



Information Technology and Its Role in Libraries and Information Centers

Muntadher Oraibi Jasim¹ & Ahmed Kadhim Hantoush²

¹Basra University for Oil and Gas, College of Industrial Management for Oil and Gas, Department of Management and Marketing of Oil and Gas, Basra Town, Iraq.

²Al- Qasim Green University, College of Veterinary Medicine, Public Health Branch. Al Qasim Town, Babylon, Iraq.

Corresponding Author: Muntadher Oraibi Jasim, **Email:** muntadher.allami@buog.edu.iq

Received: 14th April 2023

Accepted: 19th May 2023

Published: 3rd June 2023

ABSTRACT

Aims research to identify the technology of modern used in libraries and information centers and areas that are used. These technologies impact on the information services provided by libraries. The research reached several conclusions, namely that there are a set of technologies used by libraries to perform their work, which have a positive impact on raising the level of services. The recommended search for some proposals which provide a suitable environment for the use of technical information in libraries and also work to raise the efficiency of human resources in libraries through Involve them in information technology courses to keep abreast of developments on the local and global levels.

Keywords: Information Technology, Libraries, Electronic Services

INTRODUCTION

Live the world today shifts many And fast in The field of information and communication technology and its front is an information revolution as an inevitable result of developments in technology and the emergence of big data DataVetojb libraries invest these technologies in control of this vast amount of information as it is not able to control it by traditional methods, bringing to incumbent on libraries and information centers to keep pace with these developments, and t hired her to make them able to collect, organize and address and transmit this information to provide. The best services for the beneficiaries as they have become the basis for every human activity.

IMPORTANCE OF RESEARCH

The importance of the research lies in the importance of using information and communication technology in libraries and information centers, where information technology has become an important role in the success of libraries business, whether in terms of its procedures or in terms of providing services to beneficiaries that will contribute significantly to the development of information services in libraries, It comes this importance of the search also by giving a clear picture of the techniques used in libraries and information centers.

RESEARCH OBJECTIVES

The research aims to identify:

1. Types of Walt Knulogia used in the libraries of information institutions and the areas of t use them.
2. The role of using technology in the information services provided by the library to the beneficiaries.
- 3 .- How important is the use of technologies to provide better services to beneficiaries?

CURRICULUM

The documentary method was used based on the literature published on the subject, whether it is paper or electronic sources.

THE CONCEPT OF TECHNOLOGY INFORMATION IDIOMATICALLY

Several definitions of information technology have been received, and among these definitions is the definition that was included in the encyclopedic dictionary of libraries and information terms, where information technology was defined as (obtaining audio and digital information in written text, processing, storing and broadcasting it using a combination of electronic, calculating and remote communication equipment (Abdullah et al., 2021 & Abbas et al., 2022 & Al-Shami 1998). It was also defined (as electronic techniques for collecting, processing and communicating information and there are two main types of these technologies that deal with information such as computer systems and technologies that work to spread and distribute information such as communication systems and the term can be understood in general as a description of systems that include the two technologies together) (Al-Khatami 2009, p. 6).

It also is known as information technology(Is the equipment, any devices (gear hardware Software (Software(software That enables us to store and transfer massive amounts of data at high speed (Foxit 2002, p. 50). As defined by the Macmillan Lexicon)Macmillan brief definition showed that it is the possession, processing, storage, and transmission of verbal, text, and digital information through microelectronics (Al-Assaf . ,2006 p. 270). Through the above definitions, we can define information technology as all the devices, means, and software that invest in handling information, whether audio, photocopy, or digital, starting from the collection process, then storing, processing, and broadcasting in a way that makes this information available to the beneficiaries in the easiest and fastest way to satisfy their information needs.

THE REASONS FOR THE USE OF TECHNICAL INFORMATION IN LIBRARIES AND INFORMATION CENTERS

There is no doubt that there are many reasons that drive libraries and information centers to use information technology, and we summarize the following, the most important of them (Abdel-Mu'ti. 1994, p. 145).

1. Libraries seek to raise their level of performance to improve the services they provide to the beneficiary, which is the final product of all activities and works, by raising the level of efficiency, speed, and accuracy, while reducing the costs of providing those services.

