

Computer Applications in Jordanian University Libraries

Atif Yousef*

Abstract

The study surveys the usage of computers in the Jordanian University Libraries, obstacles and head librarians' perceptions toward automation.

The study investigated 22 university libraries, all of which are using computers for most library functions and administrative purposes. Variations in applications and in the future expectations are vast. Twenty respondent libraries (91%) use computers for technical processing, while the other two (9%) are at the beginning. The use of computers for public services also varies widely. The study reveals that the majority of the libraries are exerting continuous efforts to utilize computers and networks for improving their functions and services.

The study reveals that respondent libraries suffer from shortages of electronic resources and shortage of skilled staff employed. Three other obstacles with moderate effect, were lack of sufficient hardware equipment, lack of integrated and efficient software packages, and lack of sufficient funds. The study stresses the need for cooperation among these libraries, and standardization of their computerized systems.

Introduction

Universities in Jordan

Jordan witnesses substantial progress in higher education. The number of universities and colleges has gradually increased in the last decades. A statistical summary on higher education (2002) lists 22 universities, all of them award the first university degree, some of them award higher degrees. Seven of these are state universities. The University of Jordan was established in 1962. It is the largest university in the country with fifteen faculties, about 24000 undergraduate and postgraduate students, and more than 900 faculty members. The Yarmouk University was established in 1976. It is the second largest university in the country. Balka Applied University and some other state universities were established in the last decade of the twentieth century. The last State University in the country was Al-Hussain bin Talal University, established in 1999, to enhance the government educational developmental plans in the southern part of the country.

© Copyright 2005 by The Society of Arab Universities Faculties of Arts, All rights reserved

* Department of Libraries and Information, Faculty of Arts, Zarqa Private University, Zarqa, Jordan.

Private universities have been established to accommodate the increasing large numbers of students wishing to continue their education. There are twelve private Universities, along with one regional (The Academy of Financial and Banking Sciences), and one international (University College of Educational Sciences) of UNRWA were established in Jordan during the last decade of the twentieth century. Amman Private University, established in 1990, was the first private university in Jordan. Table 1 is a list of the universities in Jordan, showing the year of establishment, number of faculties, number of faculty members and the number of students, for the academic year 2001-2002¹. Data on 20 universities were obtained from a statistical summary published by the Ministry of Higher Education.

Table I: Universities in Jordan

University	Year	Faculties	Faculty Members	Students		
				U/G	Postgraduate	Total
STATE						
University of Jordan	1962	15	904	20236	3677	23913
Yarmouk University	1976	11	634	18797	2408	21205
Mu'tah University	1981	7		15646	565	16211
University of Science and Technology	1986	11	574	12688	683	13371
Al El-Bait University	1994	9	171	9078	614	9692
El-Hashmiyeh University	1995	11	270	9068	376	9444
Balka' Applied University	1997	9	101	3689	53	3742
Al-Husain Bin Talal University	1999	3	42	2031	48	2079
PRIVATE						
Amman Private University	1990	9	171	4430	--	4430
Applied Science University	1991	11	301	6850	--	6850
Isra' University	1991	7	128	3102	--	3102
Petra University	1991	10	171	2409	--	2409
Philadelphia Univ.	1991	7	227	6191	--	6191
Zaituna University	1993	7	154	4811	--	4811
Irbid Private Univ.	1994	4	128	3758	--	3758
Jerash Private Univ.	1994	7	139	4238	--	4238
Zarka Private Univ.	1994	6*	119	3867	--	3867
Princess Sumaiyah University College	1991	2	44	989	--	989
Amman Arab Univ.	2000	*	*	--	*	*
Jordan Academy of Music	1990	1	17	55	--	55
Regional & International						
The Academy of Financial and Banking Sciences	1988	1			--	*
Faculty of Educational Sciences	1992	1	20	408	--	408

Library Automation in Jordan

Libraries in these universities were established to secure relevant information resources, mainly to support administrative functions, back the teaching process, and enhance scholarly research. They also provide users with the necessary skills needed for self-education. University libraries are making use of electronic resources since a proportion of these resources is published in their electronic form only. Some users prefer consulting such resources, others use them with printed materials.

Johnston noted that¹ “access to physical resources seems highly desirable in many cases, it is certainly true that access to digital resource base of textual and non-textual materials will be central to the success of e-learning initiatives.”

