Library Services: Between Development Opportunities and Information and Communication Technology Challenges
-The Main Public Reading Library of Adrar Province as a Model-

zaidi hasnia[1]
[1] University of Ahmed Draya (Algeria), has.zaidi@univ-adrar.edu.dz

Abstract

The nature of library work has transformed due to advancements in information services, retrieval, and broadcasting. New services and jobs have emerged as a result. Modern technology data have become necessary alternatives to detail the work of libraries and raise performance and productivity levels. The emergence of information networks in our present era resulted from developments in the electronic field between computer devices, facilitating the exchange and transfer of information of all types and forms. The public libraries in Algeria specialize in obtaining and managing information and its resources. Technology has always been part of these libraries, as it was used to store and retrieve information, to serve their users according to their needs and requirements. Not too long ago, the public library was the place people visited for reading, borrowing books, and education. However, technological advancements have paved the way for this library to transform into an electronic distributor of knowledge, accessible to those who seek it from their homes, offices, or any other location where the reader might be present.
This study will focus on the extent of the use of information and communication technology in the public library of Adrar province, the automated systems implemented therein, and the impact of this technology on the level of services provided in the library

Keywords : Library Services ; Development Opportunities ; Communication Technology Challenges. ; Library of Adrar

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*.Corresponding Author.

Introduction:

The use of modern information technologies has significantly increased in the twenty-first century. This digital and informational wealth represents an opportunity for institutions to achieve a significant leap in developing their services and productive and creative capacity. So far, this technology has enabled libraries to access texts, images, audio and visual recordings stored locally or in distant locations. It has also enabled the conversion of printed or unprinted paper collections into electronic forms that can be communicated with distant beneficiaries. Libraries have been placed in a position where they must embrace technology and enter the information society, despite potential drawbacks. These aspects are more apparent in advanced countries than in developing nations, which tirelessly strive to overcome difficulties to enter this world with minimal possible costs.

Recently, these libraries have begun integrating traditional services with electronically supported services, such as reference, answering queries, and guidance. Previously, library users had to visit the library building to access its services personally. However, the situation has now changed, and it is possible to benefit from these services without the need to leave one's home or workplace. Moreover, the speed and effectiveness in delivering these services have brought about distinct changes for libraries in the early years of this century. Information technology has undoubtedly transformed how information is conveyed to the end user.Libraries continue to strive towards delivering information most suitable for users, as technology has played a pivotal role in facilitating this process with enhanced efficiency. Information has shaped a fundamental aspect of human development, which is managed, organized, and exchanged daily through innovative methods and techniques. Besides, computers are one of the tools that enhance information management, especially considering the vast amounts of information generated daily. Library users have become more accustomed to the presence of computers, utilizing electronic newsletters, email, direct search services, and local database searches. These services are among the most popular and frequently used library services. Expanding and updating these services are crucial factors in cultural and scientific development. Therefore, it is essential for the state to increasingly prioritize these institutions to improve the services provided to readers and researchers.

Furthermore, due to this impressive progress, libraries can only function by incorporating technology into their services. It holds great significance in improving service quality and ensuring the satisfaction of beneficiaries.

1- **Problematic**: Based on the above, we can raise the following problematic: **What is the impact of modern information technology on the level of service provided in the public library of Adrar? How has it contributed to improving services for beneficiaries?**

2- **Sub-Questions**: To answer the main problematic, we address the following sub-questions:
1. What is the concept of Information and Communication Technology (ICT)?
2. What are the most essential services in which information technology has been used in the library? How has it contributed to enhancing the quality of these services?
3. How does information technology affect the performance of the library staff?

3- **Hypotheses:**
1. Information and Communication Technology (ICT) encompasses all information and communication technology devices.

2. Information technology's impact on library staff's performance lies in improving service quality through the rational use of these technologies and activating human resources.
3. The main areas where information technology has been employed in the library include digital cards, the internet, self-checkout, digital signage, research rooms, etc.