2. The use of technologies allows libraries to provide new services, including contacting local and global databases, which helps to increase the volume of information sources provided by the library to beneficiaries.
3. Confronting inflation in the volume of intellectual production and its high prices, with a limited budget allocated to libraries and information centers (Qandilji, 2010. p. 46).
4. Reducing the volume of routine and repetitive work, paper records, and card indexes used by libraries.
5. The formation of information networks between libraries that help to share the sources of information available to all libraries (Qasim, 2009, p. 50).
6. Changing features of the age where the need to provide information sources quickly and to keep pace with recent developments in any area of knowledge.
7. The increase in the demand for information because it has become the raw material in all fields of life, especially economic and cultural.

Another reason can be added to the above reasons, as the scientific competition that the world is witnessing today and the progress made by some developed countries in employing information technologies in all aspects of life, especially in the field of libraries and information centers, push some countries to walk behind this great development and what the library provides. From multiple outlets, it is easy for researchers to access information sources in their fields of specialization and interests in the easiest and fastest way.

BENEFITS OF INFORMATION TECHNOLOGY

The use of libraries and information centers for information technology has many benefits for these libraries, which we summarize as follows (Al-Suwaidan 2009, p. 196):

1. Upgrading the level of services provided to beneficiaries.
2. Saving costs as it reduces spending operations in many businesses.
3. Achieving participation in information sources through cooperation between libraries.
4. It provided solutions to many of the difficulties and problems faced by libraries.

5. The speed in completing the work in a way that exceeds what a person does manually (Al-Sabbagh., 2004, pp 183-185).
6. Reliability of use, as the results that we obtain when using the computer, are reliable.

ADVANTAGES OF USING INFORMATION AND COMMUNICATION TECHNOLOGY IN LIBRARIES AND INFORMATION CENTERS

The most prominent features of the use of technical information in libraries and information centers what Yale j (denominator, 2009).

1. Increasing effectiveness in providing technical information services and services provided to beneficiaries.
2. Reducing routine and iterative work and making use of workers to perform more essential work for the library.
3. It contributes to facing the increase in the amount of information, its control, non-dispersal, and ease of management (Saleh. 2000, p. 21)
4. Keeping pace with current developments and giving it a new role for the librarian, as it became called the information specialist.
5. Standardizing the work and activities of libraries (Cochran. 1992, p235)
6. It helps to deliver information services to beneficiaries through information marketing.
7. It helps in sharing and sharing libraries in information sources by building information networks.
8. Its use returns the library financially by providing some services.

TYPES OF INFORMATION TECHNOLOGY

COMPUTER

It is an electronic device or machine that receives data in a way that it can read and then uses the use of a program for the process of moving and operating this data to get out and retrieve in the end in the form of results, answers or solutions) (Abdel Hadi, 1984, p. 218). The computer is characterized by its high storage capacity and the speed of data processing and retrieval. Therefore, libraries and information centers have been keen to use it in performing its various functions. Continued use of the computer has helped the continuous growth in its capabilities, its small size, and low costs for it (Qasim D p. 182).

Libraries' interest has increased in the present time to use the computer because it achieves speed and accuracy in storing huge amounts of data and information in addition to the process of updating data and providing advanced services. It has also been used in the provisioning processes and the resulting requests for preparation of orders and payment of purchase invoices and others, as well as possible Conversion of traditional indexes into automated indexes and control of borrowing operations, as well as its use in indexing and extraction processes, ongoing briefing and selective broadcasting services, hence the importance of computers for its development of library activities and improving the level of performance (Muslim, 2003, p. 999).

Recently, the term quantum computing appeared quantum computing which means producing computers with the ability to accomplish complex tasks that classic computers we are using today cannot do. While a desktop computer performs one calculation, a quantum computer can run millions of calculations at the same time. Quantum computing in an operating system depends on qubits. Qubit any quantitative determination and consists of " Ciobt " from the nucleus of the atom and the photons photovoltaic or electrons that work together like a computer processor and memory. And this will provide a broad prospect in front of the development of libraries and information institutions where quantitative computing can be used in useful processes, especially the ease of discovery of counterfeit sources of information Fake News, Also the speed of searches in databases; In addition to developing new chemicals and minerals, as well as offering many discoveries and inventions to mankind, meteorological calculations and accurate forecasting of how the Earth's climate will change in the future (Fingerhuth, 2018, P.209).