However, electronic resources are very important and gain much consideration in libraries. This issue has become a rich field for research. Stolt² indicates that “electronic resources and tools are a constant source of discussion in all areas of library work; yet the growth of technology and the dynamic changes in information delivery have brought electronic resources into the center of our professional psyche.”

Electronic resources in full-text have proved their importance in the teaching process and for scholarly research. Multimedia, for example, is widely appreciated for such purposes. CD-ROMs as electronic resources are invaluable sources providing learners and researchers with huge amounts of information and flexibility in searching for information. Such sources are almost available in all academic libraries nowadays. In addition, communicating with these resources from distance at any time, even at night while the library is closed is another advantage. So, academic libraries, as other libraries need to be connected with information networks to gain access to remote information.

Lynch³ argues that “libraries will have to make a fundamental decision about the objectives of their future automation systems. Either the library will be one among many providers of networked information – or the library will try to establish itself as the primary access point for users obtaining networked information”.

Lynden⁴ indicates that “most academic libraries now have what are called Gateway systems which connect users with not only mailing lists, but also gophers, CD-ROMs, the World Wide Web, and other electronic sources. These sources not only replace or supplement print versions, but offer many other advantages. They connect scholars over long distances and provide almost instantaneous response time”.

In addition, Information Technology changes rapidly. Thus university libraries have to cope with this change. The study intended to find out if the libraries are able to cope with change in the era of information technology.

University libraries in Jordan face increasing public service demands for both students and faculty members. They need computerized systems to support them acquire materials, process them and make them accessible to such users in a quite helpful way. At the same time, technology is changing rapidly. The study intended to find out, among other issues, the existing applications of information technology in these libraries, and their perceptions toward change.

Related studies and selected papers

Review of some selected literature indicates that several studies on the use of computers in libraries in Jordan have been conducted.

In his studies Younis⁵ considers that “the 1980’s are the beginning of the automation era as far as libraries and information centres in Jordan are concerned.” Younis⁶ conducted a study in 1986 on the use of computer-based systems in Jordanian libraries. The study showed that 10 out of 255 surveyed libraries were using automated systems for various purposes.

A study by Bakhit⁷ on the use of CDS/ISIS indicated that 60 libraries of all types had acquired the package by 1991.

Shorbaji⁸ conducted a study on the standards used by 14 libraries in Jordan for selecting packages for database management.

Younis⁹ conducted a study in the late 1990s on the use of Arabized software packages in Jordanian University libraries. All of 17 respondent libraries were computerized. Nine of them (52.9%) used CDS/ISIS, six (35.3%) used MINISIS. The other two used customized packages. Insufficient funds and equipment, and unskilled staff were the major hindrances. The study suggested some useful recommendations.

Abu Eid’s¹⁰ study which covered 12 private universities in Jordan revealed that eight (67%) libraries used CDS/ISIS, four (33%) used MINISIS, Three (25%) used the Internet, and one library was connected online.

Al-Khateeb¹¹ discussed the major problems of computerization in Arab University libraries. The problems were due to administrative, financial, and technical reasons. The study also tackled the situation and experiment of the library of the Yarmouk University. The researcher also noted that three state university libraries in Jordan failed in building a local automated system (by that time).

Automation of several university libraries in Jordan was discussed in some papers in the Third Conference of Jordanian Librarians in 1998.

Athamneh and Al-Khateeb¹² discussed automation of library services in Yarmouk University. They mention that use of computers in the library goes back to 1984. It started with automating serial control only. In 1990 MINISIS was installed in the library. The study also lists the functions and services that were already computerized. The study also gives a list of acquired databases on CD-ROM, such as Science Citation Index, ERIC, SSCI, DA, and Biological Abstracts. The study also mentions the networks to which the library was connected

A study by Al-Salah¹³ in 1995 provided some prospects concerning automation in the library of the University of Jordan. The study revealed that acquisition, and cataloguing were already computerized, and more than 461.000 library materials were already in the database by that time. Seven databases on CD-ROM were also available in the library. The library was also connected to Dialog.

Al-Momani¹⁴ discussed the situation of the University of Science and Technology. The study indicates that no system was adopted to automate all the functions and services by the year 1998. The study provides that the library was connected to databases via Knight-Rider Information Inc. (Dialog). It also gives information on ten databases available in the library on CD-ROM by that time. The study also mentions that feedback obtained from faculty members was very positive, and considered these databases as valuable tools for research.

