

Information Communication Technological Skills of Library Professionals Working in University Libraries of Khyber Pakhtunkhwa

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Abstract: This study aims to identify availability status of Information communication technology (ICT) pre-requisite to librarians in University libraries of Khyber Pakhtunkhwa. Study in hand also examines perceived level of ICT skills and methods used by librarians to acquired ICT skill. The current study employed survey method approach. The data was collected from 73 Librarians working in 18 Public Sector Universities of Khyber Pakhtunkhwa, Pakistan. The response rate was 90 percent. The collected data was analyzed through descriptive statistics. Findings of the study shows that one or more computer (s) were available in each and every library of respondent. Most of the respondents were enjoying internet facility; but some the respondents were not using e-mail services in their daily routine work. The data also revealed that most of the LIS professionals possess good skills of MS Office; however few senior professionals were not aware of this package. Majority of the respondents have learned ICT skill through self-learning / online tutorial and friends / professionals colleagues. However some LIS professionals have acquired ICT skill through LIS Schools in Khyber Pakhtunkhwa. The results of the current study would be very helpful for the library professionals working in the university libraries when they are going to implement the ICT applications in their concerned libraries. The study in hand revealed the current ICT status in the university libraries of KP and provide helpful information to readers.

Keywords: Information Communication Technology, University libraries, ICT skills of librarians.

1. Introduction

Information and communication technology (ICT) has brought a paradigm shift in the services and operations of information centers (Burton et al., 2018). ICT is a basic term used for information technology (IT), indicating all technologies used for communication purpose including computers, internet, wireless network, cell phones etc., which enable the user to access, retrieve, store, and disseminate the information from one source to another (Wiki). Library printed resources and manual services are being converted from print and traditional to digital and modern resources and services (Ansari, 2013). Fourie (2004) opined that "they are part of a global world that is increasingly shaped by electronic networks and information technology". In this era of ICT, the adoption of modern technology is indispensable for the library professionals to ensure their survival in these competitive circumstances.

In academic libraries, the need of the modern applications is more needed due to the demands of the library users. Because of the improved communications and networking facilities, the academic library users are much active and smart nowadays, which provides more opportunities to librarians to enhance their library resources and services (Dhanavandan, Esmail, & Mani, 2008). Automation or computerization facilitates and make speedy library operations, library services, access, and delivery of information among the library users (Mairag and Elhadi, 2012). Technological awareness is base to sustain, employ, spread, and ensure exchange of intellectual work. The current study is an effort to examine the ICT pre-requisite

availability status to library professionals in Universities of KP. The study also reveals the perceived level of ICT skill and methods through which library professionals learned ICT skills.

2. Literature Review

Literature depicts that Information communication technology (ICT) is frequently used not only in libraries of high-income countries, but low-income countries libraries are also acquainted with modern or digital technologies to facilitate their users effectively. Few relevant studies have been discussed in below lines with the purpose to draw a clear picture of the importance of ICT in libraries.

Adoptions of information technology in libraries are very indispensable to facilitate the end users with new emerging and modern electronic devices. Same as nowadays, the librarians and information communicators are also adopting ICTs in their libraries and information center with the purpose to shift their information centers from printed publication to paperless data, from physical documents to e-documents and from physical access to virtual access (Natarajan, 2003). Gulati, 2004 conducted a research study and investigate the adoption of ICTs in special libraries and highlights the importance of e-information, e-sources, and e-services to research scholar in this digital era. The study also suggested that implementation of consortia (JCCC Consortium, INDEST Consortium) in Indian special libraries are also very important to facilitate the users and researchers effectively. A research study has been conducted by Nicholas et al., (2003) in UK to identify the usage of web technologies for health-related information and guidance to take an appropriate health decision. In this study the researcher collects the data from more than 1300 participants in UK. The study founded that majority of the respondents have access to internet from home and they frequently using web technologies for health-related information with the purpose to take wise health decision. In USA Becker (2004) studied 2250 teachers from public and private schools in respect of adoption of information technology and access to the internet. The study founded that 90 percent of the teachers have access to internet and frequently using the information technology in their daily life for various purposes.