4- Study Objectives and Importance: The study aims to achieve the following objectives:
- Identify the most essential services provided by the library to its patrons.
- Recognize the various devices used in the library to enhance its provided services.
- Ensure that technologies are utilized to improve library service for its patrons.
- Determine how these technologies influence employees in their work toward readers.

5- Study Importance :
The importance of studying is derived from the significance acquired by the cultural institutions' sector in society as an indispensable public service. Consequently, libraries have made great efforts to keep up with the ongoing information technology and communication developments to enhance their services. This is achieved through providing computer networks and upgrading electronic service methods.

6- Study Delimitations:
Spatial delimitation: The study is limited to the main public library in the Adrar province.
Timedelimitation: The period from October 2021 to November 2021.

7- Research Methodology and Tools Used:
Given the nature of the topic and the available information, we rely on the descriptive approach in its theoretical aspect and the case study approach in its applied part. We have used several tools, including:

1- **Desk research method**: relying on books, journals, master's theses, and some websites available on the Internet.
2- **Observation and interviews**: for obtaining field information.

Theoretical Aspect of the Research:
1- Introduction to the Library UnderStudy:
The Main Public Reading Library of Adrar, located in the Adrar province, is a public institution with an administrative character, possessing legal personality and financial independence. It was established by virtue of Executive Decree No. 08/236 dated July 8, 2008, which includes the establishment of public reading libraries and was named after El MoudjahidHachemi Kouider. The library building is situated in the city center, facing Fugarates Exhibition, adding an aesthetic urban touch. This location helps attract a vast number of readers. Among its tasks are:
- Providing books in various formats to promote and encourage public reading.
- Making all library contents available to beneficiaries.
- Offering services of the Main Public Reading Library to its users.
- Designating a space for reading that caters to the needs of children.
- Ensuring library science services related to information technology and guidance for the benefit of members and all researchers or visitors.
- Organizing cultural activities related to books.

2- Definition of Information and Communication Technology (ICT):

Refers to diverse technological tools and resources used for conveying, broadcasting, storing, and managing information. (Blurton, 1999) The collective technologies, tools, means, or systems are employed to process content or information intended for mass, personal, or organizational communication. Through this process, information and data in various forms—audible, written, visual, drawn, audiovisual, printed, or digital (via electronic computers)—are collected, stored for retrieval when needed, published, transported from one place to another, and exchanged. (Mahi & Musa, 1999, p. 26) Some specialists define Information Technology (IT) as obtaining audio, visual, and digital information in written text format, processing and storing, and broadcasting it using a range of microelectronic computers and remote communication equipment. (Al-Shami, 1988, p. 73) It is defined by others as the devices and means used to facilitate the production, processing, circulation, flow, exchange, and availability of information to its seekers swiftly and efficiently. This includes audiovisual devices, film projectors, imaging machines, reproduction tools, telex, facsimile, mail imaging, telephones, and computers. Information Technology is closely linked to the computer, which, with its exceptional capacity for storing and retrieving information, has merged with communication technology, which possesses outstanding capabilities for transmitting information, resulting in what is known as Information and Communication Technology (ICT). (Al-Ramadi, 2008, p. 16)

3- Advantages of Information Technology in Libraries:
1. Allows for the consolidation of various library activities.
2. Helps increase the provided services.
3. Provides an opportunity for marketing library services.
4. Facilitates networking between libraries and enhances collaboration among them.
5. Offers easy and quick means of accessing information.

4- Characteristics of Information Technology:
Information technology stands out due to several characteristics that enable it to address various issues, including:
1. **Time Reduction:** Technology virtually connects all locations electronically, especially in data processing.
2. **Space Reduction:** Storage means accommodating vast amounts of stored information, easily accessible.
3. **Intellectual Task Sharing with Machines:** Resulting from interaction and dialogue between users and systems.
4. **Artificial Intelligence:** A key feature enhancing knowledge development and strengthening opportunities for training users to control information access.
5. **Interaction:** Users of this technology can simultaneously be recipients and senders, enabling role interchange and creating interaction between activities.
6. **Non-Compulsory Interaction:** It refers to the ability to receive the message at any time that suits the user. Participants are not obliged to use the system at the same time. (Hassan Saleh & Al-Wargi, 1999, p. 357)

5- Areas of Information Technology Application in Libraries:

1-Automated Acquisition and Supply Service: This service is now mechanized through computer usage and various techniques. It enables the library to acquire new information sources to enrich its collections.

