Review Article

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Impact of Information Technology on Health Science Libraries in India

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Abstract

The present study covers the changing scenario of libraries with the application of Information Technology. The impact of information technology widely visible on every function of the library. The present study analyzed the impact of information technology on libraries in general and on acquisition, serial control, classification and even on staff in particular. The results reveal that most of the staff members of libraries under study find that the information technology has changed the entire functioning of the libraries and has improved our efficiency.

Keywords: Information; Technology; Acquisition; Classification; Serial Control; Health Science.

Introduction

Libraries are service agencies organised in a systematic order to serve users. Libraries and information centres are creations of the slow and steady growth of modern civilization. The rate of growth of libraries and information centres and their use have been changing over the years. From the traditional services of lending books and other documents, libraries now offer various types of services. The emphasis of libraries and information centres has shifted from books to the feeding of information to the users. Information is a vital resources and essential ingredient in decision making. Technology is dominating every sphere of human activity. The computer application for various operations which is resulting in time saving and removal of drudgery is a great leap for mankind.

Information Technology

Information technology is a generic term used to denote activities relating to location, acquisition, processing, collection, organisation, storage, analysis, presentation, communication and dissemination of information using mechanical and electronic means such as computer, telecommunication and reprography. It involves the application of computers and communication technology in the task of information handling and information flow from the generation to the utilization levels.

Library being treasure house of information, not only acquire, store and disseminate information but also serve as an effective agency for creation of fresh ideas and new knowledge. The goal of a healthcare library is to provide suitable information materials useful for medical study, teaching and research purposes in healthcare institutions. A healthcare library functions as conservator of knowledge, ideas, teaching, research, publication, extension and service interpretation. Libraries supplement the classroom teaching work and provide wide range of knowledge required to attain intellectual pursuits. A well-equipped library is not only necessary for all teaching and study but also essential for research. A systematically developed library collections, serves as a major academic facility to the faculty as well as to students and enable them to achieve better results in their respective fields.

As per record of Medical Council of India there are about 150 Government and 184 private medical colleges and health science libraries in India, which are providing information services to medical

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professionals to facilitate them in medical information needs.

Out of the above mentioned health science libraries, only five health science libraries were studied and the questionnaires were sent to these libraries viz. B. B. Dixit Library of All India Institute of Medical Sciences (AIIMS), National Documentation Centre of National Institute of health and family welfare, New Delhi, National Medical Library, Indian Council of Medical Research Library (ICMR) and Maulana Azad Medical College Library, New Delhi. The scope of the present study is restricted to these five important health science libraries.

As the backbone of any research depends upon the data pertaining to the various facets of the topic, this paper deals with the data collected through questionnaire and other methods pertaining to the five Health Science Libraries under study. Thereafter, the collected data has been analysed to reach to certain conclusions.

As per the procedure followed questionnaires were distributed to collect the data from five Health Science Libraries on the impact of information technology on Health Science Libraries under study. 35 questionnaires were distributed among the professional staff having LIS degree of 5 healthcare libraries viz. B. B. Dixit library of AIIMS, ICMR, National Medical library, National Documentation Centre of the National Institute of Health and Family Welfare and Maulana Azad Medical College library. In all 20 duly filled questionnaires were received back and the data thus collected from the staff of these libraries has been analysed.

To assess the opinion of the library staff regarding impact of IT on library services and library as a whole, it is found that none of the respondent said that the services of the library are not improved after the application of IT. Only few respondents have the opinion that libraries are little improved. However, almost every respondent has the feeling that the libraries are very much improved with the application of IT. As per the questionnaire the areas which are very much improved include the efficiency of staff, effectiveness, user satisfaction, work environment, services and the level of staff. Some respondents have the opinion that collection arrangement, staff competence and even the communication have much improved by the application of information technology as shown in Table 1 below.