Sulaiman and Al-Qudah¹⁵ discuss their experience in automating the Library of King Hussein Bin Talal University. Their paper presents the steps they followed to build an automated system, using (Oracle) program.

Mansour and Al-Abboushi¹⁶ present the experience of Al-Isra University Library. They started with CDS/ISIS, then MINISIS and now use the Oracle database. This database was started in the middle of 2002. Their paper also discusses the reasons behind using Oracle. The procedures and the practical application of the new system were also highlighted.

Kasasbeh and Al-Hammouri¹⁷ discuss the library system of the Jordan University of Science and Technology (JUST). The system has been developed using Oracle 8i. This integrated software is capable for several functions, mainly acquisition, cataloguing and classification, circulation, serial control, and advanced searching.

Barakat¹⁸ highlights the experience of the library of Petra University since 1991. He noted that the experience of using a program prepared by a local

company failed. Then the library decided to use CDS/ISIS. A few years later the library transferred the data to MINISIS.

Al-Qasem¹⁹ discussed the issue of automated indexing of the Arabic periodicals in Yarmouk University Library. Indexing language, scope of the database, bibliographic description, and flexibility of retrieval were considered.

Review of the literature indicates that the situation of automation of the libraries have varied far widely for the last two decades. Computers in these libraries were used for several functions and services, mainly for cataloguing. The use of different systems was also noticed.

The study

The main objective of the study is to survey the current situation of computer applications in the Jordanian University Libraries in three main areas: administrative functions, technical processing, and user services. Another objective is to find out the major obstacles that might hinder the advancement of automation in these libraries. A third objective is to survey Head librarians perceptions toward future developments of automation in their libraries.

Population and Sample

The population of the study consisted of 22 (8 state, 14 private) university libraries in Jordan. All of these universities award at least the BA / MSc degree.

Research Methodology

This survey study attempts to investigate and discuss the use of computers in Jordan University Libraries: main functions and services. The main purpose of this study is to find answers to the following six questions:

- (1) What administrative functions are computers being used for?
- (2) What technical services are computers being used for?
- (3) What user services are computers being used for?
- (4) What are software packages implemented?
- (5) What are the main obstacles facing these libraries?
- (6) What are Head Librarians' perceptions towards automation in their libraries?

Survey Instrument

For the purpose of gathering data for this study, a written questionnaire was designed by the researcher (in Arabic). It is based on previous literature, and was

judged by five referees, three professionals in library and information science, and two specialized in Computer Science. The questionnaire was modified where necessary. The final version of the survey questionnaire was composed of six sections: a) general information about the libraries, b) use of computers for administrative functions, c) use of computers for technical services, d) use of computers for public (user) services, e) obstacles facing these libraries with regard to automation, and f) future expectations toward automation in the libraries.

Responses

Copies of the questionnaire were delivered by hand or fax. All 22 (100%) of the study sample returned responses to the questionnaire with usable data for the study. Two cases needed a follow-up to get the missing data by phone.

This instrument was supported by personal interviews and field visits. Review of some selected literature was also helpful.

Data Analysis

Analysis of the questionnaire responses, supported by data gathered from field visits, and interviews with head librarians in seven libraries, provided an overall idea about the use of computers in the Jordanian university libraries.

a) Computers, electronic resources, and manpower

All (100%) of the surveyed libraries provided that they all, collectively, use computers in one or more of their functions and information services. However, application of computers differs widely from one library to another. Variation is obvious in the type and number of computers being used, types of packages, and number and quality of functions and services obtained from computerization. The number of electronic resources also varied widely from one library to another. While seventeen (77.3%) libraries provided that they have CD-ROM collections, the other five libraries (22.7%) do not. Table II gives some indications on the number of CD-ROM collections and the number of libraries holding these electronic resources.

Table II: Numbers of CD-ROM s in 17 Libraries

No of CD-ROM	No of libraries	%
Less than 100	5	29.4%
100 - 200	2	11.8%
201-300	5	29.4%
301- 400	3	17.6%
More than 400	2	11.8%

Interviews with head librarians revealed that the greatest proportion of these CD-ROM were accompanying materials to hard copies, mainly books and magazines in computer science, reference materials, and software packages. Five (22.7%) of the libraries indicated that they also had electronic resources on floppy disks and full-text documents stored on hard disks. Fourteen (63.6%) libraries were connected to networks, mainly the Internet. Eight (36.4%) of them had access to remote databases. In comparison to hard copies, the number of electronic resources in these libraries is still relatively poor.