CHUNKY DISKS CD.ROM

Chunky discs are defined as round flat discs with a disk diameter of 12 centimeters (less than five inches), less than five inches, and dependent on laser beam technology for storing information, as well as for intensive and compact information retrieve compact (Khudair,2005 . p. 1031). The first start was to use chunky disks CD. Romain libraries in 1985, when the first bibliographic database stored on a CD has created BIBLIOPHILE It contained 500,000 bibliographic records (Al-Shaya, 2009).

Applications of CDs in libraries and information centers

Libraries and information centers use compact discs in the following areas (Al-Shaya 2009, pp. 91-86):

1- Technical services: where CDs help libraries in the indexing process, as there is a database BIBliofileStored on a compact disc carrying more than 500 thousand bibliographic records taken from the Library of Congress in the form of a mark and is mainly directed to the uses of indexing in libraries and also the ability to classify according to the classification of the Library of Congress system as well as the use of CDs in the provisioning process where some companies created databases to collect publishers' guides and store them On tablets.

2- Public indexes Mahsph: where disks compacta are used in the production of catalogs rather than produced in print or Mike R. fish because of its energy shelf huge on thousands of recordings stored.

3- Beneficiary services: The compact disk technology has made a significant contribution to the services of the beneficiaries by providing selective broadcasting services, ongoing briefing, and reference service.

AUTOMATED SYSTEMS

The system is defined as (an organized interaction consisting of human and information and its sources and the computer and the software used linked together to achieve specific goals and objectives) each automated system may include several subsystems such as the system of public services and technical services, production and information marketing ... and others. The subsystem is divided into systems smaller services such as a technical system that is divided into the development of the cluster system and the system of indexing, classification, and Hecz.

And that libraries use automated systems makes them provide better services at lower costs, and this in turn leads to savings in costs while maintaining the level of performance and effectiveness. Another benefit that libraries gain is speed and accuracy in processing information and improving the level of work and developing its quality (Olayan, 2005).

INFORMATION NETWORKS NETWORK INFORMATION

The era of the knowledge explosion that we live in is not possible for any library alone, regardless of its material and human potential, to acquire the huge numbers of published intellectual production in the world and to preserve it and present it to its pioneers, even if it is in a specific discipline. Here comes the importance of information networks or libraries to solve part of this problem since the goal of sharing between libraries is to obtain the needs of the beneficiaries of information by providing information services at the lowest possible cost and the shortest time (Sophie, 2001).

THE BENEFITS AND FEATURES OF COMPUTERIZED INFORMATION NETWORKS

There are many advantages and benefits obtained by the libraries as a result of their participation in information networks are as Yale (Guendhilji ,0.2010 S200-201) :

- 1- Reducing duplication and duplication in the acquisition of library materials, especially high-priced materials, as any shared library in the network can take advantage of other library resources to meet the needs of the beneficiaries of this library.
- 2- Economy in human capabilities and capabilities, because the procedures will be centralized.
- 3- Provide sources of information and large quantities as the beneficiary gets the materials and services from participating libraries (Guendhilji -. 0.2009 S197-198).
- 4- Standardizing the work of libraries, which leads to organized and coordinated standardization (Debs,200 . pp 28-27).
- 5- On the sharing process, the library will save a lot of expenses that are invested in other aspects to develop the library's work.
- 6 - The participation in the network will contribute to the speed and ease of access to the beneficiary sources of information that meets their desires (Guendhilji -. 2000 . S293-294).

INTERNET

The Internet has been defined as a huge group of computers connected so that its users can participate in the exchange of information (Al-Abbas, 2009).

The real beginning of the Internet was in 1969 when the US Department of Defense commissioned a group of computer experts at the Agency for Advanced Research Projects to find a way to

communicate with an unlimited number of computers. The Internet went through its development in several stages (Al-Hosh, 2005, p. 119):

1- The stage of the sixties: Where it was under the supervision of the US Department of Defense and a small group of computers connected in the United States was characterized by the development and cooperation between the institutions that were participating in the network.

2- 1980s: In this stage, network systems have evolved and are widely used and managed by NASA (NASA is noted that the stage of the eighties reduced the military's interest in the Internet and left its departments to American universities).