2 - Automated Indexing Service:
The process of producing various index records with the assistance of computers. Its use began in the mid-1960s at the Library of Congress in the United States as part of a project funded by the Council on Library Resources, which encouraged the distribution of index records on magnetic tapes. This service quickly

spread throughout the United States, leading the International Organization for Standardization (ISO) to adopt the general structure of the MARC record as an international standard issued in 1973 under the number ISO 2709. In the early 1980s,techniques for machine-readable indexing records emerged at both the national and international levels, known as "UNIMARC." (Al-Hazimi, 2002, p. 57)

3 - Automated Classification Service:

Classification divides a collection of materials into subgroups, where each subgroup consists of homogeneous units with specific characteristics or attributes. This process results in separating heterogeneous materials based on their degree of difference.

4 - Automated Indexing Service:

The process of preparing indexes or index entries that lead to accessing information in its sources.

5 - Automated Abstracting Service:

Abstracting is defined as the accurate and concise representation of the content of a document by preparing an abstract similar to the original document. The abstract summarizes the essential contents of the bibliographic record and serves as a natural substitute for the original document. (Mohamed Fathi & Mohamed, 2000, p. 21)

6 - Automated Circulation Service:

A set of services and procedures that enable the library to allow users to use library resources outside the library building, according to specific regulations that ensure the preservation and timely return of those resources.

7- Automated Current Awareness and Selective Dissemination of Information (SDI):

A- **Automated Current Awareness Service:** Involves systems that review recently available subject literature information sources and often bibliographic records of information sources. It selects from them the ones suitable for users' needs, registers these sources, and sends them to the users. (Hamshari, 2009, p. 20)

B- **Automated Selective Dissemination of Information (SDI) Service:** Automated SDI provides more comprehensive coverage of intellectual production than traditional SDI systems. Information is prepared, categorized, and directed to researchers online, after identifying each researcher's specialization field and email address. (Albindari, 2003,p78)

8- Automated Reference Service:

8- Automated Reference Service: This service involves responding to users' inquiries by acquainting them with how to use indexes, periodicals, encyclopedias, and more. It also includes introducing users to intellectual resources in the library, specifying their locations, and presenting them to users. This service can be enhanced through film strips, databases, and CD-ROMs.

9- Internet Services in Libraries:

The Internet has become a symbol of significant progress in scientific and technological fields due to its specialized services in the library domain. This is primarily because of its vast collection of global electronic libraries that provide access to many online information sources. The library services that rely on the World Wide Web include the following:

 1- Reference Services: Librarians or reference specialists are among the Internet's most benefited groups. The abundance of information available through file transfer services provides access to many online information resources. Librarians or reference specialists can access these sources in a balanced manner, and

these information sources are often accessible. Therefore, it is difficult to argue about comparing the benefit level derived from printed sources versus online electronic sources. (Albindari I. D., 2003, p. 79)

2- Technical Services: The Internet enhances both loan service and interlibrary loan by providing direct access to online indexes. Providing access to the index and making it available on personal computers will increase library usage.

3- Information Publishing and Broadcasting: Technology is the first available tool to upload and provide information on the Internet at a low cost and with ease of implementation. Ready-made software such as Gopher and the World Wide Web has played a significant role in spreading information. (Gada, 2016, p. 132)

4- Bibliographic Research: Since its inception, the Internet has revolutionized bibliographic research. Retaining more bibliographic information through databases and libraries connected to direct searching worldwide is now possible.

5- Direct Access to Libraries: The Internet allows for immediate access to bibliographies of millions of books, enabling the verification, retrieval, and examination of bibliographic information and new titles.

6- Access to Bibliographic Databases: This refers to articles from general journals, university theses, government publications, scientific associations, and some specialized bibliographic databases.

