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USE OF INFORMATION TECHNOLOGY IN TECHNICAL SERVICES: A SURVEY OF UNIVERSITY LIBRARIES OF LAHORE

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ARTICLE INFO	ABSTRACT
	Information technology is currently taking center stage and has transformed the whole world into a global village with a global economy, which is increasingly dependent on the creative management and distribution of information. IT has enormous advantages and eased the delivery of information in third world as well. The goal of this study was to find out the level of IT uses in the technical services of the university libraries of Lahore. It is important to point out that focus of this study was the Central Libraries of the universities. To achieve this goal, the researcher went through a multiple phase research process. In the first phase, various sources of literature were reviewed to understand the different aspects of access and use of IT in the University Libraries and the instrument of questionnaire was used in the light of the reviewed literature. In the second phase, data were collected through the questionnaire. The population of this study was the University Central Libraries of Lahore that had been utilizing IT in technical services. In the third phase, the collected data were analyzed by SPSS, Statistical programme to reach at conclusions. In the final phase, conclusions were drawn and recommendations made on the basis of the findings and in the light of the study objectives. Findings of the study reveal that a good number of university libraries in Lahore are using IT in technical services. This use of Information Technology is on the climax not only among the Library Staff of the Universities but also among the students and teaching faculty. University libraries use IT for various library functions i.e., acquisition, circulation, cataloging and classification, reference services and information services. Recommendations of this study may be helpful for the improvement of the levels of IT used in the technical services of Public and Private Universities. The recommendations may also be instrumental in initiating and launching new web applications.

INTRODUCTION

Libraries play a vital role in the development of society. Since ancient times, libraries have been a treasure trove of information. These libraries have always tried to update themselves to keep pace with the fast changing times. They have constantly used modern technologies in acquiring, organizing, preserving, and disseminating information. The technology grew in the field of librarianship from handwriting to typewriter and then typewriter to computer. In present age, the activities remain same but the ways of doing them have been changed. With the emergence and development of information technologies, internet is the most pervasive information technology that has revolutionized the world in many ways. Information technology (IT) is "a very broad term encompassing all aspects of the management and processing of information by computer, including the hardware and software required to access it" (ODLIS, 2010). After an encounter with computer, man was trapped in its attraction. It started work as a calculator and became the most popular device in the business of life. With the passage of time it established its roots in the libraries and others important departments of life. It became an integral part of the life including its hard and software aspects and their requirements. After the great invention of Abacus and the work of Pascal, world became aware of it. It can be said that it illuminated and mesmerized the world with its wonders. IT is widely recognized as the most important revolution humankind has experienced since the industrial revolution and the development of movable-type printing techniques. Nkhoma-Wamunza (1997) mentioned that a country's development depends on the extent of use, speed of access and skillful

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applications of IT systems. The utilization of information technology has become an indicator of a country's wealth level. Many Think Tanks and the Experts give the view that a country's progress and development sometimes depends upon the modernity of technology. Information Technology in this context plays a vital role. The use, speed and the skills in Information Technology make the way of a country towards development. We can include many good examples from the contemporary world. Firstly to take an overview we have to understand the value of Information Technology. As for as the use of Information Technology is concerned in the academic portion, it has built its roots in many countries that exist on the Map of the World like; Japan, U.S.A., Russia and China etc.

Countries, which fail to prepare for information technology and do not use IT are likely to lose their global competitiveness, as IT has changed the way we live, interact, and communicate with each other (Gates, 1999). The usage of computers got more implication after the World War I. In the1930s the use of Computer was enhanced. Its significance increased day by day in World War II, computers were used to calculate and managed the weapons. This helped the Western allied to get victory over the Rivals. The use of Information Technology has been started in developed countries a long time ago. It has helped them to visit the moon and now in recent time to visit the Mars too. The countries that took keen interest in Information Technology, they crossed all the barriers of fictitious and conservative ideas and activities as well, and the nations or countries which ignored its use became far behind as compared to other nations. Electronic business, e-commerce, e-marketing, e-governance, telemedicine, wired money, virtual universities and digital libraries are the buzzwords of these days. Communication channels such as World Wide Web (WWW), internet, Intranet have linked people and information, and have fundamentally changed all the ways of scientific, technical, and even commercial information are transferred and accessed.