3- The nineties stage: The spread and rapid development of the Internet in all countries of the world has become and it is possible to share and communicate between computers all over the world through a protocol TCP / IP.

4- Post-1990s: It is considered the most advanced stage as a result of the development of communication technologies through the use of satellite and web 2 and next-generation Internet technologies)NGI(And the interactive services that accompanied Web 2 (Abdel Karim, 2012).

USES AND APPLICATIONS OF THE INTERNET IN LIBRARIES AND INFORMATION CENTERS

The services provided by the Internet are many and in many different fields, including what is in the scientific, cultural and entertainment fields and the field of trade and advertising, and what interests us here in the field of information and libraries.

1- Building and developing library collections, as libraries and information centers through linking to the Internet can choose new addresses and request them from publishers, as there are many publishers, and there are commercial companies that provide services for selling books on the Internet, the most famous of which is Amazon Amazon.com (Zarzis, 2008).

2- The Internet assists libraries in the exchange loan service by accessing the global library catalogs directly uploaded online. These indexes enable the two libraries to perform indexing and classification operations by looking at other libraries' indexes (Al-Hadi, 2001).

3- Electronic publishing where there are thousands of newspapers, magazines, books and other sources of information and are available and sometimes for free, libraries that suffer from a lack of budget and the small size of the place can access these sources and benefit from it (Qandilji, 2010).

4- Access to information networks

Many academic and non-academic research information networks have been linked to the Internet to make the information available to beneficiaries from different regions of the world and from the most famous of which is the network) oclcAmerican (Al- Madadhah ,2011 pp243-232).

5- Access to research databases provides many sources of information in these databases, whether in free databases or for a fee and among these databases is the Daluk Databases (DIALOG And APSCO rules site EBSCO).

6- E-mail: The e-mail applications are among the most important and most widespread services across the Internet, as it facilitated good and fast communication between researchers, and messages can include important files and facilitate the distribution of questionnaires to researchers in some studies.

7- Distance Learning Modern libraries support educational institutions, as library pioneers need to familiarize themselves with the open university system. This new system does not need the actual presence of teachers with students, and distance learning is done via the Internet.

8- You can take advantage of the Internet to provide advanced services such as the ongoing briefing service and broadcasting selective information (Ababdh, 2005).

9- Marketing information services, as some libraries establish indexes on the Internet and announce the sources of information, they have to market their services to other libraries and beneficiaries.

10- Training the beneficiaries on how to use the library to develop their capabilities to access sources of information that serve their research directions.

11- Answer the reference questions by presenting these questions on the Internet to the information specialist, and they can be answered with the help of specialists from different parts of the world.

CLOUD COMPUTING CLOUD COMPUTING

Cloud computing is a technology that relies on transferring processing and storage space of a computer to the so-called cloud, which is a server device that is accessed through the Internet, and in this way IT programs are transformed from products to services. Thus, this technology contributes to removing the problems of maintaining and developing IT programs from the companies that use them, and therefore the efforts of the beneficiaries are focused on using these

services only (Sayed, 2013, p. 21). It has been known as Jing et al. (2012) cloud computing refers to a server that consists of connecting multiple computers and servers with the internet.

The National Center for Standards and Technology is known NIST Cloud computing as a model for providing convenient, lasting, and at any time access to the network to share a wide range of computing resources (networks, servers, data storage media, applications, services) that can be deployed and provided with minimal effort or interaction with the service provider. As for libraries, you know Corrado Cloud computing: Library data and host services behind library walls that can be accessed across the web (Jing, 2012).

CLOUD COMPUTING SERVICES AND APPLICATIONS IN LIBRARIES

Reference services, reading counseling services, etc. Web Conferencing Software Skype, Google Voice, Google Hangouts, Web Publishing: WordPress, Google Sites, Facebook, Twitter, YouTube, Social applications for mobile devices. Documents are shared in libraries: DropBox, Google Docs, Evernote, Sugar Synx Cloud information systems deployment models Cloud Deployment model Cloud services can be categorized through a series of deployment models, based on the extent to which the Cloud's infrastructure is operated and made available to the consumer. The Goldener 2010 report summarizes older the solutions that cloud computing provides for libraries in the following points: (Al-Assafin, 2018, p. 68).

