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Measuring the Use of Digital Information Sources During COVID19 in the Libraries of Private Jordanian Universities

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ABSTRACT

The study aims to measure the use of digital resources among the users of private universities in Jordan and knowing the opinions of the users and the adequacy of the available digital resources during COVID19. A regular random sample of (500) users was selected to measure their awareness and understanding of using the digital resources. The data collected was analyzed, classified and categorized. Various statistical methods were employed to display the graphs and through the use of the SPSS software package. The results indicated that (70%) of the users are aware of the internet environment and take it as a means to make digital information sources available, and that more than (50%) are actually using them, while (64%) have the knowledge of the International databases. (Emerald, Science Direct, IEEE), and more than half of them actually benefit from their academic environment, whereas more than (80%) of all users indicated that the available information sources are sufficient to meet their scientific and academic needs. The most important results indicated that the users have less used the databases available on the local network.

KEYWORDS: Digital sources, Information Sources, Private Universities, Databases, Jordan.

INTRODUCTION:

Technology continues to progress, and is more and more integrated into society .Smart devices and voice-controlled auxiliaries are just two examples of how technology has evolved to make people's lives easier. Technology changes the way we conduct our lives; it will also greatly affect the way we manage libraries and provide digital information resources in the future.

Information is a vital component of any kind of development. However, information nowadays is growing increasingly and so rapidly. From a knowledge-spread perspective, collecting information is not easily accessible for the person who needs so (UNESCO, 2016). To eliminate these problems, the internet contributes significantly to libraries and information center. The internet notably effects the library and information services. The academic libraries and information centers represent the main place on which society in general and students, staff and faculty members in particular depend. These libraries should be a place for exploration, discovery and appropriate utilization of digital resources. Scholars, students, teachers and researchers actively seek to obtain current information through the various media available in libraries when the user is aware of a useful resource. This will lead to greater use of this resource. Academics are known to have interests in using advanced tools and devices to match the environment that meets their needs. The digital environment has provided new opportunities for information professionals to assist users in accessing the information treasures and services available to them online (The University of Melbourne, 2021).

New technology has provided new standards for offering library services and increasing their activities, so the users of private universities' libraries must become aware of the databases in their educational fields. They must also be able to retrieve the information of digital resources available in the libraries of

private universities (Jordan University of Science and Technology, 2020). The interest over the past ten years in private universities has been moving towards change for the better, and soon it will move to new and modern models over the next few years. These libraries must focus their goals on developing digital information resources and unite with the government libraries to share these resources.

PREVIOUS STUDIES:

Ikenwe & Anaehobi (2020) to determine the extent to which faculty members need information and access to it through the use of digital library resources in the federal universities of southern Nigeria .The total study population consisted of (6653) faculty members, and the study sample was selected through the technique of stratified random sampling with (665) participants to answer the questionnaire on the use of digital library resources .The Kuder-Richardson method was used to establish the internal reliability coefficient. The result indicated (0.77; 0.78), respectively, and the Cronbach alpha for the questionnaire that resulted in (0.81). The collected data were analyzed by using Pearson's momentary correlation coefficient. The value of)p) was used to determine in testing the hypotheses the level of importance at the alpha level (0.05). The results indicated that there is a low positive relationship between the abilities to determine the extent of information and access to information in the use of digital library resources. The hypotheses were also rejected, suggesting a positive relationship between capabilities to determine the need for information, access to information, and use of digital library resources.

Tsekea & Chigwada (2020) The study aimed to investigate the various innovative support strategies provided by academic libraries to support e-learning universities in Zimbabwe during the Corona pandemic. This necessitated a change in the nature of learning and the provision of services in universities as a result of the spread of this virus .However, library users still expect the services to meet their information resource needs. The quantitative study methodology was used to find out the role of the digital library services in supporting e-learning by distributing an online questionnaire using (Monkey Survey). The study sample was chosen from librarians with (50) participants from private and governmental universities. A total of (34) participants answered the questionnaire and the data were analyzed using the SPSS program for descriptive statistics and display them objectively. The results indicated that the academic libraries play a major role in supporting e-learning by providing electronic information sources. It also indicated that the libraries provide a comprehensive place to access electronic resources through the digital library especially during the COVID-19 lockdown and that libraries are always ready to provide their services despite the closure of physical buildings due to the pandemic.