An essential factor in the use of IT is the realization that technology is not an end in itself but a means to an end. Al-Zahrani (2000) viewed technology as a vehicle to offer more efficient and effective delivery of current services and add new services to meet future needs of its users. He further stated that without a firm commitment to initial and continued staff development, the benefits of technology would not be fully realized. Information Technology is busy in spreading its wondrous effects all over the world. According to many critics, Information Technology is a tool that never ends rather it helps to make or go to the end of the things. Moon was a mystery for human, but after the development in technology, this mystery was transformed into a pleasant journey. Critics are of the view that Information Technology performs like a vehicle that serves like a transporter by giving and taking the services from one point to another. It also makes space for the new discoveries and information by keeping old ones. They are of the view that Information Technology performs well with all its uses and benefits, when the proper attention is given to its staff and their requirements. It is like a plant that grows with the proper care and attention; similarly the plant of Information Technology is required great attention. It is evident that IT has affected the libraries' processes and its services at large. Powel (1998) mentioned that computers,

networks, and other technologies have emerged as indispensable tools for assisting the library in serving its users. However, technology itself does not provide value to library users. It's the technical librarian who uses the technology strategically to organize library resources, services and systems as well as assists the library clients to use library sources more effectively and efficiently. It is worth mentioning that the use of Information Technology has become the permanent source of information access not only in scientific departments but also in libraries. Computers, networks and other important Technologies have risen as indispensable tool for helping the libraries and its users. It is also worthy to note that as for as libraries and the use of Information Technology is concerned, Information Technology does not give value the library itself. Rather it the librarian who uses it and makes the library and technology worth mentioning by arranging the library with all its assets along with helping the clients.

Gorman (2005) mentioned that technical services are as important in libraries today as in the past. The imaginative use of technology to enhance and expand library services and resources has, to a great extent, stemmed from innovation in technical services area. The technical services librarian is uniquely placed to have a rewarding career in service to humankind. According to knowledge of every person it was the time when our libraries were without the use of technology. Old and pathetic methods were used to operate libraries. Difficulty was a big hurdle in the way for the client as well as the staff of library. Many people avoided using libraries by themselves, but the positive point is that in the past and presents the importance of the university libraries sustained. In the past more staff was required to handle the library but nor in current times the use of Information Technology has made it easy to a great extent as compared to the past .With a minimum effort maximum result is gained.

IT implementation in Pakistani libraries is still in the stage of infancy. It has no comparison with that of the developed countries. We are lagging far behind them. We should keep this fact in mind. However, we should not try to jump that level at once. A steady and gradual improvement and development should be aimed at. Hard work and measured efforts are needed to reach the destination. For getting maximum benefits, information technology in Pakistani libraries must be conceived in the real sense. We must maintain standards in the implementation of IT projects. This is possible only when we train our librarians and professional staff (Mah Jabeen, 2010). In the Contemporary world, there are many developed countries for example United state, United Kingdom, Japan, Russia, China and many others. They are developed in every aspect. They are not only developed in economy or military, but are also developed in Information Technology. It is said that the education is a backbone of a country, so they are developed in their education too. The use of Information Technology in the university libraries has established. Their University libraries are computerized and are called digital libraries. This has made their libraries very attractive. But on the other hand while talking about the Pakistan, a developing country; the use of Information Technology is on the beginning level. While comparing with them we are far behind them, but it does not mean that we

should be discouraged or dis-hearted, the gradual and steady movement and improvement can take us at the most wanted level. The higher education sector of Pakistan has witnessed a significant expansion in recent years in the field of education and libraries. The libraries of higher education institutions of the Pakistan have largely introduced IT applications to perform technical services. Technical services (TS) are "Library operations concerned with the acquisition and physical processing etc, as opposed to the delivery of public services. Technical processing is performed "behind the scenes," usually in a technical services department. Many great advancements and steps are required to establish a well and efficient use of information technology as for as Pakistan is concerned, many significant and important measures have been taken by the higher education sector of Pakistan and Information Technology has been introduced as a useful tool.