Personal interviews and comments by head librarians provided answers on the issues of applications of computers in their libraries and showed that head librarians would like to make better applications. They provided that many users have become familiar with electronic resources, mainly automated catalogues and the Internet. They indicated that the most important factor affecting the use of computers was due to lack of professionally trained staff. Although this study was not primarily concerned with detailed data on human resources, it has tried to elicit some useful data about the numbers of staff employed in these libraries and how many of them were professionals in library and information science as well as in computer science.

Gathered data showed that 252 (46%) out of 585 library staff were considered as qualified staff in library and information science. Their qualifications fall into three categories: professionals with university degrees in the field, sub-professionals at the community colleges level, and those who gained some kind of training mainly at Jordan Library Association (JLA). It was noticed that the number of staff varies from one library to another. Thirteen libraries out of the 22 had less than 25 staff each.

About 20 library staff (less than 4%) only specialized in computer science working in 17 libraries, and about two thirds of them were at the community college level in the field.

It is easy to conclude that applications of computerized systems are mostly affected by the number of staff responsible for computers in the libraries, their specialization and experience.

However, cooperation with computer science departments and computer centers in these universities has been quite helpful to overcome serious problems.

b) Applications of computers for administrative purposes

The study intended to investigate what administrative functions used computers. It also tried to elicit data on the degree of satisfaction and future expectations through asking whether automation of the function is full or partial.

For the purpose of this study “Full” was used to indicate satisfaction with current applications and that no changes on the current system are required in the foreseeable future. “Partial” was used to indicate that part of the function was manually performed, and current applications are not satisfactory, and there is a will for development through advanced automation.

All 22 (100%) respondent libraries indicated that they make use of computers for administrative purposes. Data provided in Table III shows 21 (95.5%) libraries use computers for correspondence, whether for processing letters and or attached materials. They are also used for sending such materials through electronic mail. This service ranked first among the other administrative services. More than half of the responding libraries indicated that computers were being used partially for this service.

Data shows that nineteen libraries (86.4%) use computers for preparing reports. Word processing packages are easily available; and are quite helpful in offices. However, as for the extent to which these libraries are satisfied with these services, 16 out of these libraries think that there is a need for improvement to reach the level of full use/ application. Some librarians mentioned that they need better packages and skilled professionals to get automatic production of useful reports, as well as statistical data on the number of circulated materials and to which categories of users.

Table III also shows that nine (41 %) libraries make use of computers for keeping files. While three of these libraries mentioned that they are satisfied with such applications, six expressed willingness to improve this service. Interviews with head librarians revealed that they would rather build databases and make use of scanners for such a service.

However, it is clear that the number of functions varies greatly from one library to another. In addition librarians’ satisfaction with these functions differs from one library to another.

Three (13.6%) libraries use computers for control of work- flow. Data provided in Table III indicates that the majority of responding libraries felt the need for development of these services, mainly administrative correspondence and the preparation of reports, since they came in the partial category.

Table III: Computers and administrative services

Service	Full	Partial	Total	Percentage		
Correspondence	10	45.5%	11	50%	21	95.5%
Preparing Reports	3	13.6%	16	72.7%	19	86.3%
Keeping files	3	13.6%	6	27.3%	9	40.9%
Other Services	-		3	13.6%	3	13.6%

Software packages being used for such applications were mainly Microsoft Office. Two libraries used customized packages for administrative functions.

C- Applications of computers for technical functions

Collected data on the technical functions being performed by computers is provided in Table IV. The five functions applied in respondent libraries are listed in descending order according to the total number of libraries applying each function. The respondent libraries added no other functions. The Table reveals that cataloguing ranked first. It was computerized in 19 (86.4%) of respondent libraries. Four out of these nineteen use card catalogues as well. Two other libraries provided they were about to implement computerized systems to catalogue their collections at the time this study was in progress. However, the majority of the responding libraries 15 (79%) think that they have reached the intended level of satisfaction with this function. Some other libraries indicated that they intend to make their catalogues accessible to remote users in the future. It was noticed that several libraries do not apply MARC standards for their catalogues.

