RESEARCH ARTICLE

INFORMATION COMMUNICATION TECHNOLOGICAL SKILLS FOR LIBRARIES AND INFORMATION PROFESSIONALS IN DIGITAL ERA

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ABSTRACT

This article analyses the role of libraries and information professionals in a digital library environment. The major focus for discussion is the availability of improved intellectual access to knowledge sources in a digitized world. With the growing emphasis on use of information technologies, libraries have undergone major structural changes in terms of their collection, organization and services. The traditional concepts of libraries are becoming absolute day by day with the emergence of new digital means of storage and dissemination of information. In the process of modernization, electronic resources and digital objects are replacing traditional library collections. The automation system and services of libraries are adapting new technology like electromagnetic, RFID etc.

INTRODUCTION

It is well recognized that libraries all over the world are undergoing transformation, especially owing to the development in information and communication technologies. Traditional libraries are changing to digital libraries and new libraries that are being set up are increasingly of the digital kind. As a result, there is widespread interest and consequently, a lot of research and development Activities are being carried out in this area world over. In India a number of institutions are also in the process of setting up digital libraries and many scholars and practitioners are conducting research on digital libraries. Most of the nations are utilizing these tools effectively and making their societies knowledgeable ones. Half of the 147 million people on the net are living in United States. One fourth of the Australian population has been connected with wire. In Africa, 1:4000 of the population is on the Net. China and India have started globalization in information industry and are investing heavily in fiber-optic cabling. More over India produced nearly 50000 information technology professionals over a year. In China, it is expected that, there will be more Internet users than cars by the year 2002.

What is ICT?

ICT Stands for "Information and Communication Technologies." ICT refers to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones, and other communication mediums. In the past few decades, information and communication technologies have provided society with a vast array of new communication capabilities. For example, people can communicate in real-time with others in different countries using technologies such as instant messaging, voice over IP (VoIP), and video-conferencing. Social networking websites like Face book allow users from all over the world to remain in contact and communicate on a regular basis. Modern information and communication technologies have created a "global village," in which people can communicate with others across the world as if they were living next door. For this reason, ICT is often studied in the context of how modern communication technologies affect society.

The importance of ICTs

ICTs present a revolutionary approach to addressing developmental questions due to their unequalled capacity to provide access to information instantaneously from any location in the world at a relatively low cost. This has brought down global geographic boundaries faster than ever thought possible. The resulting new interconnected digital world heralds the fluid and seamless flow of information, capital, ideas, people and products. Thus, McLuhan's notion of a Global Village seems more appropriate now than when it was first 55 coined. The advances made in convergence technologies, whereby the mode of information available is no longer restricted to text but includes real-time audio and video data streaming, have many implications for and applications in all fields of human knowledge as well as in social, economic and political life. In fact, many governments, the private sector and civil society members are beginning to recognize the immense potential offered by ICTs in overcoming structural and historical weaknesses. They argue that ICTs offer the

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developing world the opportunity to 'leapfrog' several stages of development by the use of 'frontier' technologies that are more practical, environmentally sound and less expensive than undergoing the traditional stages and cycles of progress to the information society.

Information and communication technology via library

Librarianship is purported to have changed more over the last few decades than in its entire previous history. The factors affecting such change may be divided into four categories: economics, technological, higher education and organizational (Farley, Broad-Preston and Hayward 1998). The wide spread use of ICT in libraries, and especially the development and access to digital information resources via the Internet, has raised a number of challenges and concerns for librarians. These include the impact of ICT on the role of librarians and the resulting need for new skills and competencies suitable for the digital information environment. According to Chisenga and Rorissa (2001) the role of librarians in the digital information environment is evolving. Librarians are now being expected to possess skills and expertise, in addition to the traditional library and information management skills specifically in the use of ICT, electronic publishing, digital information management and knowledge management. Technological changes have resulted in librarians constantly questioning their future and the competencies they will need to survive professionally (Woodsworth 1997).

