

A Study on the Application Level and the Difficulties of the Use of Information Technology at Academic Libraries of Kerman in Iran

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Abstract. The present research has been planned to determine the level of IT application, investigate the problems and difficulties resulted from lack of IT usage and also the statue of librarian training courses related to IT in Kerman academic libraries. The survey has covered seventeen libraries belonging to Shahid Bahonar University, Kerman Medical University and Islamic Azad University. Two kinds of questionnaires were distributed to libraries – one for librarians and the other for library staff. The findings of the survey have been analyzed using SPSS software. Results show that the level of application of information technology in Kerman academic libraries is acceptable but they should improve their status to match with ever increasing demand for better librarian services at universities; the most important problem and serious difficulty is the lack of educated librarians, which needs a suitable investment and planning; and although about 70% of librarians in Kerman academic libraries have participated in related training courses, the most serious difficulty in using information technology is still the lack of uneducated librarians.

Keywords: Academic libraries, Information technology, Internet, Librarians

1. Introduction

Information technologies entered into libraries especially academic and research libraries during 1960's. Libraries, at the beginning, employed information technologies to speed up their daily activities and reduce their operation costs. At that stage many of repetitive activities, organizing of activities, and loan systems were upgraded by information technology [8]. Traditionally, library and also academic library, was treated as an institution, which accumulates, classifies, stores and provides informational resources for users. All those processes were changed by fast development of information and communication technologies [13]. Perhaps the most profound changes have occurred in the arena of information technology in the present era. Some aspects of these changes are databases and e-sources that have become an integral part of academic library collections during the past decade [15]. The changes in libraries include the variations of the roles of librarians. Right now the instructional role and teaching users to find information in different media, seems to become more and more important for librarian when using information technology. For this, academic librarians have to develop new teaching information skills. [5] As Zhou [16] stresses, the current trends of advances in computer network connection have compelled libraries to move into a new technological environment. All library procedure, have changed through using information technology. IT and internet have brought about a proliferation of formal and informal electronic resources. [10] It is expected that an avoidable influence of information technology will affect libraries especially academic ones in Iran and also will change the librarians who are working in them. It will definitely upgrade library environments and will develop service capabilities. IT has changed the performance, skills and information needs of librarians. Traditional role and methods have been replaced by new skills and ways [1]. In the case of academic libraries in Iran, it is very essential and important for using IT. Increasing of library users, the needs for library materials inside and outside of libraries, growing of published materials, basic changing of the

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studying materials i.e. using of CD, e-journals and online databases and emerging of new and cheaper computers are some of reasons for using of information technology and automation [11]. The present research has been planned to investigate the application level of information technology in academic libraries of Kerman in Iran and also, find the difficulties related to them in the mentioned libraries.

2. Related Studies

Farajpahloo [6] in his research has a clear report from automation of academic libraries in Iran. He studied 28 academic libraries, and investigated the number of libraries which used computers. He considered the type of computers, the type of software and the difficulties in using IT in the studied libraries. The findings have shown that the difficulties such as the lack of information networks and the unadjustment of librarian educational programs with information technology are the most serious problems in using IT. Lynch [8] believes that information technology (IT) has affected librarians in three stages of: rebuilding, innovation and transformation. The first effect of IT was automation and rebuilding. The important characteristic of this stage is reduction of costs and speeding up of activities. In the second stage, libraries realized the new capabilities of IT. In addition to above advantages, they used it for new services. The third stage began at late 80's and library environments were changed due to the application of IT. Engstrom [5] has made an interesting study about the use and development of information technology at two different university libraries in Costa Rica. The mentioned universities are among the most important universities in the country. The development processes at the two universities have quiet different patterns. One of them has developed over a quiet long period of time, while, the other has developed very fast through the employment of information technologies. Both libraries are now considered developed and well-functioning libraries with good level of equipment and service performance. Databases, OPACs and internet are being used and both the librarians and students have adapted to the use of IT very well. However, financial difficulties are big problems for universities in Costa Rica. Ramana and Rao [14] have made a useful study about the use of information technology in central libraries in India. The survey has provided a useful summary of current state of the art of using IT in libraries in India. The survey confirmed that IT has deeply embedded in the management of information in university libraries. It has become a powerful tool in the management of routine library operations and services. The analysis has shown that the use of information technology in libraries is increasing steadily and significantly. The study has revealed an awareness of current developments concerned with end users. Davarpanah [4] has made a research project in the field of fundamental difficulties and problems in using IT in academic libraries in Iran. He has reported that academic libraries in Iran have several difficulties in successful using of IT. The problems according to their importance order are: governmental, economic, social and cultural, human resources, technical and management factors. He believes that to overcome these difficulties short and long term solutions should be considered. National guidelines for information technology, invention of suitable laws for information services, foundation of national organization for information services are to be responsibilities of government. He also emphasizes that the design and development of internal databases should be included in automation programs of academic libraries in Iran.