Okeji and Adebar (2020) focused on evaluating the courses of the Library and Information Department of the University of Nigeria and comparing it with international and national guidelines for Library and Information Science (LIS) with regard to providing the digital libraries course. Among the results of this study, it was found out that curricula should be revised and efforts updated to make them more relevant by integrating an independent course on digital libraries and providing computer laboratories for preparing librarians of digital libraries and digital information sources in the future.

Rafi- Rafi, JianMing and Ahmad (2020). The study aimed to measure the role of modern technology in facilitating the process of obtaining, organizing and effectively spreading information to support academic research and how to integrate digital resources in knowledge management. It also aimed to combine resources and technology to facilitate resource management, navigation and searching across databases using advanced search databases. Among the findings of the study is the integration of digital library resources, information technology, financial planning and services enhancement within the framework of academic services for researchers. In addition to organizing digital resources to enhance the integration process between resources and knowledge.

Stockton And Lambert (2019). In 2018, the sources of information systems specialists in Nevada University Library with faculty members in their classrooms worked on providing instructions on the use of information resources provided by the library to more than (7685) university students . These instructions also provide guidance on topics such as "academic posters, copyright, online publishing, author reputation, open educational resources, data management, systematic reviews, scientific metrics, and open journals".

Lutfi (2018). In her book on the patterns of utilization of electronic sources of information by Arab researchers in libraries and information, by indicating the types of sources used, the extent of the impact of these sources on scientific research and its developments, and how to develop the services and data required to measure effective performance and to achieve efficiency.

Odeh (2014) aimed at identifying the reality of using the library websites on the internet by 170 students from the departments of library and information science in Jordanian universities. The results of the study indicated that more than 58% of them have a library website in their universities under study. Less than 78% use the website of their university in the first place, and then they resort to using the sites of other universities' libraries to meet their scientific and academic needs.

STUDY QUESTIONS:

The study tried to answer the following questions:
1. To what extent are the users able to determine their need for information and to use the digital library resources in private universities in Jordan?
2. What is the actual fact of using the different types of sources of digital information that libraries of private universities provide in Jordan? What is the role of libraries in meeting the needs of the users?
3. What are the opinions of the users about the adequacy of the digital information sources available in the libraries of private universities in Jordan?
4. Identifying the sources of information; determining the type of information sources required, including international and Arab databases.

METHODOLOGY:

To answer the above questions, the present study took the approach of examining and investigating relevant studies through literature and inspection surveys on the ability of the users to determine their need for information and to use the extensive digital library resources. Attempts were made to cover studies carried out in the relevant areas, using sources of digital information in certain areas, and the thorough discussions on the actual reality of the use of different types of sources of digital information and direct application in relevant topics such as the use of digital sources.

This extensive review includes the topics of searching in the databases available through the Internet as well as searching in the databases available through universities' internal networks, the internet information sources and assessing the quality of the information retrieved by the users. According to the survey studies conducted on the adequacy of sources of digital information available and the users' needs in the training aspect that enables them to obtain the relevant information and meets their needs and desires for information?

SAMPLE:

The descriptive approach was used to conduct this study, by surveying the opinions of the users in seven libraries in private universities. A random sample of 567 users, whether students or faculty member, was selected. The questionnaire was designed to collect data from the users. It was distributed to the complete sample by (Google Docs) through social media. The questionnaires recovered for statistical analysis questionnaire were 500, so as to measure their awareness and understanding of the use of the digital sources. The collected data were analyzed, categorized and classified. Various statistical methods were employed to display the graphs and through the use of the SPSS software package. The following are the universities that represented the study sample:

Table No. (1) Libraries of private universities of the study sample

	Name	URL
1.	Middle East University Library	http://www.meu.edu.jo/en/cataloge.php?option=com_content&view=article&id=219&Itemid=785
2.	Zarqa University Library	http://www.zu.edu.jo/en/Administrativedepartments/LibrarySystem/cataloge.aspx
3.	Al-Ahliyya Amman University Library	http://www.ammanu.edu.jo/EN/UNITS/LIBRARY.ASPX
4.	Philadelphia Private University library	http://www.philadelphia.edu.jo/arabic/2013-09-11-08-55-47
5.	The American University in Madaba Library	http://library.aum.edu.jo/cgi-bin/koha/opac-search.pl?q=ccl%3Dan:7936&sort_by=call_number_asc
6.	Petra University Library	http://www.uop.edu.jo/ar/Library/Pages/default.aspx
7.	Applied Sciences Private University Library	http://www.asu.edu.jo/Managerial/Default.aspx?CommanId=137

OBJECTIVES OF THE STUDY:

This study was designed to achieve the following objectives:
- Measuring the use of digital information sources in private universities.
- Knowing the opinions of users about the adequacy of the digital resources available in the private Jordanian universities.
- Discovering the effect of the problems in using the digital sources available either through a local network or the internet.
- Proposing ways and means to overcome the problems that face users in accessing and using the digital resources.