Table IV: Technical Functions

Function	Full	%	Partial	%	Total	Percentage
Cataloguing	15	68.2%	4	18.2%	19	86.4
Acquisition	14	63.6%	3	13.6%	17	77.2
Serials Control	6	27.3%	10	45.4%	16	72.7
Indexing	4	18.2%	5	22.7%	9	40.9
Abstracting	2	09.1%	3	13.6%	5	22.7

Table IV also shows that computerized acquisition ranked second since it is applied by 17 (77.3%) of the respondent libraries. Also the majority of respondent libraries indicate that they are satisfied with this function. Serial control ranked third as 16 (72.7%) libraries implement computers for this function. It can be noticed that 10 (45.4%) libraries need to improve this function. So is the case with indexing and abstracting.

Analysis of the data reveals that, while the majority of librarians are almost satisfied with the first two functions, they would like to improve the other three. It is not strange to come to such a conclusion for the following reasons: first,

dealing with the first two functions is an urgent requirement in all types of libraries, and always given the first priority and might have been under development for a longer period than the others. Secondly, librarians are more familiar with cataloging and acquisition much better than with serial control, indexing and abstracting.

As for computerized packages used by respondent libraries data analysis indicates that ten (45.4%) libraries use CDS/ISIS, six (27.3%) use MINISIS, while three (13.6%) use locally customized (in-house) packages. All of these packages are bilingual (Arabic and English). Some of those libraries using CDS/ISIS have prepared supporting packages or programs for certain applications, mainly for circulation using Oracle. The researcher noticed lack of coordination among the libraries in this area of automation. Some librarians indicated that they were in favor of implementing integrated software packages instead.

d- Applications of computers for public services

Collected data on which public services were computerized in these libraries is provided in Table V. It shows frequencies of the computerized service, whether it is fully or partially computerized, and the percentages of those services being computerized in descending order. It is noticed that 19 (86.4 %) libraries have automated their reference services, and that 11 (50 %) of these libraries think that the service requires more effort since they evaluate the service in the partially automated category. Information gathered from directors of seven libraries revealed that they would like to make their automated catalogues remotely accessible for answering reference questions. They also emphasized the need for wealthy CD-ROM collection for enhancing this service. In addition, consulting the Internet to get information was considered an important part for automating this service. Two librarians indicated that they were preparing information for databases to answer reference questions, and can be accessed remotely off campus.

Table V: User Services

Service	Full	Partial	Total	Percentage
Reference services	8	11	19	86.4
User education	6	7	13	59.1
Online retrieval	6	6	12	54.5
Circulation	8	4	12	54.5
Delivery of Info.	2	10	12	54.5
Current awareness	5	5	10	45.5
SDI	3	3	6	27.3
Remote education	2	1	3	13.6

User education service ranked second. Computers are being utilized for training students on how to use automated catalogues and how to consult reference materials on CD-ROM and how to invest the Internet for learning and research. More than half (54.5%) of the libraries provide users with online services mainly for faculty members. The data shows that public services require more attention, since several libraries have not automated these functions, while at the same time many of those who already have automated the functions are in the partial category, which means that there is a need for development.

Eight respondent libraries indicated that they use Microsoft office, five (22.7%) CDS/ISIS, five (22.7%) MINISIS, and four (18.2%) use customized packages for user services.

Obstacles

One of the objectives of the study is concerned with gathering information about the problems, if any, facing these libraries with regard to automation. While ten obstacles were introduced in the questionnaire, Six of them have been found relevant for analysis. Respondent libraries were asked to estimate (on a 5-point Likert type scale) the extent to which each obstacle has affected applications of computers in their libraries, ranging from very serious (given the value of 5) to no existence of the problem (given the value of 1). Table VI lists the frequencies and the means of these obstacles. They are given in descending order according to the degree of seriousness as indicated by the mean. Data analysis reveals that the libraries are facing the following problems: shortage of electronic resources, shortage of skilled staff, lack of sufficient hardware equipment, lack of sufficient funds, and lack of integrated and efficient software packages.

Table VI: Obstacles affecting applications of computers

Obstacle	V. S. (5)	S (4)	M (3)	L. S (2)	N. S (1)	Mean
Shortage of electronic resources	5	4	6	3	2	3.35
Shortage of skilled staff employed	3	5	6	5	1	3.20
Lack of sufficient hardware equipment	5	1	6	3	7	2.73
Lack of sufficient funds	2	4	8	4	4	2.36
Used packages are not suitable	-	2	11	2	7	2.36
Negative attitudes of administrators	-	2	2	7	11	1.77

The most serious obstacles were “shortage of electronic resources” (with a mean of 3.35) and “shortage of skilled staff employed” (with a mean of 3.20). The majority of the respondent libraries provided that they suffer from these two problems. Shortage of electronic resources is still a problem affecting use of

computerized systems in 18 libraries, though at different levels. It seems that shortage of electronic resources in Arabic, and lack of English language ability among library users in general has taken part in the existence of this problem. The results of this study indicate that there is a need for more database subscription. Cooperation and coordination is very necessary for gaining access to international databases.