The challenges related to adoption of ICTs were also discussed by different research scholar. Koindo (2004) depicted the challenges in academic libraries of low-income countries in the areas of selection and acquisition of e-information and e-management. Skill full staff and users, technological infrastructure, financial resources, selection, and acquisition of e-resource and their management policy are the vital challenges in developing countries. Establishment of digital libraries in underdeveloped countries to create a digital learning environment in present era is a big challenge (Parida, 2004). Similarly, Azeer (2003) also encourage the establishment of digital libraries with its design and implementation. The study further discussed various challenges related to hardware, software, storage capacity, accessibility, and security of information. Different barriers related to adoption of ICTs in libraries like technological, managerial, infrastructural, human resources and political barriers are also the emerging challenges in developing countries (Wijayasundara, 2005). Igun (2005) identified the challenges facing by the libraries in Africa are the establishment of electronic publishing and even obtaining of online books and e-information resources is still a big problem. Further challenges related to the adoption of ICTs in university libraries of Nigera and establishment of digital libraries were documented in different research studies (Ani et al., 2005, Krishnamurthy, 2005).

In developing countries like Pakistan, the libraries and information centers are adopting information technology up to maximum level and facilitating their end users efficiently. In Pakistan initially, the librarians were reluctant to adopt ICTs in libraries, because they fear that automation and digitization of libraries will reduce the employment opportunities, but gradually they realized the importance of ICTs and started to adopt it in libraries (Mairaj & El-Hadi, 2012). In Punjab University the skills and technological competencies of librarians have been studied and resulted that most of the library professionals have command on word processing but lacking behind in computer hardware technology. The participants were acquainted with internet function, web Dewy, OPAC, and MARC records but at advanced level (Batoool & Ameen, 2010). The study suggested that library professional in Pakistan should learn ICTs course like computer programming, visual basic, JAVA and networking. Similarly, Mahmood (2001) conducted a research study related to capacity required for university librarians in Pakistan and studied various competencies. The study resulted that information technology competency having the higher rank among all competencies required for academic libraries and due to dynamic nature of digital environment in Pakistan, the

librarians must equip with ICTs, automation, networking, internet, multimedia, and imaging technologies. Nasreen (2013) also investigates ICT proficiency of librarians in Universities of Karachi to design training programs and refresher courses for library professionals. Research students of Botany, Zoology and Biotechnology at Bahauddin Zakariya University, Multan depicted unawareness and inadequate skill of MS Office, HEC digital library and Endnote software and other ICT tools usage for information, education, and research purposes. Similarly, Ahmad & Rehman (2016) examined 104 professional librarians working in 14 public sector universities of Khyber Pakhtunkhwa to identify capacity of librarians and training required to update the capacity buildings of library professionals. The study founded that the level of ICT competencies in KP is still unsatisfactory due to self-study to obtain ICT skills and inadequate staff in libraries are the main hurdles.

3. Methodology of the study

The study in hand is quantitative in nature and descriptive survey method was applied to conduct the same. The items for the structure questionnaire were acquired from the relevant literature. Census base data was collected from all the 73 library professionals of these public sector universities of KP. The data collection tool was distributed amongst the participants through personal visits, email and google docs. Total 90 percent responses were received from the population. The collected data was analyzed through Statistical Package for Social Sciences (SPSS) and excel sheet.

3.1 Objectives of the Study

To determine the availability of ICT pre-requisites in university libraries of Khyber Pakhtunkhwa.

To perceive the level of ICT expertise among the University librarians of Khyber Pakhtunkhwa.

To explore methods/ means through which LIS professionals learned ICT skill in university libraries of Khyber Pakhtunkhwa.

4. Findings of the study

4.1 Demographic information

There were 60 (90.9%) of the respondents were female while only 6(9.1%) were male. Age wise the largest group of the respondents was 31-40 years which were 30 (45.5%) of the total population. Age group of 51-60 years fall second where 14(21.2%) participants took part in this survey. 13 (19.7%) respondents revealed their age 25-30 years and only 9 (13.6%) respondents were in the age group of 41-50 years out of 66. Most of librarians (95.5%) in the university libraries of KP are MLISc qualified, however, only 3% have higher qualification i.e., MS/MPhil. Table 1 shows designation-wise distribution of the studied population.