A Brief Review About the Private Universities and Databases:

There are twelve public universities, twenty private universities and fifty-one intermediate community colleges in addition to the World Islamic Sciences and Education University. This development in the number of universities was accompanied by an increase in the number of students joining them. The number of students enrolled in the various programs and degrees at public and private Jordanian universities is about (236) thousand students, of whom (28) thousand are from Arab and foreign countries. The main performance catalogers of the higher education strategy showed remarkable growth and development through the enrollment rate in higher education for males and females in regular admission programs and parallel education programs, in addition to the steady increase in faculty

members and government support provided to official higher education institutions and the demand for expansion in private universities (the private sector), to participate in bearing the burdens and responsibilities of education in partnership with the government sector, and the establishment of the Accreditation and Quality Assurance Commission for Higher education institutions to conform to the international standards, modernizing university libraries and linking all higher education institutions to the electronic periodicals network and the universities network. (Accreditation and Quality Assurance Commission for Higher Education Institutions, 2021).

Higher education began in Jordan with the establishment of the Teachers Institute in Amman in 1958, at the level of two years, with the aim of preparing teachers for the schools of the Ministry of Education. The teachers' institutes were then progressively established and converted later into community in the seventies of the 20th century. The University of Jordan was founded in 1962, and in 1989 the first private university, Al-Ahliyya Amman, was established. Jordan's educational role has become an active role in the region for having a high-quality educational system, which has made it the focus of attention and admiration in the region. This is reflected in the number of foreign students who study in the Jordanian universities, which is nearly 28 thousand students from different countries (http://www.mohe.gov.jo).

DISCUSSION OF THE ANALYSIS RESULTS:

Both descriptive and deductive analyses were drawn from the data to answer the study questions. The data obtained from the questionnaire are presented and disaggregated in order to clarify the differences according to different demographic or other variables, and in order to highlight the relative frequencies of the participants' responses and their arithmetic mean.

Table (3) the frequency distribution of the study sample based on gender.

Sex	Repetition	Percentage
Male	222	44 %
Female	278	55 %
Total	**500**	**100 %**

In the above table, the number of the study sample that was entered for statistical analysis by gender of the 500 respondents participating in answering the questionnaire. The results indicated that 278 (55.6%) were females and 222 (44.4%) were males. The results of the analysis with regard to the university to which the user belongs indicated that 35% of the users belong to the University of Philadelphia, and 17 % belong to the Applied Sciences University followed in the percentage respectively by Al-Ahliyya Amman University, Petra University, Zarqa University, American University, Middle East University (see Figure 1).
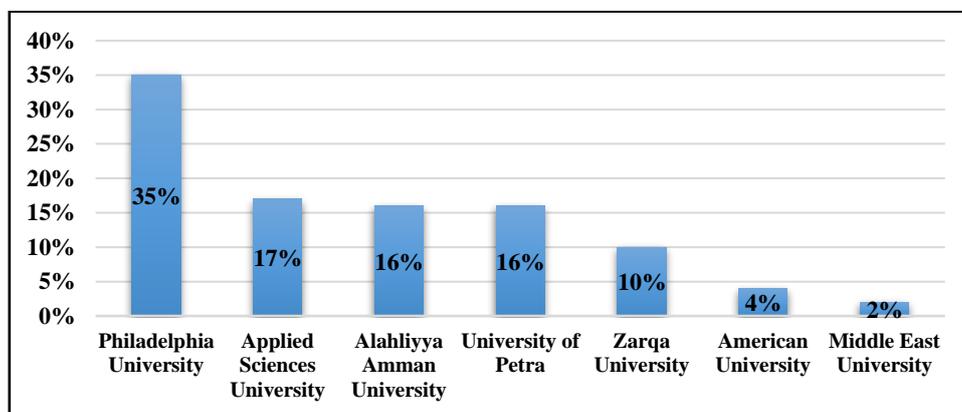

Figure (1) Distribution of the percentage of answers according to private universities.