Shortage of skilled staff employed also strongly affects the applications of computers in these libraries. This problem also takes part in the existence of the other problems. When the librarian understands how to invest such technology, gains computer literacy, and acquires the required expertise, he will be able to solve such problems or at least takes part in solving them. As indicated above less than 4% of staff members were specialized in computer science. Interviews and field visits to some university libraries showed that staff responsible for computerized functions and services had some kind of experience rather than specialization, except for matters related to programming or design of databases where other staff specialized in computer science are responsible. Training on the newer technology seems to take part in solving such a problem.

There are three obstacles that moderately affect the utilization of computers in the respondent libraries with means ranging between 2.73 and 2.36. These three obstacles are "lack of sufficient hardware and equipment", "lack of sufficient funds", and "used packages are not suitable". Many librarians stressed the need for faster and more powerful processors. To give an example, they indicated their need for PIV instead of Pentium I and II microcomputers. They also mentioned the need for higher hard disk storage. Lack of sufficient funds was also noticed. It is expected to affect all other applications and related activities.

As far as the obstacle of "used packages are not suitable" is concerned, several libraries have already transferred from their customized packages or even CDS/ISIS to integrated software packages. Some others are planning to do so. It is noticed that some libraries are building automated library system using (Oracle) program to overcome some problems. Lack of coordination and lack of standards is expected to yield serious problems, and could hinder co-operation among the libraries.

Attitudes of administrators toward automation have been found positive as indicated in Table VI. However comments obtained from head librarians provided that they were in favor of every effort toward moving forward in implementing computers and networks in these libraries.

Future expectations

Head librarians of respondent libraries commented on their future plans and provided some useful ideas suggesting some kind of change to improve the use of computers and information networks in their libraries. They stressed the need for cooperation to purchase and exchange electronic resources and equipment. They also indicated the need for cooperation to develop applications of software packages, like CDS/ISIS to make it capable for circulation and some other services. Head librarians are having the will to develop the computerized systems in their libraries. They are aware of the recent developments in information technology. They would like to have integrated packages that could perform all functions and services. Those libraries not connected to the Internet would like to be connected as soon as possible.

Conclusion

The findings of this study reveal that all university libraries in Jordan implement computers to automate their functions and services. The level of automation in these libraries varies widely from one library to another, in terms of quantity and quality. In general, the libraries are facing several problems related mainly to shortage of electronic resources lack of technically skilled staff, lack of sufficient hardware equipment, shortage of integrated software packages and lack of sufficient funds. The seriousness of each problem differs from one library to another. There is a will for change and development. Cooperation between these libraries is expected to take part in solving such problems.

Recommendations

In the light of the findings of this study, the following recommendations are suggested:

- (1) All concerned parties should make every effort to enhance cooperation among university libraries in Jordan, and persuade them to unify their computerized systems.
- (2) Jordanian universities and community colleges offering programs in Library and information science are required to offer more courses in information technology designed to suit the requirements of these libraries.
- (3) There is a need for conducting longitudinal studies in this area, as library automation is changing rapidly.

استخدام الحاسوب في مكتبات الجامعات الأردنية

عاطف يوسف، قسم المكتبات والمعلومات، كلية الآداب، جامعة الزرقاء الأهلية، الزرقاء، الأردن.

ملخص

استهدفت هذه الدراسة المسحية التعرف إلى استخدام الحاسوب في مكتبات الجامعات الأردنية ومعوقات استخدامها ووجهات نظر مديري المكتبات نحو حوسبة مكتباتهم. أظهرت الدراسة التي شملت 22 مكتبة جامعية أنها جميعاً تستخدم الحاسوب في معظم إجراءاتها ولأغراض إدارية، مع تفاوت كبير في التطبيقات والتوقعات المستقبلية، وبينت الدراسة أن 20 مكتبة (91%) تستخدم الحواسيب في المعالجة الفنية وأن استخدامها في مكتبتين (9%) في مراحله الأولى.