3. Research Objective

General:

The present research has been planned to determine the level of IT application, investigate the problems and difficulties resulted from lack of IT usage and also the statue of librarian training courses related to IT in Kerman academic libraries.

Specific:

- Determining the level of application of databases in Kerman academic libraries.
- Determining the level of application of computer networks in Kerman academic libraries.
- Determining the level of application of E-sources in Kerman academic libraries.
- Determining the difficulties in using of databases in Kerman academic libraries.
- Determining the difficulties in using of computer networks in Kerman academic libraries.
- Determining the difficulties in using of e-sources in Kerman academic libraries.
- Determining the statue of the education of librarians related to IT in Kerman academic libraries.

4. Methodology

In order to achieve valid results and in fact meet objectives of the research, two questionnaires have been used. One was designed for librarians with 24 questions and the other was prepared for staff working in Kerman academic libraries with 13 questions. The collected data are presented in tables and diagrams and SPSS software has been employed to analyze and discuss the results. The Surveyed society includes academic libraries belong to Shahid Bahonar University, Kerman Medicine University and Islamic Azad University. Totally, 17 libraries with 69 subjects as librarian and librarian staff participated in this study.

5. Research questions:

1. How much is the application level of databases in Kerman academic libraries?
2. How much is the application level of computer networks in Kerman academic libraries?
3. How much is the application level of e-sources in Kerman academic libraries?
4. What are the difficulties in using databases in Kerman academic libraries?
5. What are the difficulties in using computer networks in Kerman academic libraries?
6. What are the difficulties in using e-sources in Kerman academic libraries?
7. How is the statue of librarians related to IT applications in Kerman academic libraries?

6. Results:

In response to the first question about the application level of databases in Kerman academic libraries, the collected data are presented in table 1. The questioned people at medical university responded as follows: 27.8% very much, 11.1% much, 16.7% medium, 27.8% low. At Shahid Bahonar University the answers are as follows: 20% very much, 68% much, 8% medium and 4% low. At Islamic Azad University they answered as follows: 11.1% very much, 77.8% much and 11.1% medium. On the whole, 21.2% of librarians believe the use of IT is very much, half of them (50%) much, 5.8% don't answer the first question, and the rest evaluated it medium and low.

Table 1. The distribution of the application level of databases in the surveyed libraries

App. Lev. of DB	Medicine		Bahonar		IAU		total	
	num.	per.	num.	per.	num.	per.	num.	per.
very much	5	27.8	5	20	1	11.1	11	21.2
much	2	11.1	17	68	7	77.8	26	50
medium	3	16.7	2	8	1	11.1	6	11.5
low	5	27.8	1	4	-	-	6	11.5
no answer	3	16.7	-	-	-	-	3	5.8
total	18	100	25	100	9	100	52	100

The data collected from answers to the second question, about the application level of computer networks in academic libraries in Kerman, are presented in table 2. 27.8% of librarians at Kerman medical university quoted that the application level is very much, while 5.6% of them evaluated is very low. At Shahid Bahonar University the evaluations are 68% much and 12% medium. At Islamic Azad University, 55.6% of librarians evaluated it much and 44.4% of them answered medium. The average numbers of evaluations among the three universities are 50% much, 19.2% very much and 19.2% medium.