It was also necessary to clarify the educational qualification for its importance. Table No. (4) shows that the majority of the users are those studying a bachelor's degree N = 315, P = 63 % followed in the order by those who hold a master's degree with a ratio N = 115, P = 23 While a small number of those who hold a doctorate degree (7%) are among the users. The last option was for those with qualifications other than those mentioned, at a rate of only (7%). Users were asked about the extent of their awareness of digital information sources in particular and whether they were aware of the digital resources provided by universities in general.

Table No. (4) the frequency distribution of the study sample based on academic qualification.

Qualification	Repetition	Percentage
BSC	315	63%
Masters	115	23%
PhD	35	7%
Other	35	7%
Total	**500**	**100%**

The results indicated that a large number of respondents who answered the question that includes whether the users are aware of the digital information sources provided by private universities (S = 350, n = 70.%) The results indicated a total of 102 of the users who do not have any kind of awareness about the sources of digital information (20.4%) and 48 users did not answer this question (9.6%) through calculating (the cross Tabulation) between users and universities, it was found that the users at Philadelphia University are also the highest in terms of awareness of the digital resources in private universities. The results of the analysis, as in countries No. (1), indicated that about one-third of the users are aware of the databases that are available either through the Internet or locally while Philadelphia University ranked the highest (31.2%). As for the digital resources available in other forms in the academic libraries of private universities, such as CDs they are not popular among the users. In general, the results indicated that about (70%) of the users are familiar with the databases available through the internet and only (62%) of the users are trying to benefit from the local databases because they are in the Arabic language. These results may also be related to the fact that students of preliminary studies do not have great interest to search students in databases and the lack of postgraduate students in private universities is also another reason.
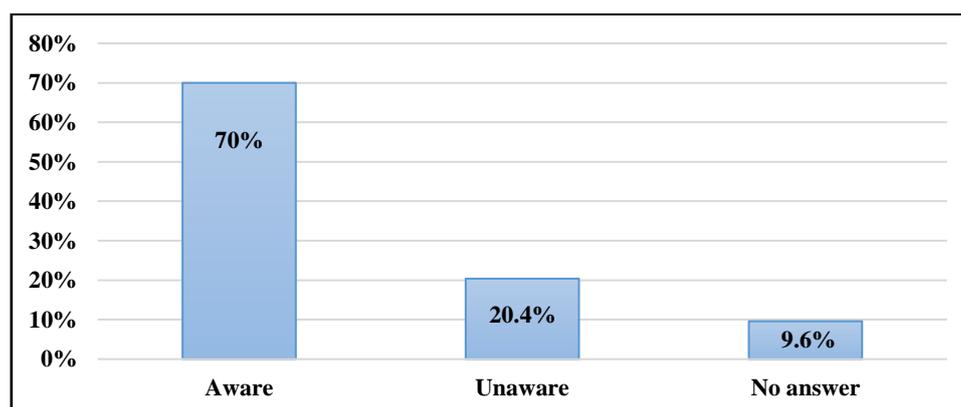

Figure (2) the number of users to express the level of awareness and understanding of digital resources.

In an recent study by Borgerud and Borglund (2020) about the information needed by the users to implement some task, it was observed that the obligatory procedures for users to obtain information has some problems such as: the lack of time, lack of knowledge of the research process in the information provided by the technical databases including available on laser CD-Rom discs, and their lack of knowledge of the available titles for the CDs provided by the library in addition to their lack of

knowledge of the subject areas in this type of database. As indicated by Hendal (2020) the problems facing users is that the performance of computer hardware is very weak.

Table No. (5) Frequency of users' usage of the general catalog of the library and digital information sources.

Source \ Repetition	No Answer	Daily	Twice A Week	Weekly	Biweekly	Monthly
Library Catalog	- -	78 15.6%	154 30.8%	164 32.8%	34 6.8%	64 12.8%
Use of digital information sources	152 30.4 %	24 4.8%	160 32%	34 6.8%	70 14%	60 12%
Total	152 30.4 %	102 20.4%	314 62.8%	198 39.6%	104 20.8%	124 24.8%

As shown in Table No. (5), the results indicated that about 33% of the use of digital resources in private universities' libraries takes place on a weekly basis. As indicated by Liu and Redfern (1997) The various user groups are increasingly expanding their use of libraries and reference tools solution and the users use the library frequently and by more than (40%). In addition, the users face some difficulties in using the library. They found themselves many times unable completely to get the information they need. This study shows that (32%) of the users are using the information sources of digital twice a week only and approximately (5%) only are using digital sources on a daily basis, but a total of 152 users (34%) did not answer this question. Accordingly, we find that (348) users from the sample study (69.6 %) use digital information sources offered by private universities libraries nearly 1/3 of the users do not.