1. Most automated library systems were built before web technology Pre-Web Technology
2. Systems distributed across the network using pre-web technology are more difficult and more expensive.
3. Libraries store and maintain much of the same data hundreds and thousands of times.
4. With the dispersal of library data across distributed systems, the library's presence on the Internet weakens.
5. With libraries operating independent systems, the collaboration between libraries becomes more difficult and expensive.
6. Information seekers work in a common web environment and distributed systems that make it difficult to obtain a library in the workflow.
7. Many systems use only (10%) of their capabilities to collect systems in the cloud environment, reducing carbon emissions, making libraries greener (environmentally friendly).

RADIOFREQUENCY IDENTIFICATION TECHNOLOGY RFID

RFID It is an acronym radio frequency identification (it is a wireless technology that is used to identify people and entities objects Various that include crowns RFID Through radio waves and wireless communication ward. This technique can be classified as one of the automated identification systems that mean automatic identification of different things and entities such as barcodes and rapid response codes (QR-Quick Response) QR Code. The main advantage of radio frequency identification techniques is that they rely on radio waves to transmit data about their associated entities wirelessly to databases through intermediary units called (reader devices) (Ward, 2007, p1).

These systems were used in the field of libraries in the mid-nineties of the last century and are considered a company TAGSYS The French were the first to install this technology in the field of libraries, in 1998 when it presented the first automatic process of dealing with library materials using this technology in the National Library in Singapore, bringing a revolution in the world of book management.

USING RADIO FREQUENCY IDENTIFICATION TECHNOLOGY IN THE FIELD OF LIBRARIES

Libraries have been able to take advantage of this technology to perform a lot of business to improve the quality of their services, and these applications are (Mahmoud, 2014, pp. 7-10):

1. Self-borrowing services self-check outThe library pioneers can borrow the information resources they need without referring to the loan officer, through the borrower placing the library card that works with the identification technology of radio frequencies in the self-loan device so that his information appears on the device screen as the borrower's name and his account if he is allowed to borrow or not. After that, he places the resources he needs on a specific place in the device, so a list of source addresses appears on the device screen, and in this process, the loan is completed.
2. Protecting office collections: Depending on electronic gates linked to radio frequency identification technology, they are placed at the library's entrances and exits to prevent resource theft. Once the recipient passes through the portal carrying a book without passing it on the self-

checkout device, the portal issues warning sound and light signals indicating that the vessel did not pass the checkout device.

3. Statistics and Reports: Libraries need statistics and reports, whether daily, weekly, monthly, or yearly for numbers of visitors or beneficiaries, to take appropriate decisions to advance the level of services provided by libraries, as the technology defining radio frequencies helps in obtaining these various reports. As well as reports about daily newspapers, to know which newspapers have more demand from beneficiaries and which are read more than others, and which grade is not read by the beneficiaries until the subscription is canceled.

4. Inventory operations: By using an inventory device that depends on radio frequency identification technology, the library can be inventoried whatever the size of its library collection in a fast and easy way and without the need to move the group or count it manually or disrupt the library's time as it happens with inventory operations in traditional methods because once the device is passed Close to the sources, the device gives an alert sound warning that the book is not in place, so it is either lost or borrowed.

INTERNET OF THINGS

The term "Internet of Things" first appeared when Kevin Ashton, co-founder of the Automatic Identification Center at MIT, did the Internet of things in a presentation to Procter & Gamble P&G In the year 1999 AD, to obtain the radio frequency identifier (RFID) to the attention of the company's top management P&G Ashton used IOT as a title to display. This term also appeared in 1999 in a book when things begin to think about Neil Girchenfeld, in which he provided a clear vision of the trend of the Internet of things Rouse et al. (2018) in view of the significant increase in the development of information technology, the Internet of Things technology is considered the fourth information revolution after the computer, internet, and mobile phone networks.

The Oxford Dictionary defines the Internet of Things as "the online connection between computerized devices that enter. At the heart of daily uses, enabling it to send and receive data. In other words, internet connectivity is no longer restricted to smartphones and computers in its narrow sense and traditional, it even includes televisions, surveillance cameras, home and room keys, home entertainment devices, sports devices, electronic boards, cars, etc. These sensors can be used for various types of local communications such as RFID and NFC and Wi-fi and Bluetooth.