Lahore is the provincial capital of the Punjab, the province with largest segment of population of the Pakistan. It is also known as "cultural capital of Pakistan" and "the city of colleges and universities". A large number of academic and research institutions are situated in Lahore. Presently, there are 26 academic institutions which are operational in Lahore (HEC, 2010). In Pakistan the population is increasing to a great extent at daily basis. It is considered among the most populous countries now. Two big cities i.e. Karachi and Lahore are considered more populous cities of Pakistan. Lahore is the capital city of Punjab, so it has great interaction in it for the residents of other parts that is why it is considered most populous after Karachi; many kinds of cultures exist in the city so it can be called as a multicultural city of Pakistan. Our population consisted of 26 academic universities of Lahore while the sample comprised of the Chief Librarian, Professional Staff and Technical Staff of the same 26 academic institutes.

Information technology has proliferated at an amazing rate in libraries and information centers. The literature on the topic is available on IT applications in all types of libraries. Haider (1998) traced the history of computer application in libraries of Pakistan and mentioned that Pakistan Scientific and Technological Information Center (PASTIC) was established in 1968. The centre supports to produce the country's first union catalogue of scientific periodicals, and profile of 100 scientists to start Selective Dissemination of Information service (SDI). History of Pakistan is not very old since its emergence, 67 years have been passed. Experts in the field of Information Technology traced the roots of Information Technology's use in libraries in the decade of 1960s. In the late 60s, its use planted its roots in the academic library that has converted into a plant. Approximately 100 scientists of this field started this program and they were successful in their attempt. In 80s Pakistan found a pleasant change in the form of automation. In start computer was a source of irritation for the university libraries but later on it got popularity. After a span of ten years, Agriculture University and research center, libraries started using computers. The University of Sindh, University of Jamshoro installed computers in the library in 1980. National Agriculture Research Council (NARC) Documentation Center also introduced computer applications in the 80s. Idrees (1995) mentioned that the 1980s saw a shift towards automation in Pakistani libraries.

He further mentioned that in the beginning, computers intimidated librarian but later everyone adopted this state of the art technology. Saeed, Asghar, Anwar, and Ramzan (2000) investigated the use of internet in the university libraries of Pakistan. The result of the study showed that 50 percent of university libraries had access to the internet. Majority of the libraries had only one terminal for the faculty. The statistics showed that only three libraries were equipped with more than one computer for internet access. The study also discussed the problems that were hindering wide use of internet in university libraries. Non availability of funds and lack of IT infrastructure were reported by a majority of the respondents. The study recommended further research to determine the problem of information technology application and development in academic libraries in Pakistan. Another improvement that took place in the Pakistani university libraries was the use of internet in libraries.

Firstly it was limited to one or few computers but with the passage of time it has transformed into vast area. Now more than 50percent it has captured the place of computer. The use of internet has helped to a great extent. Online books and catalogue are available now that facilitated the academic persons. Ramzan (2004) indicated the extent of hardware, software, and electronic databases available, their utilization levels, and degree of changes which have occurred in the use of IT in Pakistan's academic libraries. However, it is founded that the literature presents a scarcity in terms of any study on the use of IT in Technical Services of university libraries in Lahore. This study is an attempt to present a true view of the library technologies in technical services so that library planners and decision makers can identify the current use of IT and devise the way to use the same efficiently. The present study will further identify the hindrances in maximizing the use of IT applications by technical services departments/ professionals in university libraries of Lahore.