Table No. (6) Perception of the users of the types of digital information sources that are available in the libraries of private universities.

Source Type	No Answer	The Most Number	The Average Number	Less Number	Total %
Local Databases	190 38 %	156 31.2 %	40 8 %	114 22.8 %	**500**
Online Databases	152 30.4%	136 27.2%	128 25.6%	84 16.8 %	**500**
Library Website	186 37.2 %	116 23.2 %	156 31.3 %	42 8.4%	**500**
Other Information Sources	282 56.4%	36 7.2%	30 6%	152 30.4 %	**500**
Total %	**810** **1.62**	**444** **88.8**	**354** **70.8**	**392** **78.4**	**500** **100%**

When asking users about their ability to use digital information sources, the results -as shown in Figure (3) – show that nearly half of the users used sources of digital information in the private university libraries on their own without the help of others, while one third of users need the help of a librarian to use the digital information sources. This figure indicates that (20%) of the users resort to other methods of using the information sources provided by their libraries. According to a study conducted by Groote & Dorsch (2003) (93%) of online databases, users conduct all the searches independently without assistance from others. Dedicated information delivery services are the preferred method of providing primary information in the digital era, particularly for researchers.
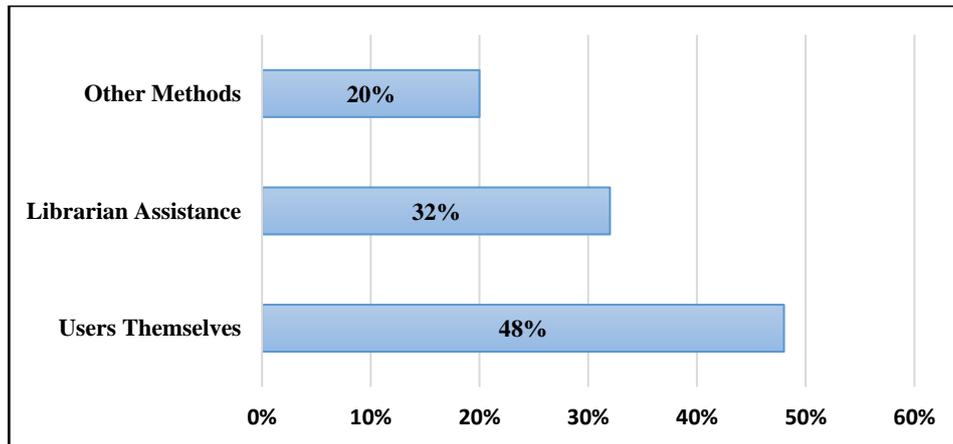
Figure (3) Distributions of the percentage of students by the method of using digital resources.

Nowadays most of the database search services that are available through the Internet (such as *Emerald, Science Direct, IEEE*) provide a large number of documents and offer them to the users in order to search and browse the library catalog. The end users may command or ask what they need directly from (OPACs) in the Internet.

In light of this, the study aimed to measure the users' use of the main library catalog in each private university. Figure (5) indicates that only (17 %) of the users often use these catalogues. A total of (16%) of the users use the OPAC database) Frequently, and (7%) of them use the database within the intermediate level while 4 % of the users use it on a large scale through the central libraries' website in those universities that represented the study sample. (46%) of the users did not answer this question.
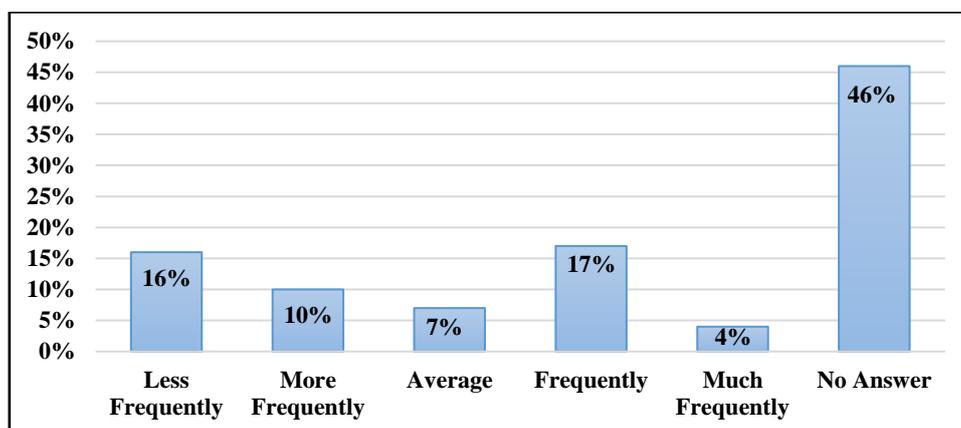