Job advertisements today give some clues as to the skills required. A study conducted by Zhou (1994) which investigated the market change regarding the demand for computer literacy for librarians in academic and public libraries in the United States from 1974 to 1989, revealed that computer applications have changed in many aspects the ways by which libraries provide services. As a result, computer literacy has gradually become an important competency for librarians in many positions. Woodsworth (1997) suggests that technological competencies are the most critical ones for all librarians, even if they obtained their professional credentials as recent as the early 1990s. Basic competencies for librarians must include knowing what the Internet is and is not; evaluating and using hardware, software, and networks; and understanding basic computer and information science concepts. According to Marmion (1998) the biggest technology challenge facing the library profession today is that of preparing our employees to use technology effectively. To meet this challenge, libraries must pay much more attention to technology training and computer skills than they traditionally have in the past. Computers, connectivity, and electronic information are redefining the library profession and what librarians do. According to Latham (2000) technical literacy is no longer a specialty but a survival skill for all librarians. While this skill rapidly obtained a name, "computer literacy", little consensus has been developed on precisely what set of abilities it actually represents.

ICT Skills for library and Information Professionals:

Linda Ashcroft and Chris Watts (2005) Changes in the provision of information brought about through the emergence of electronic information resources have created subsequent changes in the skills needed by information professionals.

Information professionals are now expected to be aware of and capable of using emerging information communication technologies, as well as having essential communication skills. Professional bodies, such as CILIP in the UK and the ALA in the US, recognize the importance of continuing professional development in order to keep skills and expertise up-to-date for all aspects of work. The necessity of ICT skills has a clear impact on reference service professionals, with the emergence of digital reference services. A research project carried out at Liverpool John Moores University into the provision of electronic information in Nigeria identified a significant skills gap amongst information professionals. Collaboration and strategic management of resources may be key to alleviating this problem.

Krissof and Konrad (1998) argue that for librarians or users to consider them truly information literate in this day and age, it is essential that they develop both traditional literacy skills and fundamental computer literacy skills. Latham (2000) argues that every librarian should be familiar with all components of an office suite: word processing, spreadsheets, databases, and scheduling programmes. Further, librarians should be able to choose the appropriate application for the anticipated result, that is, a database for lists repeating the same type of information, spreadsheets for tracking numerical data, word processing for forms, for instance. Library staff, for that matter, should be able to make use of the extended capabilities of an application: to create charts, import graphics, and attach files, and so forth. They should know what is attached to their CPU, and how it is attached, and they should be able to perform basic troubleshooting functions: power source, monitor adjustments, reboots, printer response, and how to write down error messages. All librarians should be familiar with installing, configuring, and using a browser and should be able to discuss intelligently their favorite search engines on the Web and explain why they use each one. Librarians should also be able to discuss when a Web search is preferable to a print search, and vice-versa. Beyond the functionality, however, we need to look at ways to use e-mail to expand communications within the organization, particularly large organizations. Due to the penetration of standards, all staff should be familiar with whichever version of Windows is run within the organization, how to navigate through Windows (with and without a mouse), and how to manage files associated with Windows (Latham 2000). Librarians who are Webmasters need to have a working knowledge of HTML (Hyper Text Markup Language), tables, browsers, graphic placement, CGI (Common Gateway Interface) programming, UNIX and Java (Saunders- McMaster 1997). The challenge facing libraries is to get their librarians up to speed and to master the tools they use in working with electronic information. According to Marmion (1998) while many individuals, and even some institutions are already there, as a profession librarianship is not. Many research libraries, even, are not. Ongoing training is necessary if today's libraries are to keep up with changing technology.

Various ICT Skills for Library and Information Professionals

In the digital era environment today library professionals are calls for various skills. Since the study here is skill for handling digital era equipments, the required skill are listed below:

- Operating systems : basics of Dos , Windows ,network and UNIX
- Word processing, graphics spread and presentation.
- General purpose programming systems including the skills in bibliographic database management system.
- Interface / interactive tools : HTML, XML, visual basic
- Information retrieval software for online ,CD-ROM and internet
- Library software packages, acquaintances with digital library tools.

In the light of the above , a close look at the use and application of ICTs by developing countries is likely to reveal that expect a few cases in which positive developments have taken place, still remains much to be achieved and to overcome the identified gaps that are related to conceptual , operational and instrumental in nature .for instance the task of library automation in developing countries has been slow due to lack of knowledge of operational skills in using the library software packages . The information professionals in this context have to be accommodated to the basic structure and content of a library automation software package and related operations. It is stated that this task has been handicapped by some operational needs such as "financial constrains, lack of trained manpower , ineffective infrastructure , hardware and software cost and so on considering all the above aspects on the need of knowledge and skill in digital era in the light of the identified gaps.