Table 1. Demographic information of the librarians

Positioning / Designation	No	%age
Chief Librarian	2	3.0
Associate Librarian	2	3.0
Deputy Librarian	4	6.0
Assistant Librarian	53	80.3
Senior Classifier	2	3.0
Cataloguer	1	1.5
Library Assistant	2	3.0
<i>Professional Experience</i>		
Up to 5 years	9	13.6
6 to 10 years	23	34.8
11 to 15 years	16	24.2

16 to 20 years	2	3.0
20 to 25 years	6	9.1

*N = 66

4.2 Availability status of ICT pre-requisites of librarians

Since the computers and other information communications technologies are indispensable in every walk of life, respondents were asked to mention the availability status of computer, internet facility, library website and Web OPAC in their libraries. The data reveals in Table II that one or more computer(s) were available in every University library of the respondents. The internet has become very important source for libraries and librarians at universal level, to improve the collection, develop services and operations (Haneefa, 2007). Analysis of the data related to information access technologies indicates that access to internet was available to 60 (90.9%) respondents, only 58 (87.9%) respondents were using their e-mail services in their information center. It is observed that 6 (9.1 %) librarians were not provided the internet facility in their libraries in this age of information technology. Moreover, 2 (3.0%) information officers were not using their e-mail services despite of the fact that were provided the internet facility in their libraries. Internet is a fundamental tool to use for access, store, and dissemination of information (Ramzan, 2009). This reflects discouraging position in university libraries, that some of the library professionals have no internet facility while all those who have the same are not using them for the email services. Furthermore, there were only 26 (39.4 %) librarians using official email services. The data analysis also showed that 63 (95.5 %) librarians out of 66 had no library website and library Web OPAC in their information center.

Table 2. Availability status of ICT Pre-requisites

	Yes	(%)	No	(%)
Computer	66	100	0	0
Internet Facility	60	99.9	6	9.1
Usage of E-mail	58	87.9	8	12.1
Official E-mail account	26	39.4	40	60.6
Library Web sites	3	4.5	63	95.5
Library Web OPAC	3	4.5	63	95.5

*N = 66

4.3 Level of Expertise in ICT

In Pakistan, Computer was initially introduced by Pakistan Scientific and Technological Information Center (PASTIC) in 1968 for the purpose to prepare the first union catalogue of scientific periodicals in the country (Ramzan, 2009). In the beginning librarians were frightened, but later they started to adopt this technology. In this regard the librarians in Khyber Pakhtunkhwa were inquired to determine their level of expertise in the use of Microsoft Office, search engines and Web browser. Five-point Likert type scale was used for this purpose, in which 1 represent excellent, whereas 5 show no knowledge in Table III. Thirty-one (47 %) respondents rated their skill as excellent in MS Word, 27 (40.9 %) were good and only 1 (1.5 %) participant possessed no knowledge. It was found out that most of participants had possessed good knowledge of MS Office; however, some senior LIS professionals were less acquainted in university libraries of Khyber Pakhtunkhwa. Most of the library professionals had good grip on using search engines and only 5 (7.5 %) respondents stated that they are unable to use this technology. Most of the library professionals of these libraries responded that they have good skill of using web browser, whereas only 4 (6.1%) participants had no knowledge of Web browser.

Table 3. Level of expertise in ICT

Excellent		Good		Fair		Limited		No Knowledge	
Nos.	%	Nos.	%	Nos.	%	knowledge	Nos.	%	
						Nos.			

MS Word	31	47.0	27	40.9	7	10.6	0	1	1.5
							0		
MS Excel	8	12.1	30	45.5	14	21.2	9	5	7.6
							13.6		
MS Power Point	11	16.7	32	48.5	13	19.7	5	7.6	5
MS Access	1	1.5	23	34.8	21	31.8	12	18.2	9
Search Engines	22	33.3	29	43.9	5	7.6	5	7.6	5
Web Browser	17	25.8	33	50	7	10.6	5	7.6	4

* 1= Excellent; 5= No Knowledge; N= 66

4.4 Methods used by Librarians to acquire ICT skills.

Librarians were inquired to expose the means through which they acquire ICT skills. Fifty-eight (87.9 %) participants indicated, they have acquired the skill through self-learning / online tutorial and friends / professionals' colleagues. Forty-four (66.7 %) respondents specified that they had learned the skill through short training courses like lectures, seminars, and workshops etc. and 18 (37.3 %) indicated acquiring the skills through specific diploma or certificate courses. Only 14 (21.2 %) librarians identified that they have learned the skills through library schools. This question was included to clarify the doubts, that librarians may have acquired ICT skills from library schools. This study shows that LIS professional in university libraries of Khyber Pakhtunkhwa acquire ICT skill through self-learning / online tutorials and friends / professional colleagues, followed by through short training courses like seminars and workshops. Acquiring skills from library schools and specific diploma / certificate courses was low, indicated by LIS professionals. This call for induction of separates courses on ICT in library and information schools, curricula. Teaching regarding ICT in library schools of Pakistan will prepare the next generation library staff for the coming challenges.