Significance of the Study

Since 1998, the government of Pakistan has focused on the use of information technology in both private and public sectors universities. Libraries are considered amongst the major organizations that rely excessively on IT applications. After the 1980s in the decade of 90s Pakistan government took a great interest in this context and took many revolutionary steps at the level of universities in both public and private sector. Information Technology has become so vital that libraries rely on it to a great extent. Hence the research in this area is important as it can provide evidence regarding the extent to which the application of information technology exists in the libraries of Pakistan. The use of IT in all basic departments of Library is evident. IT has been applied in reference services, acquisition and technical services departments etc. of the libraries. The goal of the study with research objectives was to: assess the availability of IT applications, explore the current use of IT and to find-out the major hindrances affecting the use of IT. The study will further make the recommendations to maximize the use of IT by technical services departments/staff of university libraries of Lahore.

Goals of the Study

The goals of this study are:

1. Assess the availability of IT applications (Acquisition system, E-DDC, LCSH Etc.) with technical services departments in the universities of Lahore
2. Explore the current use of IT by technical services departments/staff of the universities of Lahore
3. Explore the major hindrances affecting the use of IT by technical services departments/staff of universities of Lahore
4. Explore the current status of IT use in technical services
5. Examine the application of information technology in the context of software type in function, constraints to their use and efforts/ways of improving the IT applications

MATERIALS AND METHODS

This study is based on survey research design. Keeping the gaps and need of the time in view, the basic purpose of this survey was to get a broad understanding about various aspects of technical services. The survey was limited to all central libraries of HEC recognized universities in Lahore. The questionnaire was distributed in each ULL. The questionnaire contained both open and close ended questions, so it was analysed both qualitatively and quantitatively to reach at conclusions. Quantitative analysis was done with the help of Statistical Package for social Sciences (SPSS- version 17.0).The questionnaire was used as research tool and its copies were distributed among chief librarian, technical librarian and professional staff in the academic libraries of Lahore. A structured questionnaire was used as data collection instrument. Structured questionnaires are characterized by a group of provided fixed responses. The subjects of this study were Chief Librarian, Technical Services Librarians and Professional Staff working in the university libraries of Lahore. The updated list of public and private universities issued by Higher Education Commission was used to circulate questionnaire by post and by electronic means.

Population and Sampling

University Libraries of Lahore Recognized from HEC were considered as the population for this survey; the list of population was developed through electronic as well as physical sources. Address and phone numbers were also found from the HEC Web site. With the help of these sources, a list of 26 academic libraries of Lahore was prepared. Identification of the location of population was a major problem faced by the researcher during the survey. Different sources were used to identify the location of libraries such as Dog pill, Google search engines and the official Web sites of libraries. The researcher made numerous phone calls to 1217 (PTCL Inquiry Number) for acquiring the phone numbers of libraries.

Survey Instrument

For data collection regarding research objectives, a survey instrument was designed on the basis of literature review and research questions. The researcher used discussion approach with some professional librarians by personal visits to these libraries to get an insight of their current practices. The questionnaire was divided into two parts. First part was about Personal information and second part was about availability of

IT tools and uses of IT in technical services in university libraries.

Data Analysis and Discussion

After completing the data collection, the data was quantitatively analyzed for interpretation by using SPSS (Statistical Package for the Social Sciences) computer software version 17.0. Various statistical methods were used in the data analysis including frequent distribution and descriptive statistics. Views by respondents were analyzed in qualitative manner.

Participants' Designation

In the Questionnaire filling process, total of 78 participants participated and among them 58 professionals respond. Acquired results show that among the 58 respondents the majority was of the male having 36(62.06%) in and the female were 22(37.93%). 42(72.41%) respondents were the MLIS, 4(6.89%) MLISc, 3(5.17%) MLIS, MA, 6(10.34%) Simple MA, 1(1.72%) MBA, 1(1.72%) B.A and 1(1.72%) B.A BLIS. In the field of age, 23(39.65%) persons roundabout of 20-30, 13(22.41%) persons were about 31-40, 8(13.79%) were about 41-50, 10(17.24%) persons were about 51-to above, and the 4(6.89%) participants did not mention their age.

General Information about the Respondents

The first part of the questionnaire was dealing with the personal information about the participants. It collected information on designation, gender, age, qualification and library members. It also gathered information about availability of IT tools, used in the technical services of libraries.