Table 2. The distribution of the application level of computer networks in the surveyed libraries

App. Lev. of C. N.	Medicine		Bahonar		IAU		total	
	num.	per.	num.	per.	num.	per.	num.	per.
very much	5	27.8	5	20	-	-	10	19.2
much	4	22.2	17	68	5	55.6	26	50
medium	3	16.7	3	12	4	44.4	10	19.2
low	2	11.1	-	-	-	-	2	3.8
very low	1	5.6	-	-	-	-	1	1.9
no answer	3	16.7	-	-	-	-	3	5.8
total	18	100	25	100	9	100	52	100

The data related to the third question, about the application level of electronic sources in Kerman academic libraries are presented in table 3. The evaluations from Kerman medical university are in the range of 5.6% for medium and 27.8% for very much. At Bahonar University, the majority of librarians, 56%, believe that the application level of computer networks is much, 12% of them answered low, while 12% responded very much and 20% of them chose medium. At Islamic Azad University, 37.5% of librarians responded much and 50% of them answered medium, while 12.5% evaluated it very low. The average evaluations among the three universities about the application level of computer networks are as follows: 15.3% very much, 40.4% much, 19.2% medium, 11.5% low and 5.8 % very low.

In relation to the fourth question, about the difficulties in using databases at Kerman academic universities, table 4 indicates that on the average, 19.2% of librarians believe that the difficulty is the lack of subject specialty, 25% of them evaluated it as the lack of search strategy, while 23.1% of librarians believes that inefficiency in English is the difficulty and finally 46.2 librarians quoted that insufficient training courses are the most serious difficulties.

Table 3. The distribution of the application level of E-sources in the surveyed libraries

App. Lev. of E-Sour.	Medicine		Bahonar		IAU		total	
	num.	per.	num.	per.	num.	per.	num.	per.
very much	5	27.8	3	12	-	-	8	15.3
much	4	22.2	14	56	3	33.3	21	40.4
medium	1	5.6	5	20	4	44.4	10	19.2
low	3	16.7	3	12	-	-	6	11.5
very low	2	11.1	-	-	1	11.1	3	5.8
no answer	3	16.7	-	-	1	11.1	4	7.8
total	18	100	25	100	9	100	52	100

Table 4. The distribution of the difficulties of the use of databases in the surveyed libraries

the difficulties	Medicine n=18		Bahonar n=25		IAU n=9		total n=52	
	num.	per.	num.	per.	num.	per.	num.	per.
the lack of subject specialty	3	16.7	5	20	2	22.2	10	19.2
the lake of search strategy	1	5.6	6	36	3	33.3	13	25
inefficiency in English	7	38.9	4	16	1	11.1	12	23.1
the lake of training program	8	44.4	12	48	4	44.4	24	46.2
other	2	12.5	-	-	-	-	2	3.8

The data collected from the answers to the fifth question are summarized in table 5. In all libraries at the three studied universities, the difficulties in using computer networks have been evaluated as follows: 32.7% of librarians believe that the difficulty is the unreliable electrical power supply, 40.4% of them quoted it as lack of sufficient training programs, 38.5% of staff answered it as the shortage of required equipment and 3.8% of questioned people, quoted other cases.

Table 5. The distribution of the difficulties of the use of computer networks in the surveyed libraries

the difficulties	Medicine n=18		Bahonar n=25		IAU n=9		total n=52	
	num.	per.	num.	per.	num.	per.	num.	per.
unsuitable electrical power	5	27.8	10	40	2	22.2	17	32.7
the lake of training program	8	44.4	7	28	6	66.7	21	40.4
shortage of required equipment	5	27.8	10	40	5	55.6	20	38.5
other	2	12.5	-	-	-	-	2	3.8

The difficulties in using electronic sources in Kerman academic libraries are evaluated and presented in table 6. The total evaluations are averaged in the right column. The most serious problem has been recognized as identification and collecting with 42.3%, the second important difficulty with 32.7% quotation is equipment supplement. 26.9% of librarians believe that the serious difficulty is maintenance and archive. The details of the evaluations of each university are presented in a separate column of table 6.

Table 6. The distribution of the difficulties of the use of E-sources in the surveyed libraries

the difficulties	Medicine n=18		Bahonar n=25		IAU n=9		total n=52	
	num.	per.	num.	per.	num.	per.	num.	per.
maintenance and archive	5	27.8	6	24	3	33.3	14	26.9
equipment supplement	6	33.3	9	36	2	22.2	17	32.7
identification and collecting	3	16.7	12	48	7	77.8	22	42.3
other	1	7.1	-	-	-	-	1	2.2

The data from the answers to the question seventh about the statue of librarian training courses in Kerman academic libraries are summarized in table 7. As it is observed, the majority of librarian staff (72.2%) at Kerman medical university has participated in related training courses. At Shahid Bahonar University 80%, and at Islamic Azad University 33.3% of librarians have participated in training courses. On the average among the three universities about 70% of staffs have participated in training courses.