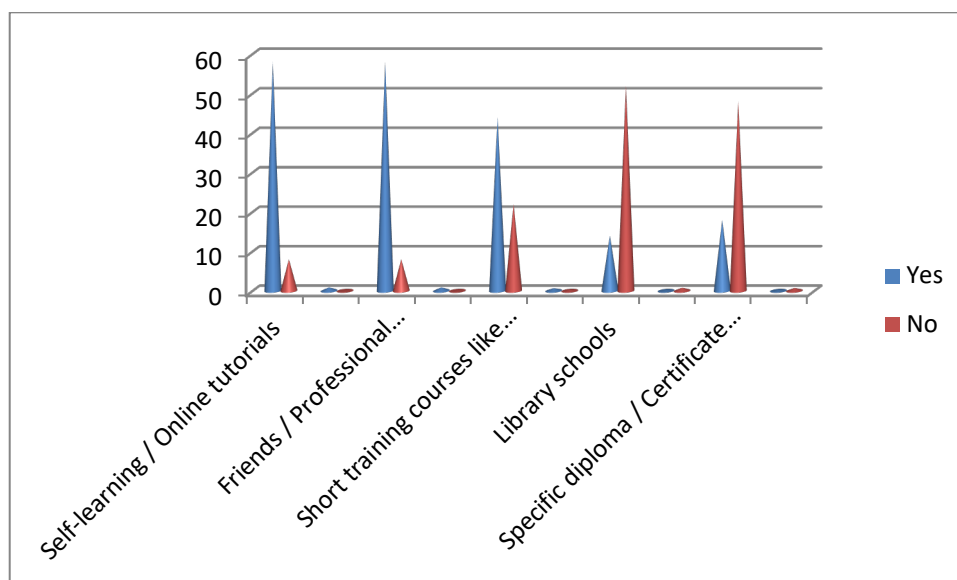


Figure 1. Respondents' methods, used to acquire ICT.

5. Discussion

This study founded that computer (s) were available in every library. Majority of the librarians were using internet but of those some senior librarians are still lacking behind in the usage of internet. This result is like the study of Ramzan (2009), who founded that university librarians are still very behind to use information technology (IT) effectively in their respective libraries, beside the availability of internet facility.

Furthermore, the study reported that senior librarians are less equipped with IT expertise and still operating libraries manually. The present study founded that mostly young librarians were more computer literate as compared to senior librarians. This finding is agreed with the finding of the study Babu, Vinayagamoorthy, and Gopalakrishnan (2007), which is being conducted in Tamil Nadu. The researchers founded that young academic librarians were more IT literate in engineering educational institutions as compared to the old librarians. Some other research studies like (Ayoku & Okafor, 2015; Haneefa & Shukkoor, 2010; Satpathy & Maharana, 2011; Thanuskodi, 2011) also supported the result and depicted that majority of academic librarian were more computer literate.

6. Conclusion and Recommendation

Universities are providing higher education to masses and played indispensable role in promotion and growth of a country or nation. The adoption of modern technology in the libraries of these universities are indispensable. Furthermore, to manage such modern technologies, recruitment of the IT librarians is also the need of the time. Finding of this study reveals that every University library in Khyber Pakhtunkhwa possesses one or more computer(s) in their libraries. Internet facility is available in most of libraries, however only 6 librarians have no access to internet in this age of information explosion. Majority of the librarians using their e-mail services for various professionals and non-professionals purposes. It was noticed that two LIS professionals were not entertaining the internet facility, despite its availability. Universities are higher learning seats, and their libraries must be well equipped with modern information technologies. University authority and Higher Education Commission should provide more computers, scanner, and stable internet connection to all the librarians of the country.

Most of the library professionals are expert in MS Office, but some senior librarians had less knowledge of the said technology. Most of the respondents possessed knowledge of search engines and only 5 out of 66 participants stated, that they have no knowledge of using search engines effectively. Half of the participants graded their skills as good in using Web browser, whereas only 4 library professionals believed they had no skills using Web browser. Majority of the librarians were in the view that they have learned ICT skill through self-learning / online tutorials and friend / professionals' colleagues etc. But most of the respondents pointed out that LIS schools in Khyber Pakhtunkhwa is lagging to produce ICT skillful librarians in the market. To provide ICT skillful professionals in the market, LIS School, University authority and professionals association should provide training opportunities to librarians at national and international level. Current curriculum of LIS Schools is not enough to fulfill the gap of ICT skills of new job librarian market. Thus, it is the need of the day to update the curriculum and include all the subjects related to modern technologies and its usage in libraries. In this regard not only theoretical insight but practically hand on practices is required to produce skillful library professionals as per needs of job market.

