reference, online reference, and synchronous reference. Lankes and Shostack (2000) write that digital, virtual, and e-reference are the same type of service and that they all use library professionals as intermediaries to assist users in finding information in a digital environment.
The Reference and User Services Association (RUSA) (RASD, 1996) has developed five steps to follow when helping library users: approachability, interest, listening/inquiring, searching, and follow-up. Electronic reference service is one of the new roles of library professionals in the digital environment.

## Advantages of digital library over traditional library

The table below highlighted the advantages of the digital library over the traditional libraries

| **Traditional Library** | **Digital Library** |
|---|---|
| Limited by Storage Space | Have the Potential to store much more information simply because digital information requires very little physical space to contain it. |
| Must Spend large sum of money paying for staff, book maintenance and Rent | Reduces, or in some cases, do away with these fees. |
| Accessibility to Users is Limited | Increased accessibility to users |
| Availability Restricted | Increased availability to users who might be traditional patrons of a library or organizational affiliation |
| Physical Boundary | No physical boundary. The users need not to be present physically. As long as an internet connection is available, people from all over the world can gain access to the same information. |
| Closes with Time | Round the Clock availability. There is access to information 24/7 |
| No Multiple Access | The same resources can be used simultaneously by a number of institutions and Patrons, provided copyright provisions are observed |
| Information retrieval in author, title, or subjects | The user is able to use any search term (word, phrase, title, author, or subjects) to |

| | |
|---|---|
| | search the entire collections |
| Preservation and Conservation is more promising especially for materials with little or no acidic content | Digitization is not a long- term preservation solution for physical collections, but does succeed in providing access copies to materials that would otherwise fall to degradation from repeated use |

Looking at the above table, it is evident that digital library has an edge over traditional library.

Strengths, Weaknesses, Threats and opportunities for library professionals in the digital library environment

Since the 1800s, the field of library professional ship has seen the technology grow from handwriting to electronic pen, to typewriter, to word processor, and now to computer. Electronic resources and the Internet now help to make the task of obtaining reference material more accessible and much faster than ever before. Already computer databases have rendered the bulky card catalogs obsolete and new media have broadened the range of materials available for browsing (Percovitz, 1995). The technology changes have been affecting almost every type of library including public, school, academic and special. Very few libraries have been immune to technology. Library professional ship is one of the oldest professions in the world and the times call for a new breed of library professionals, those who understand and integrate technology, information and learning into a new model (Drake, 1996). However, to sustain in the field of library professional ship, library professionals need to equip with technical skills such as knowledge of HTML, programming languages, knowledge of hardware basics and troubleshooting, understanding of software programs, and the skill to search, display, and retrieve data effectively in a variety of information retrieval systems (Morris, 1999). The following are strengths and weaknesses inherent in the library science profession.

## Strengths

1. By the nature of their profession, library professionals are service oriented.
2. library professionals are able to identify, evaluate and organize print as well as electronic information resources.
3. library professionals understand what the user wants and are very close to the user information requirements than other professionals.
4. library professionals are able to train users to search and retrieve information, which is a part of user education in his profession.
5. library professionals believe in the value of information sharing and networking.
6. library professionals are experienced in knowledge management concepts, which are most identical to the classification, cataloguing, documentation, storing and making information available on networks.
7. Last, but not least, ‘human touch’ they can impart.

Weaknesses

1. The general feeling of the library professionals is that they are threatened by technological change.
2. library professionals lack same level of technical knowledge in dealing with computer hardware, software, etc. as the concerned professionals.
3. library professionals are no longer acting as controllers of information especially while using Internet.

4. They are struggling with the user's false perception that the Internet can meet all information needs.
5. library professionals need to interact with knowledgeable users and IT professionals to understand their specific needs and to add value to their products. (Smee et…a 1999).

Threats (Challenges***)*** Is the Internet a threat to library professionals? Will the increasing use of Internet lessen library traffic? Can the libraries not online compete with those with online? These are some of the questions that are asked by those who all of a sudden became aware of what is happening in the library and information science field. It is a fact that information is no longer print based alone. It is a fact that Internet has become part of day-to-day life of a majority of academic, business and Government communities. It is every day scene that information resources, library users are turning to electronic media and phenomenal storage capabilities have been built into DVD-ROMs, portable hard disks, etc. Information, in a nutshell, is digital plus print. If libraries have to stay as information providers this reality has to reflect in their content, constitution, and working. This reality also should reflect in all budgeting and funding action of the libraries. The change that is called for is best viewed as an opportunity to stay tuned to the times rather than something undesirable. Inherent improvement has taken place in the normal work of the librarian and the opportunities that opened up as a result of digitization of information could be summarized as below.