Table 7. The distribution of the participation of librarians in training courses

training Courses	Medicine		Bahonar		IAU		total	
	num.	per.	num.	per.	num.	per.	num.	per.
Yes	13	72.2	20	80	3	33.3	36	69.7
No	5	27.5	5	20	6	66.7	16	30.8
total	18	100	25	100	9	100	52	100

The information about training courses which have been held for librarian staff are presented in table 8. At Kerman Medical University, 50% of librarians have participated in internet and introduction to database courses, 33.3% of them in operation system and 5.6% in programming courses. At Bahonar University, 52% of librarians in internet course, 28% in operation system and databases and 20% of them in programming courses have participated. At Islamic Azad University, the figures are 66.7%, 55.6% and 0 respectively.

Table 8. The distribution of training courses were passed in the surveyed libraries.

Title of Training Courses	Medicine n=18		Bahonar n=25		IAU n=9		total n=52	
	num.	per.	num.	per.	num.	per.	num.	per.
Operation System	6	33.3	7	28	5	55.6	18	34.6
Programming	1	5.6	5	20	--	--	6	11.5
Internet	9	50	13	52	6	66.7	28	53.8
Databases	9	50	7	28	--	--	16	30.8

7. Discussion:

According to the majority of librarians the application level of information technologies such as databases, information networks and electronic sources, in the academic libraries in Kerman, is much, (Tables 1, 2, 3). Therefore, it is concluded that with a much application of IT at academic libraries, the success of librarians and information scientists depend on their skills in using IT and communication facilities together with their professional knowledge in the field of librarianship. These help them to perform effectively as information scientists and information managers [3]. It is interesting to know that Azarang [2] believes that in developed countries such as USA librarians can not continue their jobs unless they get familiar enough with new emerged information technologies. Information Technologies is a threat for traditional methods of library practice. These technologies have attracted the attention of librarians from traditional ways into a big compilation of materials and innovative sources which are subjected to continuous changes. With changing the environment and condition of libraries, those can remain in their positions and continue to perform their roles who adopt the new changes of the situations. Therefore, it is essential for academic librarians to learn new technologies to continue their activities as specialists of information technologies. It is expected that information technologies have had an influential effect on the daily activities of academic libraries in Kerman. It is accepted that IT has upgraded of these libraries and improved their capabilities in their services. The profound effects of IT on librarians have changed their roles, skills and their required information. As it is observed in the previous section, according to the answers, the important difficulties in using databases and computer networks is the lack of trained librarian staff. IT may be resulted from unavailability of training courses as indicated in table 7, 30.8% of librarians have not participated in related training courses. Mookoh and Meadows [9] reported similar results in their research work in South Korea. According to their findings, the effective difficulties in using information technologies and computer facilities are lack of training courses in ICT, unavailability of technological equipment, uneducated staff for the use of information technologies and financial problems. So, the lack of educational programs and financial problems are common difficulties in Kerman and South Korea in the field of using IT. In the field of difficulties of using information technologies a research work has been done by Igwe [7] in Nigeria. The author concluded that the most serious difficulty in using IT in Nigeria is the shortage of financial sources. The other problems are to be the lack of specialist, inefficiency in English, the lack of communication facilities in political conditions. The financial problems in African countries are common because of their low incomes and resources. However, financial problem in Iran is not a serious problem for using information technologies. Davarpanah [4] in his study reported several difficulties and problems in using IT in academic libraries in Iran. His study covered all academic libraries in Iran. It is interesting to note that he didn't mention financial problem as a serious difficulty, while he concluded that the significant problems and difficulties were governmental, social and cultural, human sources and management factors. In the present research in Kerman academic libraries after five years similar problems are observed. The lack of trained librarian staff in spite of enough financial resources suggests that human sources and management factor are those fields should receive enough attention from authorities.

8. Conclusions

From the present research the following points may be concluded:

- The level of application of IT in Kerman academic libraries is acceptable, but they should improve their status to match with ever increasing demands for better librarian services at universities.
- The most important problem and serious difficulty is the lack of educated librarian staff, which needs a suitable investment and planning.
- Although about 70% of librarians in Kerman academic universities have participated in related training courses, the most serious difficulty in using IT, is still the lack of uneducated librarians. It suggests that the quality of training courses should be revised.
- Academic librarians in Kerman need to acquire skills that will enable them to create and manage information in electronic format

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