FIELDS OF MAKING USE OF THE INTERNET OF THINGS

As a result of the capabilities provided by the telecommunications sector, which can be applied also in the library sector, and thus the ability to benefit from the Internet of Things applications in providing advanced services in libraries, as it has been influenced a lot by the rapid developments in information and communications technologies, computing, social media, and smartphones. These technologies were the basis for internet applications things, after increasing reliance on modern wireless communication technologies in libraries such as radiofrequency technologies, sensors, and mobile phones that through modern identification systems can interact with each other. The use of IoT applications will enhance the ability of libraries to access traditional collections via the Internet, as well as provide factual and accurate information. As this technology will make it easier for librarians and beneficiaries to find physical objects, browse virtual resources in the library or information about the interests of the beneficiaries, and it will also benefit from the internet of things to obtain information about the beneficiaries through their mobile phones, know their tendencies and current mood and therefore suggest Some sources appropriate for them or the activities presented in the library related to their interests or informing them, for example, about the availability of vacant devices in the library to work on, or reading rooms they need; For use, and it can also be used for consulting and training (Qin, 2018). The internet of things is one of the latest information infrastructures and its connection to cloud computing and networks deployed everywhere has provided resources that are quantifiable for computing and communications, which has created a suitable ground for the quality of business performance as it enhances the economic and social impacts on the management of various business activities and this, in turn, has a positive impact on the provision of services.

SOME MODELS FOR APPLYING THE INTERNET OF THINGS TECHNOLOGY IN LIBRARIES

1. Bacon technology beacons are one of the internets of things devices that send notifications of messages or alerts to a smartphone or tablet computer through a small device that is hung on a wall or shelf that sends and receives wireless signals via Bluetooth technology. These signals contain the location and directions of the person, as the application BluuBeamIt is implemented by the Orlando Public Library in November 2014 and is based on the application of iBeacon beacons

mentioned above, you send users via their mobile phones, which are dependent on their geographical locations inside the library, with notices about the library such as events, performances, assistance in moving within the library... etc. More than 30 libraries have signed technology in the USA Blubeam Actionable.

There is an application launched by a company Capira Technologie Supported iBeacon technology for libraries with applications Capira Mobile to interact with its beneficiaries via Bluetooth technology and the technologies are represented in the loan service by sending notices for books that have not been returned and return dates sending notifications about the different activities that take place inside the library, as well as sending notifications to the beneficiary in the containers on the shelf by simply passing in front of a specific shelf of books, and can Library staff keep track of the beneficiary throughout the library, the places he visits and the time spent inside the library.

2. A library Hillsboro The public in Oregon introduced a book Book-O-Mat It is a booth Self-catering located in the central square in Hillsboro It is equipped with new books and movies located Book-O-Mat In a high traffic area for pedestrians, it is monitored from the main library a few miles away to continue use and alert the library when it is necessary to restore and specify books and materials necessary to develop the library collection.

-3 Library experienced Hill library at North Carolina State University, IoT devices are approved for library operations, as these devices monitor the movement of furniture, the number of visitors, provide card access, and control digital signage, and by integrating them into other services, including technical lending (Bogazala, 2019, p. 191-192).

CONCLUSIONS

Reached research on the conclusions of the following:

1. There is a set of IT information used by institutions to complete their implementation and provide services effectively and these technologies (computer automated, disks integrated, systems automated, Internet. RFID, Internet stuff, cloud computing).
2. It was found that there is a positive effect of information technology in raising the efficiency of library services, especially university libraries, for its effective role in the scientific research process.

3. The use of information and communication technology makes libraries market services to a point where the beneficiary is located and increases the volume of services provided by libraries remotely, such as ongoing briefing, selective broadcasting, and others.

PROPOSALS

Select the research proposals for the following:

1. Providing an appropriate environment for the use of information technology in information institutions.
2. Working to raise the efficiency of human resources in libraries by introducing them to technical courses to keep abreast of developments at the local and global levels.
3. Providing a budget for libraries to purchase technology for library work.