## Opportunities

There are numerous opportunities for the librarian in Internet and Web environment in providing information services easily, timely and appropriately to the users.
1. Universal Accessibility of Material – Same electronic document will be viewed by multiple users simultaneously, which eliminates the waiting periods for popular documents in the library. Rare and fragile historical documents will be scanned and stored for electronic viewing by numerous users around the world for indefinite periods.
2. Patron Initiated Inter-Library Services – In the cyber library links will be provided for searching electronically stored material as in the traditional method by author, title or subject. Once the appropriate material is located, users can view at their terminal. If the desired material is not located during the search, the user will electronically forward a request to the librarian to arrange the document on inter-library loan from another library.
3. Book and Reading Lists – Reader's advisory services have not disappeared from the list of functions libraries traditionally perform. Web versions of book and reading lists are available for users.
4. Online Catalogs – The catalogs of many of leading libraries these days are available in Web-based and telnet based formats for platform independent easy browsing.
5. Local Databases – Creation and provision of access to local information by the library professionals has taken new life on the Internet.
6. E-Newsletters – Communicating the news of the library to its users of both physical and virtual collections takes many forms such as electronic newsletters-bulletins, etc.
7. Virtual Reference Desks – Earlier, reference librarian was available in person, or on phone. Because of the Web, virtual reference librarian is available via e-mail or through a Web form for providing reference services to the users. Many find that this facility is highly useful as it replaces the rigidity of sticking to timings for person-to-person contact.
8. Virtual Tours – Virtual tours have been created by the librarian to describe the physical library.
9. Web Forms – Web forms increasingly allow online provision of services formerly reserved for inside the wall transaction like Inter-library loan form, book and journal requisition form, suggestion form, etc.

10. Cooperative Cataloguing – library professionals use the Web to assist in cooperative catalog of Web-based resources.
11. Distance Education Support, provision of access to E-Journals, coordination of Electronic Bulletin Boards, posting guides, and hosting online tutorials are some of the opportunities for library professionals in the Web environment. It is an indisputable fact that knowledge is power in the modern organizations. Acquiring greater skill, wider knowledge and familiarity with the important facets of individuals work will definitely contribute to the enlargement of ones knowledge base. A knowledgeable librarian is better placed to face the changes and the uncertainties in the emerging scenario. Earlier times, library & information science courses were not very demanding and used to attract mediocre students. This situation is not the same any more. A library & information science student should possess the aptitude and ability to work with modern technologies in the field of information science. In order to serve in the modern information age, the erstwhile traditional library professionals would be better placed if they change their mindset and make efforts to become familiar, if not proficient, in the use of modern day tools.

## Conclusion

From the various literature reviewed, it is easy to conclude that the advent of information communication technology has revolutionize the traditional roles of the libraries and that of the library professionals. However, The traditional roles of the library professionals is changing from physical to virtual as library professionals now perform their traditional routines side by side with the new task that information communication technology has presented to them. Librarian now function as search intermediaries, facilitator, an end user trainer on the use of ICT, website builder or publisher, researcher of current and relevant information using the worldwide web, an interface designer using the ICT gadgets, a knowledge manager in an environment where there is influx of recorded knowledge in circulation. Library professionals have a strong future in the networked environment considering the numerous benefits of ICT in the library environment and the flexibility and new working platform that information communication technology has brought to field of library professional ship. Their function particularly that of teaching the campus community how to use the new information technology and resources most effectively, is clearly critical as long as the physical library survives. But even when the true virtual library arrives, the experience and expertise of library professionals will be invaluable for helping in the design of requisite software and hardware and, above all, for mediating, electronically and at a distance, between the information and the user. Their traditional role of assisting and instructing users will continue as, seeking to forestall user alienation, they endeavor to put a human face on information technology. Technology and the networked environment, an undoubted good for information seekers, are far too important to be left to technologists alone thereby giving the library professionals an open invitation to make know to the users of the library and the library how vast and efficient they can be in the digital library environment

## Reference


1. Anand, R. (2018). *Capacity Building of Library Professionals in the Digital Environment A Study of Universities of Karnataka State*. Karnatak University.
2. Wiederhold,Gio (1995). Digital Libraries: Value and Productivity. Communication of the ACM, 38(4).
3. Marchionin, Gary and Maurer, Hermann ( 1995). The role of Digital Library in teaching and learning. Communication of the ACM, 38(4)

4. Wilensky, Robert (1995). U C Berkley's Digital Library Project. Communication of the ACM, 38(4).
5. Witten, Ian H. et.al.(2001). Greenstone: Open-Source digital Library Software.. D-Lib Magazine, 7(10)
6. Mc Millan, Gail (1999). Digital Libraries support distributed education available at http://www.ala.org/content/navigationmenu/ACRL/ Events and conference/ macmillan99.pdf
7. Nyamboga, constantine matoke, asundi, AY, Kemparajee TD and pawinun, pratap (2004). Required skills of Information technologies for Library & Information professionals: A case of University Libraries in Kenya-Africa. IN International Conferences on Digital Libraries. New Delhi 24027 February, 2004. p. 629-635
8. Kanjilal, Uma(2004). Education and training for digital libraries: Model for web enhanced continuing education programme IN International Conferences on Digital Libraries. New Delhi 24027 February, 2004. p. 629-635