Table 1:

Rank	Aspects	Very Much Improved	Much Improved	Little Improved	Not Improved
1	Efficiency	10	10	00	00
2	Effectiveness	06	13	01	00
3	User's Satisfaction	06	12	02	00
4	Work Environment	05	14	01	00
5	Services	07	11	02	00
6	Cost Effectiveness	05	11	04	00
7	Level	05	15	00	00
8	Collection Arrangement	07	09	04	00
9	Staff Competence	08	08	04	00
10	Communication	09	11	00	00
	Total	**68**	**114**	**18**	**00**

Impact of Information Technology on Acquisition

Acquisition is the most important area of any library. Selection of document, ordering of selected documents, adoption of purchase system, keeping record of suppliers, reminders to suppliers and display of new additions are some of the work of acquisition department of every library. Respondents were asked to provide their opinion as to how the information technology has affected the entire functioning of acquisition section. Maximum respondents feel that information technology has made it possible to order for a document very fast through online. Most of them strongly agree that with IT application purchasing, selection of document and keeping up to date record have become so easy. Many respondents said, it has become very easy to display the list of new arrivals for library users just on a click. The responses received from library staff is given in Table 2.

Impact of Information Technology on Classification

Success of any library depends on the quality of organisation of library resources. It is said that the use of library reading material totally depends on the quality of its arrangement. If the library collection is well organised and properly arranged on shelves it improves its utilisation. The respondents were asked as to how the information technology is helping in classification of documents in libraries. Approximately 50% respondents are strongly agree about the various statements that were provided in questionnaire regarding impact of IT on classification like it has become easy to check the class numbers

already provided to old books available in library, hence enable the classifier to assign class numbers to the same books acquired again by the library. Rest 50% respondents are agree to the fact IT has not only saved the time of classifying the documents but also bring uniformity in class numbers. Table 3 provides the responses of library professionals in HSL.

Table 2:

Rank	Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
1	Faster Ordering	06	14	00	00
2	Easy purchasing	04	14	01	00
3	Updated Vendor's Record	05	15	00	00
4	Timely Reminders	07	13	01	00
5	Accurate and up to date orders	05	13	02	00
6	Easy Accessioning	07	10	04	00
7	Easy Book Selection	09	11	00	00
8	Easy New Arrivals Display	07	09	04	00
	Total	**50**	**99**	**12**	**00**

Table 3:

Rank	Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
1	Easy to check old Class Numbers	10	10	0	0
2	Easy to assign New Class Number	12	08	0	0
3	Save time in Class Number	11	09	0	0
4	Bring uniformity in Class Number	07	12	1	0
	Total	**40**	**39**	**01**	**0**

Impact of Information Technology on Circulation

Fourth law of library science says save the time of the reader. If the document is immediately provided to users it satisfies this law, therefore, the respondents were asked how the lending services are being improved by the use of information technology. They were asked how it has improved the circulation services like transaction records, over due charges, reservation of documents, generating of various reports and even to block the defaulters. Most of the respondents are strongly agree with the statements that information technology has improved the accuracy of circulation records, renewal of reservation record, status of loans and to prepare usage reports. Different reports as asked by the users themselves or even by the authorities to check the status of reading habits of students at a given period of time are also now possible to generate by the application of information technology. The details are given in Table 4 below.

Table 4:

Rank	Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
1	Improved accuracy	05	14	0	0
2	Easy renewal & reservation of items	08	10	01	0
3	Timely reminder letters	03	15	01	0
4	Easy status of loans	04	13	02	0
5	Speedy charging and discharging	09	09	01	0
6	Easy to prepare usage statistics	07	11	01	0
7	Easy to calculate overdue fines	08	11	0	0
8	Speedy blocking of defaulters	02	15	02	0
	Total	**46**	**98**	**08**	**00**

Impact of Information Technology on Serial Control

The quality of library resources depends on the number of journals subscribed by them. Libraries are now spending huge amount of budget on the subscription of journals. Therefore, the serial department of any library has its own importance. Realising the need and importance of serial section the respondents were asked various questions to assess the overall management of serials control by the application of information technology. All respondents strongly agree with all the statements asked by them. They strongly agree that with the introduction of information technology in serial department it has improved serial subscription and renewal, accurate record of subscription, immediate record of new issues, easy to locate the missing issues, easy to prepare list of periodicals and facilitate to generate various reports according to the need.