References

1. Ani, O. E., Esin, J. E. & Edem, N. 2005. Adoption of information and communication technology (ICT) in academic libraries: A strategy for library networking in Nigeria. *The Electronic Library*, 23, 701-708.
2. Ayoku, O. A., & Okafor, V. N. (2015). ICT skills acquisition and competencies of librarians: Implications for digital and electronic environment in Nigerian universities libraries. *The Electronic Library*, 33(3), 502-523. doi:10.1108/EL-08-2013-0155
3. Babu, B. R., Vinayagamoorthy, P., & Gopalakrishnan, S. (2007). ICT skills among librarians in engineering educational institutions in Tamil Nadu. *DESIDOC Journal of Library & Information Technology*, 27(6), 55-64.
4. Batool, S. H. & Ameen, K. 2010. Status of technological competencies: A case study of university librarians.
5. Bilawar, P. B. 2004. Impact of Communication technology on libraries and information services. *SRELS Journal of Information Management*, 41, 187-192.
6. Burton, M., Lyon, L., ERDMANN, C. & TIJERINA, B. 2018. Shifting to data savvy: the future of data science in libraries.
7. Dhanavandan, S., Esmail, D. S. M. & Mani, D. V. 2008. A study of the use of information and communication technology (ICT) tools by librarians.
8. Fourie, I. Librarians and the claiming of new roles: how can we try to make a difference? *Aslib proceedings*, 2004. Emerald Group Publishing Limited, 62-74.
9. Gulati, A. 2004. Use of information and communication technology in libraries and information centres: an Indian scenario. *The Electronic Library*, 22, 335-350.
10. Haneefa, M. 2007. Application of information and communication technologies in special libraries in Kerala (India). *Library Review*, 56, 603-620.
11. Haneefa, M. K., & Shukkoor, C. A. (2010). Information and communication technology literacy among library professionals in Calicut University, Kerala. *DESIDOC Journal of Library & Information Technology*, 30(6), 55-63
12. Igun, S. E. 2005. Implications for electronic publishing in libraries and information centres in Africa. *The Electronic Library*, 23, 82-91.
13. Kiondo, E. 2004. Around the world to: The University of Dar es Salaam Library: Collection development in the electronic information environment. *Library Hi Tech News*, 21, 19-24.
14. Krishnamurthy, M. 2005. Digital library services at the Indian Statistical Institute. *The Electronic Library*, 23, 200-203.
15. Mahmood, K. 2002. Competencies needed for future academic librarians in Pakistan. *Education for Information*, 20, 27-43.
16. Mahmood, K. & Ajmal khan, M. 2007. ICT training for LIS professionals in Pakistan: A needs assessment. *Program*, 41, 418-427.
17. Mairaj, M. I. & El-Hadi, W. M. 2012. Applications of information and communication technologies in libraries in Pakistan. *Journal of the Medical Library Association: JMLA*, 100, 218.
18. Natarajan, M. 2003. Selection and evaluation criteria for electronic resources. *ILA Bulletin*, 38, 15-21.
19. Nicholas, D., Huntington, P., Gunter, B., Withey, R. & Russel, C. The British and their use of the web for health information and advice: a survey. *Aslib Proceedings*, 2003. MCB UP Ltd, 261-276.
20. Parida, B. 2004. Emergence of digital library services in India.
21. Ramzan, M., & Singh, D. (2009). Status of information technology applications in Pakistani libraries. *The Electronic Library*.
22. Satpathy, S. K., & Maharana, R. K. (2011). ICT skills of LIS professionals in engineering institutions of Orissa, India: A case study
23. Thanuskodi, S. (2011). ICT literacy among library professionals in the engineering college libraries of Tamil Nadu: An analytical study. *International Journal of Digital Library Services*, 1(2), 131-141
24. Wijayasundra, N. 2005. ICT in libraries: a Sri Lankan perspective. *SRELS Journal of Information Management*, 42, 139-154.