7- Remote Acquisition: Libraries use remote communication to request materials from suppliers, where information about the availability of books is transmitted. However, this process only takes place with cooperation between suppliers and administrators.

8- Professional Development: The internet enables participation in professional development activities, as it allows for the organization of conferences and participation in them. It also facilitates preparation for training courses and more. (Mourad, 2008, p. 102)

9- Online Library Indexes: The internet significantly enhances the efficiency of book lending processes within a single library or between different libraries through increased access to indexes.

10- Discussion Forums: This refers to the ability to access various individuals online, allowing for interaction with specialized professors in different fields and the opportunity to ask questions.

11- Electronic Journals and Newsletters: Hundreds of electronic journals and newsletters are available on the internet, covering various disciplines. They provide the latest information on the use of technology in libraries.

5- The Impact of Information Technology on Library Professionals:

The role of librarians has transformed from mere providers of lending and indexing services to becoming information specialists adept at handling various modern technological tools and responding to the requests and needs of beneficiaries. The role of information professionals has changed significantly in light of the apparent invasion of information technology. We find that modern technology has influenced the role entrusted to librarians, which has been redefined as an intermediary of information, a digital librarian, a virtual librarian, a librarian of the future, or a network specialist. These labels undoubtedly indicate the evident change in the profession of librarians and the magnitude of their role in the information age.

6- The Role of Information Specialists:

Information specialists have become active and influential figures in scientific research or the field of knowledge. However, they still need further emphasis to effectively deal with these modern technologies, allowing them to provide services to beneficiaries. These roles can be summarized as follows:

1. Providing access to the internet.
2. Information exploration and retrieval.
3. Education and training.
4. Publishing.
5. Acting as intermediaries.

6. Information evaluation.
7. Information organization.
8. Providing guidance and advice.

Applied part:
First, Main Library Services of the Public Reading Library in Adrar Province in the Era of Information Technology:
1-1 Electronic Technical Information Services: Different information sources are provided and made available by beneficiaries, starting from requesting and receiving selection lists from various sources (publishers, etc.), selecting the appropriate ones, then processing and preparing them technically (receiving materials, cataloging materials), classifying them, and creating indexes. Finally, they are sent to different rooms, knowing that all the tasks within the department are computerized.

A- **Main Interface of the SYNGEB Software:** The primary interface of the SYNGEB software.
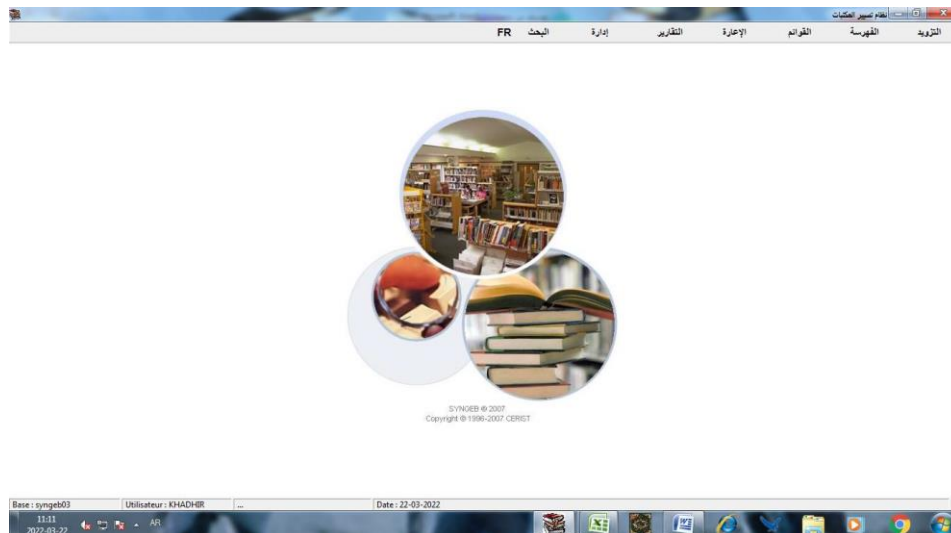
B- **Window for Defining Tasks, Roles, and Authorities of Officials, Staff, and Assistants:** Regarding acquisitions, indexing, and lending: responsibilities include lending manager, information input operator, ...