كما أظهرت الدراسة وجود تفاوت كبير في مجال استخدام الحاسوب في خدمات المستفيدين، وكشفت الدراسة عن أن غالبية المكتبات تبذل جهوداً مستمرة لتوظيف الحاسوب وشبكات المعلومات لأغراض تحسين الخدمات الفنية والعامّة.

وبينت الدراسة أن هذه المكتبات تعاني من نقص في المصادر الإلكترونية، ونقص في المكتبيين المؤهلين فنياً للتعامل مع تقنية المعلومات. كما أنها تواجه وبدرجة أقل حدة صعوبات ترتبط بنقص في أجهزة الحاسوب المناسبة، ونقص في حزم البرمجيات المتكاملة، ونقص في المخصصات المالية. وتؤكد الدراسة أهمية التعاون بين هذه المكتبات، وضرورة توحيد نظم حوسبتها.

* The paper was received on April 9, 2003 and accepted for publication on June 14, 2005.

Notes

- 1- Jordan. The Ministry of Higher Education (2002) A statistical summary on Higher Education, 2002. A leaflet prepared by the Directorate of Studies and Statistics, Department of Information and Statistics, Amman, The Ministry (in Arabic).
- 2- Johnston, Pete. (2001) After the Big Bang: forces of change and e-learning. Ariadne, 27, at http://www.ariadne.ac.uk/issue_27/johnston/ accessed 23/04/2001.
- 3- Stolt, Wilbur, (1996) "Managing electronic resources: *public service considerations in a technology environment*. In *Electronic resources: implications for collection management*, edited by Genevieve S. Owens, The Howarth Press, pp 17-28.

- 4- Lynch, Clifford A. (1998) "Recomputerizing the library: new roles for information technology in a time of networked information." In *Recreating the academic library: breaking virtual ground*, edited by Cheryl LaGuardia (New York: Neal-Schuman Pub. Inc., pp 3-22.
- 5- Lynden, Fredrick C. (1996) "Tradeoffs or not: the pros and cons of the electronic library" In *Electronic resources: implications for collection management*, edited by Genevieve S. Owens, The Howorth Press, pp 17-28 Pp 65-92
- 6- Younis, Abdul Razeq (1992) "Professional library development, manpower and training in Jordan". *International Information & Library Review*. 24, 15-43.
- 7- Younis, A. R. (1990) "Library automation in Jordan". *International library review* 22 (1) ,pp.19-29.
- 8- Bakhit, B. S. (1991) "The use of CDS/ISIS Package in Jordan". A paper presented to *the second Jordanian Librarians' Conference, October 6-8, 1991. Amman*. (in Arabic).
- 9- Shorbaji, N. (1991) "Standards for selecting of packages for database management in Jordan libraries". A paper presented to *the second Jordanian Librarians' Conference, October 6-8, 1991. Amman*. (in Arabic).
- 10- Younis, Abdul Razeq (1999) "The use of Arabized software packages in Jordan University libraries". *International Information & Library Review*. 30, 311-340.
- 11- Abu Eid, Imad (1998). "Libraries of private universities and accreditation standards: case study". *Risalat al-Maktaba*. Vol 33, no1 (March 1998). pp 4-28. (in Arabic)
- 12- Al-Khateeb, Fawzi. (2000) "Problems of computerization of Arab University Libraries". *Risalat al-Maktaba*. Vol 35, no1-2 (March – June, 2000). pp 44-62. (in Arabic)
- 13- Athamneh, Awad and Fawzi al-Khateeb (1995) The library of Yarmouk University: Current situation and prospects. *The Third Conference of Jordanian Librarians*, Amman: JLA.
- 14- Al-Salah, Tahseen (1995) The library of Jordan University: Current situation and prospects. *The Third Conference of Jordanian Librarians*, Amman: JLA.
- 15- Al-Momani, Hasan (1995) The library of the University of Science and Technology: Current situation and prospects. *The Third Conference of Jordanian Librarians*, Amman: JLA.
- 16- Sulaiman, Raed and Al-Qudah, Belal. (2000) The experience of King Hussein Bin Talal University Library in Automation. *Risalat Al-Maktaba*, 37 (1-2) p. 4-34. (in Arabic)
- 17- Mansour, Farouq and Al-Abboushi, Rajeh (2000) Automation in Al-Esra'a Universit Library. *Risalat Al-Maktaba*, 37 (1-2) p. 78-87. (in Arabic)