Table 5

Rank	Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
1	Improved subs. and renewal system	06	14	0	0
2	Up to date record of subscription	06	14	0	0
3	Faster recording of new issues	10	08	02	0
4	Easy to maintain record of missing issue	09	11	0	0
5	Easy to prepare list of complete volume	07	14	0	0
6	Facilitate to prepare list of periodicals	06	12	01	0
7	Easy to calculate fund utilization record	06	14	01	0
8	Uptodate Suppliers performance record	04	13	01	0
09	Facilitate to generate various reports	04	16	0	0
	Total				

Table 6:

Rank	Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
1	Facilitate more specific searches	11	08	01	0
2	Improved accessibility of information	12	08	0	0
3	Provides faster & accurate information	11	09	0	0
4	Greatly improved quality of services	07	12	01	0
5	Greatly Improved users satisfaction	05	14	01	0
6	Facilitate to provide new services	08	12	0	0
7	Increased user's expectations	06	14	0	0
8	Facilitate more value added services	07	13	0	0
9	Improved users opinion on services	07	13	0	0
10	Provides more information at low cost	05	13	02	0

Table 7:

Rank	Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
1	Upgraded my knowledge & skills	10	10	0	0
2	Made my work more interesting	08	12	0	0
3	Increased my job satisfaction	08	12	0	0
4	Improved working environment	09	11	0	0
5	Greatly Improved quality of my work	08	12	0	0
6	Improved my performance	11	08	01	0
7	Increased my moral and motivation	08	10	02	0
8	Facilitate to devote more time for user	07	11	02	0
9	Improved my status	09	08	03	0
10	Reduced my work load	06	09	05	0
11	Created fear of loss of my job	03	04	11	02
12	Created fear of new technology	03	02	13	02
13	Created vision problems	02	07	10	01
14	Increased pressure of learning IT	01	09	10	0

Impact of Information Technology on Library Services

Time has gone now when users were demand a document by author or by subject. The approach of users have totally changed during the present information age, hence libraries are also switching over from their traditional library services to modern and advanced services depending upon the approach of users. The respondents were asked many questions in the questionnaire as to how the information technology has changed the system of library services. Most of the respondents said that information technology has greatly facilitate more specific searches as per demand of users, improved accessibility of information from the heap of information in lesser time, provides faster and accurate information, facilitate more value added services and greatly improved users satisfaction. Only very few respondents, feel that the services are not much improved by IT application in libraries.

Impact of Information Technology on Library Staff

The responses received from library staff regarding the impact of information technology on their skills, it was observed that maximum respondents were agree to the fact that information technology has upgraded their knowledge and skills, increased their job satisfaction, greatly improved quality of work, improved overall performance and improved work environment. However, most of the respondents refused to the statement of creation of vision problem, fear of new technology and fear of loss of job with the

introduction of IT. But very few favour these statements as well. Some respondents said that IT has greatly reduced the work load of library staff. Few of them realised the fact that we have to learn more and more about new information technology in providing better library services.

Conclusion

The introduction of information and communication technology and its steady growth during the last decade of the 20th century and the first decade of the present century till date, has revolutionized every walk of human life. The libraries in general and Health Science Libraries (HSLs) in particular are no exception to this revolution. The aim of present thesis was therefore, to study the impact of Information Technology on select Health Science Libraries and their users. In the process of selection, five Health Science libraries namely B.B. Dixit Library of AIIMS, ICMR, National Medical Library, National Documentation Centre of the National Institute of Health and Family welfare and Maulana Azad Medical College library (all situated in Delhi) have been included for conducting this research. A number of aspects were taken into consideration to study the said impact as follows:

With the application of IT the areas which are very much improved include the efficiency of staff, effectiveness, user satisfaction, work environment, services and the level of staff. Information technology has made it possible to order for a document very fast through online. With IT application purchasing, selection of document and keeping up to date record have become so easy. Impact of IT has made easy to check the class numbers already provided to old books available in library, hence enable the classifier to assign class numbers to the same books acquired again by the library. Information technology application in serial department has improved serial subscription and renewal, accurate record of subscription, immediate record of new issues, easy to locate the missing issues, easy to prepare list of periodicals and facilitate to generate various reports according to the need. Information technology has greatly facilitate more specific searches as per demand of users, improved accessibility of information from the heap of information in lesser time, provides faster and accurate information, facilitate more value added services and greatly improved users satisfaction. IT has greatly reduced the work load of library staff. The staff have to learn more and more about new information technology in providing better library services. Apart from what has been described above, the chief librarian of any HSL must take care of the fact that their libraries remain the leaders in the technologies adopted, services offered and collections maintained to serve the elite class of users who in turn will emerge as the persons, maintaining the health of the society.

References

1. Baker, P.G. Electronic libraries of the future. Encyclopaedia of library and information science, Volume 50, supplement 22. Edited by Allan Kant and Hall, CM. New York, Marcel Dekker, 1997; p. 119-153.
2. Chaudhary, A.S. Exploiting network information resources for collection development in libraries. IFLA Journal, 1996; 22(1): 191-198.
3. Dysart, J.I. and Jones, R.J. Tools for the future : Recreating or renovating information services using new technologies. Computers in Libraries, 1995; p.16-19.
4. Fitzimmons, J. Information technology and third industrial revolution. Electronic library, 1994; 12(5):95-297.
5. Harinarayana, N.S. Concept of library automation. Herald of Library Science, 1991; 30(3-4): 174-175.
6. Kumar, P.S.G. Computerisation of Indian libraries. Delhi, B.R. Publishing Corporation, 1987; p. 6.
7. Money, P.K. and Nagaraj, C. Health information management: an introduction to disease classification and coding. National Medical Journal of India. 2007; 20(6): 307-310.
8. Planning Commission. Government of India 11th Five Year Plan (2007-2012). Report of the working group on health systems research, biomedical research & development and regulation of drugs and therapeutics. Government of India, 2006.
9. Prasher, R.G. and Sharma, R.K. ICT based information management in Indian libraries. Festschrift in honour of Prof. (Dr.) K. C. Sahoo. New Delhi, Bookwell. 2012.
10. Raman Nair, R. Computer application to library and information services. New Delhi, Ess Ess Publications, 1992; p.142-143.
11. Ramani, K.V. and Mavalankar, D. Health system in India: opportunities and challenges for improvements. Journal of Health Organisation and Management. 2006; 20(6):560-572.
12. Rao, S.S. Integrated health care and telemedicine. Work study. 2001; 50(6):222-229.
13. Renwick Shamin. Knowledge and use of electronic resources by Medical Science faculty at the University of West Indies. Libri, 2004; 43(3): 58-64.

14. Samal, P.K. and Gupta, S. Use of CD-ROM POPLINE database in NIHFW: a case study. *IAS*LIC Bulletin. 32(3), p. 125-127.

15. Sanyal, S. ICT, e-health & managing healthcare: exploring the issues &challanges in Indian railway medical services. Studies in Health Technology Informatics. 2005; 114:157-163.

16. Sharma, D.C. India takes to telemedicine for cancer treatment. The Lancet Oncology. 2001; 2(3): 128.

17. Singh, K.P. and Salek Chand. Use of e-resources in B. B. Dixit library (AIIMS): case study. ICoASL. Posters. 2011.

18. Singh, Surya Nath and Garg, B.S. Impact of information technology (Reprography) on biomedical information centres and libraries (ICLs) in India: a critical evaluation. Annals of Library and Information Studies. 2002; 49(3):113-118.

19. Wadhwa, S, Saxena, A and Wadhwa, B. Hospital information management system: an evolutionary knowledge management perspective. International Journal of Electronic Healthcare. 200; 3(2):232-260.