Depicted views of the both participants and the respondents

The concluding questions of the questionnaire depict the views of the participants of research process in different ways by the studying the cluster of questionnaire. This cluster was having the quantity of 78 questionnaires. In the 78 only 58 questionnaires were responded. Among the quantity of 58 the response rate of the Question Number 31 which statement is "which projects are under to enhance of IT services" was in the strength of 28. The resemblance in the responses of respondents is (RFID, MARC, Digitization of collection, Collection of CDs & DVDs in cataloging, RFI, Conversion of LIMS in to MARC). The miscellaneous answers of other respondents are (Development of Library software, ICT training and workshops of students by HEC digital libraries, researchers and library staff, Designing subject gateway, check and balance system, indexing of library material (books. Journals etc.) Debugging, LOC availability on gateway, Conversion of LIMS in to KOHA. The study of these paradigms enables the researcher to draw a conclusion about the system that are operating in the academic university libraries in Lahore, recognized by the Higher Education Commission there are different types of systems that are using for the convenience of the students and teacher in study and

research projects. In the global world the development of the IT in library services has become a necessity.

Respondents' Opinion about the Use of ICTs

Respondents were asked to mention different Information Communication Technologies, which they were using for technical Services. According to the acquired results, 27 (46.55%) respondents were using IT tools for library, 10 (17.24%) were using online chatting, 8 (13.79%) were using telephone, 13 (22.41%) respondents were using e-mail for this purpose.

Graphical Analysis of Data

The analysis of the data has been examined in the graphical form and as well as in the form of their expected headings, that are given below: Provision of Digital Services, Networking, Computer Services, E- Cataloging, Qualified Staff in Computer Lab, Digitization, Digitization of Manuscripts, Computer Lab, Internet Facility, Electronic-Service, Internet Services, More than 100 Computers in Lab, Trained Staff, Courses for professional development, Advance Software's, IT services, Electronic-Collections, HEC Digital Library, Up to Date Computer Labs, Facility of Printers, Fax Machine Facility, Data Storage Facility, E-Communication, Library Websites, Online Public Access Catalogue (OPAC), Computers in Library, Antivirus/ Virus check, IT Applications to reduce Labor, User's Problems, Facility of Scanner, Copy Catalogue, Conversion of Data, Budgeting Provision, Enhance Knowledge, Technical staff, ICT Status, Technical Services etc.

RESULTS AND DISCUSSION

Data collected through questionnaires was analyzed and interpreted in this research work. All the University Libraries of Lahore Recognized from Higher Education commission were selected as a population of this study. Data was collected through the distribution of questionnaires among the Chief Librarian and professional staff in their libraries. Fifty eight questionnaires have been analyzed in this research work. For checking the electronic collections, 26 University libraries have been surveyed; the officials who responded from the libraries are 58 out of 78. According to the collected data, 9 (11.53%) officials did not have own electronic collections and 49 (62.82%) did house own electronic collection.

Findings

The results of the survey reveal a medium level of IT use and awareness in technical services among University libraries in Lahore about the benefits that could be derived in the use of online tools for acquisition, cataloguing and classification processes. The study further discloses the need for continuing education programmes for professionals for effectual use of the tools. The study shows that the use of IT in technical services has advantages over manual processes. The study reveals ICT infrastructural facilities as major constraints faced by libraries in the use of IT tools. One of the expectations at the beginning of the follow-up study was that, most of the

problems identified with the use of the IT in the Technical services University libraries of Lahore.

Conclusions

Within the scope of this study, the following conclusions are drawn from the data analysis and the review of related literature:

- There are a good number of university libraries in Lahore that have access to IT and are using the IT in technical services.
- A very small amount of literature is written and published with regard to the IT used in university libraries of Pakistan.
- Most of the libraries offer IT facility both to staff and users.
- Various types of Network connections are being used in the university libraries of Lahore but most libraries are connected through Local Area Network (LAN).
- Most of the libraries utilize high-speed internet connections.
- Some University libraries do have Web sites.
- Many university libraries are using Internet for various cataloguing and classification functions.
- Most of the university libraries face problems with regard to access and use of the IT while a few libraries do not face any difficulty.