- 18- Kasasbeh, Khaled and Al-Hammouri, Nizar (2000) The Library system of the Jordan University of Science and Technology (JUST). *Risalat Al-Maktaba*, 37 (1-2) p. 93-101. (in Arabic)
- 19- Barakat, Reiad (2000) The experience of Petra University in Library Automation. *Risalat Al-Maktaba*, 37 (1-2) p. 70-77. (in Arabic)
- 20- Al-Qasem, Saleh (2000) Automated indexing of the Arabic periodicals in Yarmouk University Library. *Risalat Al-Maktaba*, 37 (1-2) p. 50-69. (in Arabic)

References

- Abu Eid, Imad (1998). "Libraries of private universities and accreditation standards: case study". *Risalat al-Maktaba*. Vol 33, no1 (March 1998). pp 4-28. (in Arabic)
- Al-Khateeb, Fawzi. (2000) "Problems of computerization of Arab University Libraries". *Risalat al-Maktaba*. Vol 35, no1-2 (March – June, 2000). pp 44-62. (in Arabic)
- Al-Momani, Hasan (1995) The library of the University of Science and Technology: Current situation and prospects. *The Third Conference of Jordanian Librarians, Amman: JLA*.
- Al-Qasem, Saleh (2000) Automated indexing of the Arabic periodicals in Yarmouk University Library. *Risalat Al-Maktaba*, 37 (1-2) p. 50-69. (in Arabic)
- Al-Salah, Tahseen (1995) The library of Jordan University: Current situation and prospects. *The Third Conference of Jordanian Librarians, Amman: JLA*.
- Athamneh, Awad and Fawzi al-Khateeb (1995) The library of Yarmouk University: Current situation and prospects. *The Third Conference of Jordanian Librarians, Amman: JLA*.
- Bakhit, B. S. (1991) "The use of CDS/ISIS Package in Jordan". A paper presented to *the second Jordanian Librarians' Conference, October 6-8, 1991. Amman*. (in Arabic).
- Barakat, Reiad (2000) The experience of Petra University in Library Automation. *Risalat Al-Maktaba*, 37 (1-2) p. 70-77. (in Arabic)
- Johnston, Pete. (2001) After the Big Bang: forces of change and e-learning. *Ariadne*, 27, at <http://www.ariadne.ac.uk/issue27/johnston/> accessed 23/04/2001.
- Kasasbeh, Khaled and Al-Hammouri, Nizar (2000) The Library system of the Jordan University of Science and Technology (JUST). *Risalat Al-Maktaba*, 37 (1-2) p. 93-101. (in Arabic)

- Lynch, Clifford A. (1998) "Recomputerizing the library: new roles for information technology in a time of networked information." In *Recreating the academic library: breaking virtual ground*, edited by Cheryl LaGuardia (New York: Neal-Schuman Pub. Inc., pp 3-22.
- Lynden, Fredrick C. (1996) "Tradeoffs or not: the pros and cons of the electronic library" In *Electronic resources: implications for collection management*, edited by Genevieve S. Owens, The Howorth Press, pp 17-28 Pp 65-92
- Mansour, Farouq and Al-Abboushi, Rajeh (2000) Automation in Al-Esra'a Universit Library. *Risalat Al-Maktaba*, 37 (1-2) p. 78-87. (in Arabic)
- Shorbaji, N. (1991) "Standards for selecting of packages for database management in Jordan libraries". A paper presented to *the second Jordanian Librarians' Conference, October 6-8, 1991. Amman*. (in Arabic).
- Stolt, Wilbur, (1996) "Managing electronic resources: public service considerations in a technology environment. In *Electronic resources: implications for collection management*, edited by Genevieve S. Owens, The Howorth Press, pp 17-28.
- Sulaiman, Raed and Al-Qudah, Belal. (2000) The experience of King Hussein Bin Talal University Library in Automation. *Risalat Al-Maktaba*, 37 (1-2) p. 4-34. (in Arabic)
- Younis, A. R. (1990) "Library automation in Jordan". *International library review* 22 (1) ,pp.19-29.
- Younis, Abdul Razeq (1992) "Professional library development, manpower and training in Jordan". *International Information & Library Review*. 24, 15-43.
- Younis, Abdul Razeq (1999) "The use of Arabized software packages in Jordan University libraries". *International Information & Library Review*. 30, 311-340.