REFERENCES

- Abdullah, Y., Ahmad-Zaluki, N. A., & Abd Rahim, N. (2021). Determinants of CSRD in non-Asian and Asian countries: A literature review. *Journal of Global Responsibility*, 12(1), 114-135.
- Abbas, Y.A., Mehmood, W., Manhal., M. H., & Aman-Ullah, A. (2022). The Level of Sustainability Reporting of Malaysian IPO Companies. *Environmental Science and Pollution Research*, 29(46), 69527-69539.
- Al-Hosh, A. B. M. (2005). Modern technology in information and libraries. Cairo: Dar Al-Fajr.
- Shami, A. M. (1998). Encyclopedic glossary of library and information terms- . Riyadh: Dar Mars.
- Al-Madadhah, A.N.(2011) . Computing in libraries and information centers. - Amman: Dar Al-Safa.
- Qasim, H. (2009). Introduction to libraries and science pain Alamat- . Cairo: strange library.
- Qandilji, A. I.(2010). Computerized information bases and networks. Amman: Dar Degla.
- Abdul Karim, A. A. N. (2012). Using the internet at basra university as a reality and course in the educational and research process). Master thesis (University of Basra: faculty of arts).
- Imad Abdul-Wahab Al- Sabbagh. (2004) . Information science amman: House of Culture.
- Al- Assaf, I.I. (2006). Technology information: Study concept and away, and the problems of transfer to Arab countries. *Fahd Library Journal of the National*12(2).
- Muhammad Rajab, J. A. (2018). Computing cloud founded it the theory and ways employ them in environment libraries. *Magazine University Resurrection*, 4(25).
- Khamsa Saleh, R. R. (2000). Information technology and its impact on technical preparation in libraries. *Iraqi Journal of Libraries and Information*, 6(2).
- Majid Mustafa Shaman molasses. Library computing, information center, and software use CDS / WINISISAs a practical and applied system Irbid: Dar Al-Al- Keeb, 2007.
- Khathaami. (2009). The reality of information technologies in public libraries in the Kingdom of Saudi Arabia. *Journal of Studies information*, 5.
- Abdel-Hadi, M.F.(1984) . Introduction to information science - . Cairo: strange library.
- Al-Hadi, M. M. (2001). Communications technology and information networks with an explanatory glossary of information. Cairo: Academic Library.
- Mahmoud Sayed Abdo Mahmoud. (2014). Applications technology the definition at frequencies the radio RFID at Libraries, *Libraries Net Magazine*. Meg 15, p 2.
- Khudair, M.(2005). Wallace learned of PVC blood online using disks compact acid-ROMIn the Central Library of the University of Technology. Al- Rafidain Literature Magazine, p.

41/2.

Al- Soudan, N.M. (2009). Beneficiaries use automated indexes in Saudi libraries and information services. King Fahd Library National, vol 8.

Abdel-Moaty, Y.Y. (1994). Introduction to computers and their applications with Arab applications and experiences in libraries and information centers: Kuwait Library Company.

Cochran, P. A. (1992). Information technology in libraries and Ranganathan's five laws of library science.

Fingerhut, M., Babej , T., & Wittek , P. (2018). Open source software in quantum computing, *journal .pone*, 13 (12), 208-213.

Jing, Y., Zhijiang, L. & Suping, Ye. (2012). The community library announces based on cloud computing. *Procedia Engineering*, 2804-2808. Retrieved from.

Qin, J. (2018). The research of the library services based on the internet of things. In the 4th International Symposium on Social Science. Atlantis Press.

Rouse, M., Gillis, A., Rosencrance, L., Shea, S. & Wigmore, I (2019). Internet of Things (IoT), Retrieved 2 October 2019.

Upadhyaya, J., & Ahuja, N. (2019). Retracted article: Cloud computing in libraries and higher education: an innovative user-centric quality of service model. *The serials librarian*, 76 (1-4) , ix -xxii.doi: 10.1080 / 0361526x.2019.1595808.

Wheatley, A., & Hervieux, S. (2020). Artificial intelligence in academic libraries: An environmental scan. *Information Services & Use*, 39 (4), 347-356. DOI : 10.3233 / isu-190065.

Available at: www.wordreference.com/enar/oxford.

Available at: <https://yais.ahlamontada.com/t126-topic>.