C- Automated Acquisition Service: Facilitates providing or obtaining various appropriate library resources for the library and its beneficiaries. Computers, software, and communication tools play a significant role in recording suggestions, preparing orders, sending them to publishers along with invoices, monitoring accounts, making payments, receiving items, briefly describing and assigning inventory numbers in the automated inventory register, parallel to the manual inventory register after being stamped with ownership and inventory seals.

Various Reports and Statistics related to the Evaluation and Assessment Process for Acquisitions.

D- Automated Indexing and Classification Service:

Automated indexing involves completing a brief description of the cataloging data by entering bibliographic information for the book according to ISBD standards. The automatic classification consists in selecting the classification code after recording the classification plan in the designated field of the software. It's important to note that the library uses the Dewey Decimal Classification plan for quasi-school books, one for children's books, and another for Braille books.

E- Subject Cataloging and Search engine indexing: This process relies on the document's text or indexing the book's index by extracting keywords representing the document's content.

F- Automated Abstracting: This is done by relying on the document's text or writing an abstract by the author, or mentioning the document's title, the number of chapters, sections, and chapters it contains to provide the researcher or reader with a concise overview of the document's content.
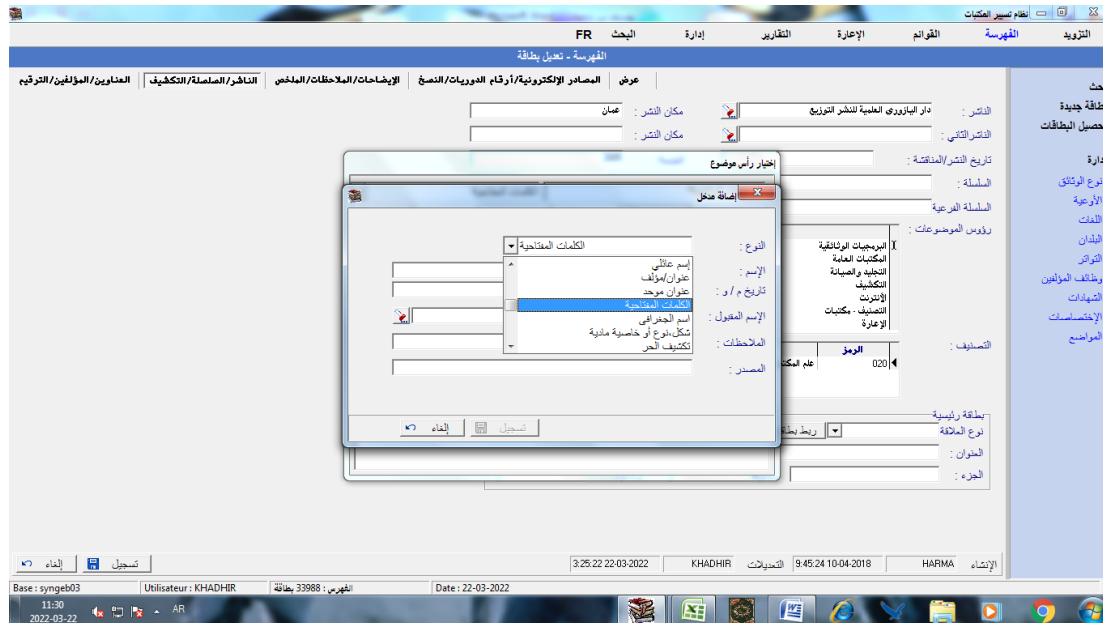

Secondly: Public Electronic Information Services:

2-1 Electronic Plastic Reader Card: To obtain the electronic plastic reader card from the library for free and without any paperwork, equipped with the Radio Frequency Identification (RFID) system, barcode technology, and Quick Response Code (QR) technology. It tracks the number of visitors to the library and its different spaces, verifies the card's validity, and enables automated loan.

The reader card is activated and functional.