Figure (4) How frequently the library catalog is used.

Figure (4) shows the use of databases available through the Internet and by the central library of each university as shown in Table V, and the frequency of use of databases available through the libraries of the study sample chart results indicated that (75) of the users are using the Emerald database as a familiar, easy-to-use and comprehensive network that covers most of the majors taught in private universities. Only (14%) of those surveyed use the IEEE database as it may cover only information of engineering, in addition to that most private universities do not offer academic programs in this field which may require accreditation standards that high – cost equipment. ScienceDirect database was used by 35 % of the study

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sample. In fact, Emerald, Science Direct, IEEE, Springer, Arabic periodicals database, e-brary, and Ulrich's are the databases that are used most and are familiar to the recipients than other databases.

Table No. (5) Use of various databases in which private universities are subscribed.

Database Name	The Number of Users	%
Emerald	187	74.8
Science Direct	88	35.2
IEEE	35	14
Springer	40	16
Arabic periodicals database	75	30
e-brary	27	10.8
Ulrich's	63	25.2

The recent years have witnessed many initiatives that emerged to address this imbalance in library collections in developing countries, and some of them can be very beneficial to researchers and scholars from these countries. This has included implementing digital library services as a means of reducing the need for funding on a large scale compared to traditional library collections. A number of studies have been conducted to clarify the meaning of digital information sources and their role in academic institutions.

Digital libraries are libraries that manage collections of digital materials, which they have acquired according to the principles followed in developing the collections on which the library is based. The Digital library information is stored and distributed in digital form with associated value-added services needed to allow users to retrieve and use resources just as in a traditional library. The digital library was also defined as those resources, information and services that allow users to access electronically via a network of computers, both from within the library or from outside the framework of the library.

Digital library resources are one of the most valuable research tools that complement the role of print-based resources in any traditional library in addition to providing access to information that is difficult for the user to access due to geographic location or financial reasons.

The emergence of digital information sources has reduced the barriers to accessing valuable information resources that were difficult to access by societies in general and academics in particular in the developing countries.

Digital information sources have also gained great popularity through their flexibility in searching more than their counterpart in paper sources, which can be accessed remotely and at any time (OECD, 2016; Bar-Ilan, & Fink, 2005; Sabouri, Shamsaii, Sinaki, & Aboueye 2010). Ideally speaking, the electronic documents in the digital library are available via an easy means of use, and the" added value" might be through its interfaces to interact with the users. The good practice in using and preserving these documents ensures their continuation over time .The growth and success of digital libraries include factors such as their ability to:
- Creating connectivity for online users.
- Integration with existing networks.
- Getting relevant digital content.
- The potential of the global network as a source of information and as a platform for distribution and delivery.

- Digitizing existing library resources (Dilek-Kayaoglu, 2008; Bhattacharya, 2004).

Figure 5 indicates that (N = 212, P = 42.4%) of those who answered the question about whether the generally available digital sources meet their information needs gave the rating of average level, while (N = 160, P = 32%) gave a positive answer saying :The amount of information retrieved from digital sources was "more" .The results indicated that (N = 128, P = 25.6%) users believe that the provision of digital resources does not meet their information needs to a large extent, and half of them did not give an answer to this question.
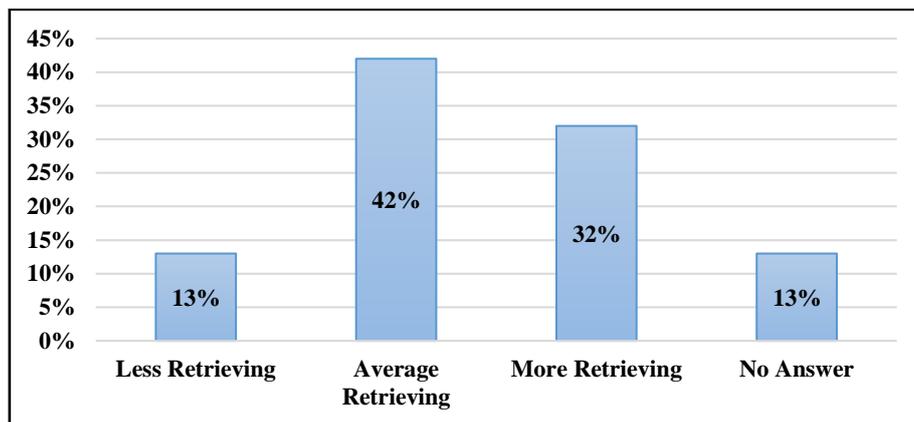