Recommendations

Based on these findings and conclusions, the researcher offers the following Recommendations to get better the IT impact and usage in technical services in university libraries:

- A Significant effort is required to increase awareness of new technologies among the librarians and professional staff in Pakistan. Librarians should be more proactive in reading; discussing and publishing IT related issues and experiences.
- The majority of the respondents have received IT training through very short courses. Information literacy programs for longer durations (diplomas etc.) are needed to be organized by the departments of library and Information Sciences in Pakistan and the Pakistan Library Association.
- Internship should be mandatory.
- The competent authorities should raise the libraries budget in order to acquire IT hardware, software and to increase IT based collections.
- Inter-Library Loan and resource sharing should be introduced.
- It is recommended that there should be a separate budgetary allocation for the purchase and maintenance of IT based equipments, databases and other resources. The government and the semi-government sector libraries should seek more resources for IT spending.
- Libraries should have adequate hardware for administration and library services
- It is very imperative to upgrade the hardware capability of libraries and to provide an assortment of hardware

equipments such as computers, microfilm readers, CD-Writers and Multimedia.

- It is essential for the overall success of organizational programs that cooperation between libraries, computers centers, and other stakeholders should be increased within the professional limits. Chief librarians need to develop good working relationships with Computer Centers, Finance Departments, Library committees, Student bodies and the important organizational players to leverage political support for technology acquisition and implementation.
- We should work out new rules and regulations to accommodate technology based materials, and services, such as reference services and technical services.
- Library schools should modify their curriculum according to market needs.
- Information technology should be taken as a tool to enhance the technical services.
- More emphasis should be placed on improving the IT impact in technical services.
- Librarians should plan IT based projects vigilantly.
- Postgraduate courses are spread over two years in Pakistan, so interdisciplinary study is strongly recommended. Library Schools might offer courses for other departments of the university on the UK Library Schools pattern.
- It is necessary to include some formal project of study at postgraduate level and to revise the courses offered in information science. Some courses may be launched within the context of the UK courses such by giving access to information and management studies.
- More opportunities should be provided to existing teachers for visiting of abroad on short duration, enabling them to examine the application of information technology on the LIS courses.
- Library education in Pakistan must identify the practical implications of the information explosion, and the development of computer and media technology. The library staff should be allowed to study computer courses in computer science department of the universities. Otherwise the use of micro-computers can also be taught through specially arranged short courses.
- Not only young professionals but the senior professionals also need to learn new techniques. Learning is an ongoing process for all professionals at all levels.
- New rules and regulations must be devised to accommodate technology based materials and services. The process of IT implementation must be planned properly.
- There should be standard criteria for the allocation of funds for technical and other collection.
- The separate technical services section should be established immediately in all ULL.
- The sufficient numbers of professional, paraprofessional and non-professional staff should be provided where needed.
- Libraries should maintain the record of all kinds of answered, unanswered and referred reference queries for effective technical services and future planning.
- Chat and collaborative digital technical services should be offered in central university libraries. For that purpose

modern web2 tools like face book, myspace, you tube, wikis and blogs can be used.

- To measure the quality of technical services user satisfaction surveys, user perception and expectation should be conducted regularly, SERVQUAL, user satisfaction surveys SERVPREF can be used.
- The technical services staff should be trained especially in ICT based service so that they can provide the effective technical services.
- Libraries should make more efforts for full utilization of already available technical resources and services.
- PLA (Pakistan library association) should play an active role in the implementation of information technology and its head quarter should not be rotated. It should be mandatory for librarians to be the members of Pakistan library association like other professions.
- The courses should be more flexible and should be revised every two years to meet the changing needs of the information market.
- Being information professional, the librarians should be a host of skills and understanding including an understanding of library operation technological proficiencies, and understanding of human resources development in technological setting and basic management and planning skills.
- Most modern IT appreciations and web tools must be opted in the libraries of Lahore.
- The HEC's criteria for the establishment of new university may include suitable resources for technical services.

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