Computer skills

The library professionals are required to acquire minimum skills of operating and maintaining a computer system with several works. Stations having a PC – AT /terminal in each section of library like book acquisition. Technical processing, circulation, information services   section. The minimum required skills are:

- Pc operating system effectively.
- Key board skill to use to terminal effectively.
- Ability to select ready-made programme package.
- Ability to handle computer unexpected emergencies.
- Common utility utilization.
- Common program packages use like word processor, spread sheet, Lotus 123 etc.
- Programming language knowledge like BASIC, COBOL
- PASCAL, D-BASE, for application programme development.
- Online searching of bibliographical data bases from remoter and in house data base.

b) Digital management Skills

Skills in higher education have hitherto conflated "Digital Management Skills" much broader and more directly related to the aims and process of higher education adds a knowledge creation activity. A clear distinction is made between information skills and digital Era.Both information skills and

digital management skills are seen as essentials parts of a wider concept of information literacy. A broadly based definition of information skills in higher education reflects twin dimensions of the "competent student "and the "information literate' person .For the development of the information literate person a model is proposed based on seven sets of skills developing form a basic competence in library and digital Era skills. The model attempts to address the key question of different levels of higher education work.

Information Management Skills

There is evidence of recent growth of activity in UK institutions in the area of information skills development. it is proposed that the development of the idea of "information literacy" requires a collaborative and integrated approach to curriculum design and delivery based on close co-operation between academic library and staff development colleagues. It is recommended that institution consider more explicitly, as part of the development of learning and teaching strategies, the size and scope of their own approach to information handling skills. Good practice from institution at home and broad should be more widely studied. It is recommended that higher education in India should be more proactive in contributing to that debate about the learning implication of "information society. A paper by Sheila corrall , librarian of the university of reading (1998), was a basis for our early discussions. This paper had highlighted the lack of consideration given to information skills in many of the recent publication and discussions concerning the key skills area. The report of the national committee of enquiry into higher education (the Dearing report, 1998) had emphasized the importance of skill which are "key to the future success of graduate whatever they intend to do in latter life ' and had identified a list of four communications skills, numeracy , the use of digital era .and learning how to learn . corral also reviews other such lists , which whilst sometimes expanding the number of skills , largely omit and explicit consideration of information skills.

Information skills

- Basic skills (use of keyboard , mouse, printer, file/disk management)
- Standard software (word processing , spread sheets , database ,etc)
- Network and social network application (electronic mail , internet , web browser)
  Information handling defined by corral, includes information sources, evaluation criteria, navigation methods, manipulation techniques, and presentation issues.

Challenges for Library and Information Professionals

➢ latest developments in search technology and how that impacts on the profession
➢ social networking in an information environment
➢ use a range of tools to organize and tag information
➢ mobile technology and virtual worlds
➢ Virtual libraries

➢ major shifts in learning and some of the emerging information behaviors of the digital age
➢ impact of changes in the media and publishing industries on user expectations
➢ political and economic pressures on library services and the potential responses to these
➢ importance of positive self presentation
➢ Changing users needs
➢ Emphasis on user training

Conclusion

LIS professionals face complex challenges posed by rapid revolutionary advances in ICT. Libraries have to redesign their positions to meet evolving needs. Librarians need to implement new practices and new technologies, manage change, and improve performance and competencies to face future challenges of knowledge society. They need to develop professional competencies to adapt changing technologies in order to deliver timely, value added quality content and world-class services to the users from their desktop. Library information professionals have to recognize the expanding nature of the technological changes and professional challenges that they face in the modern world and realize to improve the range of Professional competencies required to adapt and mange the changing technology successfully. The challenges represented by these competencies must be seized and acted upon today in order to ensure that librarians have better future in the twenty first century. LIS professionals must strive, struggle and improve new skills and knowledge about new technologies that will be needed to provide responsive Library Information Services to the users in the modern age.

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