Figure (5) Retrieving digital information sources by users.

RESULTS:

The survey conducted on a sample of this study, which consists of (500) users from private universities was to ascertain the extent of their awareness and understanding of the digital sources of information provided by their universities. It was found that nearly three- quarters of the respondents are aware of the digital sources of information. It was noted that the majority of users were more knowledgeable of the local databases available through the Internet while there was a reasonable number of users actually using those databases, namely less than a fifth of the users actually use the databases frequently. Accordingly, users can be taught through the network so that there could be an effective tool to encourage and increase the use of the databases and available information sources. It was also noted that there is little awareness of the digital information sources available in private universities although the statistical results were significant. They indicated that there is a direct relationship between the rate of awareness and the users' use of the digital services. Libraries can be optimally used if users are enabled to deal with these tools adequately and effectively.

It was found that most of the users in private universities are postgraduate students and according to the requirements that need to be met by referring to digital information and get their needs in different ways. Almost half of the users prefer searching and retrieval through the Internet over searching the databases to avoid retrieving which requires careful access to the needed information though one third of the users prefer access to sources of digital information with the help of a library assistant, because they feel that librarians are the most are the most knowledgeable of such services and how to access them. Results showed that three quarters of the users use the laser CDs offered by the private universities' libraries, and a very small percentage actually uses the library's local catalog to obtain bibliographical information. It was also found that the databases which are made available through the internet are used more than local databases for some universities which - unlike the Jordanian universities - are not subscribed in unified databases and within the Center of Excellence at Yarmouk University.

In general, nearly (90%) of the users believe that the available digital information sources actually meet their needs for accurate information while providing the information in a timely manner is an important factor in the development of higher education and scientific research. Users supported the fact that they receive most of their information either by traditional, official and traditional methods or through untraditional and informal. At the official level, users receive information from the printed sources, which are available through libraries at each university, whereas at the informal level they use different IT tools and facilities which are generally seen by the the users more convenient to use the existing services, either through the Internet, the local networks, or the general catalog of the library.

Many of the problems and difficulties faced by the users in private universities libraries, as highlighted in this study, need to be given immediate and future care by decision makers and continued support of officials in universities and higher education in order to provide sufficient sources of digital information in those libraries beside services that meet the needs for information which conform with the academic curricula and specializations taking into consideration the society's needs and finally inviting the private universities to subscribe to the databases offered by the Center of Excellence at Yarmouk University, which will benefit education in general and scientific research in particular, as well as cost saving.

RECOMMENDATIONS:

In order to develop a sound plan to provide an instruction manual for the library system and to increase the effectiveness of the use of the digital information resource system, here are some proposals:
- The proper use of databases should be included in the educational program of private universities.
- There should be advanced training courses of different levels for the users in order to enhance the tendency to using digital information.
- There is a need to increase the number of computers in all libraries and offices of faculty members to make remote access available.
- It is also proposed to rely on local databases in central networks of libraries.
- The level of awareness of the users of digital information sources should also be increased.
- The academic libraries staff should keep up with periodical and continuous state-of-the-art training on research systems and up-to-date databases.
- Focusing on integration and partnership with public universities in libraries union so as to provide a large number of databases and save costs.
- Tools and facilities of technology such as computers and high speeds internet access be developed in line with skills of Internet in all private universities for the optimal use of digital information sources.
- It is also proposed and duly considered to develop information systems and keep pace with the advanced global systems.
- The future development of online library websites should be considered especially as it is noted how modest these websites are compared to universities in the developed countries.

Such steps are the right way to attract a greater number of new users to activate the use of those libraries that ultimately benefit the development of those universities, higher education and scientific research upon which the development all sectors of the state are based.

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