2-2 Public Access Catalog (OPAC): Facilitates the search process for users by providing additional search entry points (words from the title, author, subject, etc.), with the possibility of accessing a book's abstract and its location in the library (children's section, open shelves, special needs section), and its availability for loan (internal loan, external loan, available). The simple search function of the OPAC (Online Public Access Catalog) is provided by the SYNGEB software. The search results provided by SYNGEB include bibliographic information about the book, keywords, book abstract, book location in the library, number of available copies, and loan status.
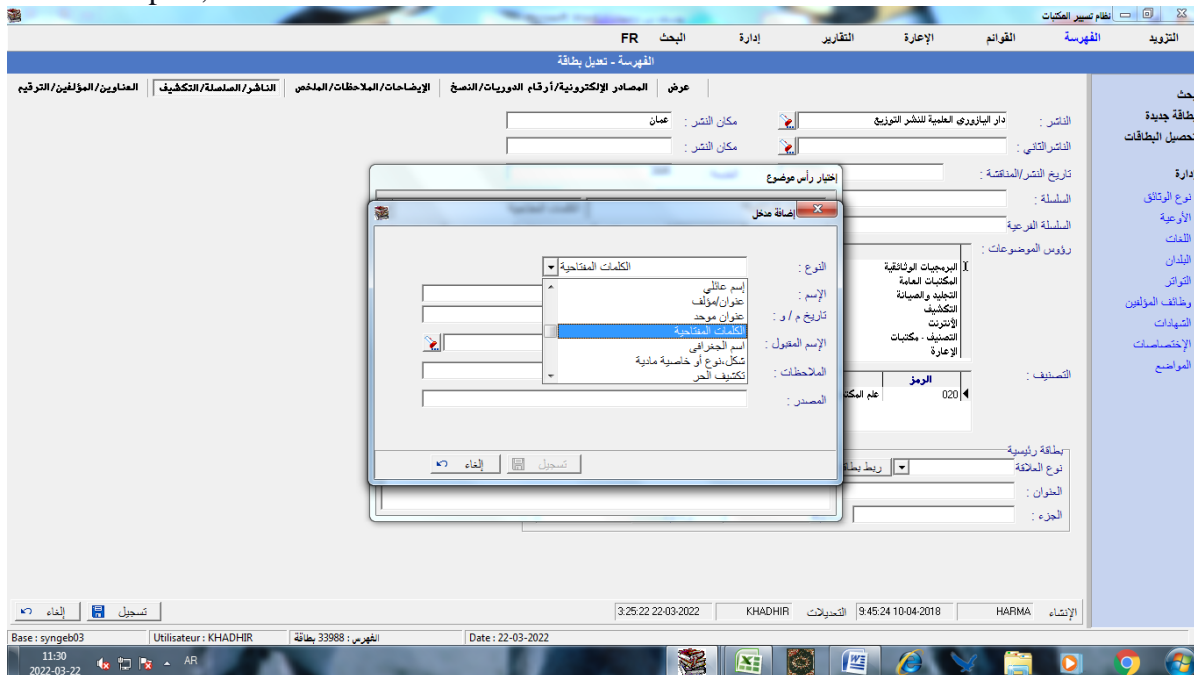
2-3- Electronic Lending Service: The Library Card Information Service, which enables users to borrow all available information resources, even if they are not registered members of the library they accessed through its website.

Reports and Statistics Related to Lending

## 2-4- Library Website Services:

A- Remote Registration: Readers can fill out an information form after registering on the library's website, which can be attached to the membership file.

B- Online Public Access Catalog (OPAC): Website visitors can access titles and subjects available in the library by searching and browsing the electronic catalog.

C- Current Awareness Service: This service informs the user about newly acquired information resources that have recently arrived at the library. This concept can extend to informing users about the library's activities or information center updates. The library can provide this service through its website, utilizing modern methods to notify users about new activities, additions, and developments

D- Ask the Librarian Service: This is an interactive service between the user and the library staff, where staff members directly respond to inquiries or provide responses shortly after. Additionally, common questions are answered as part of this service.
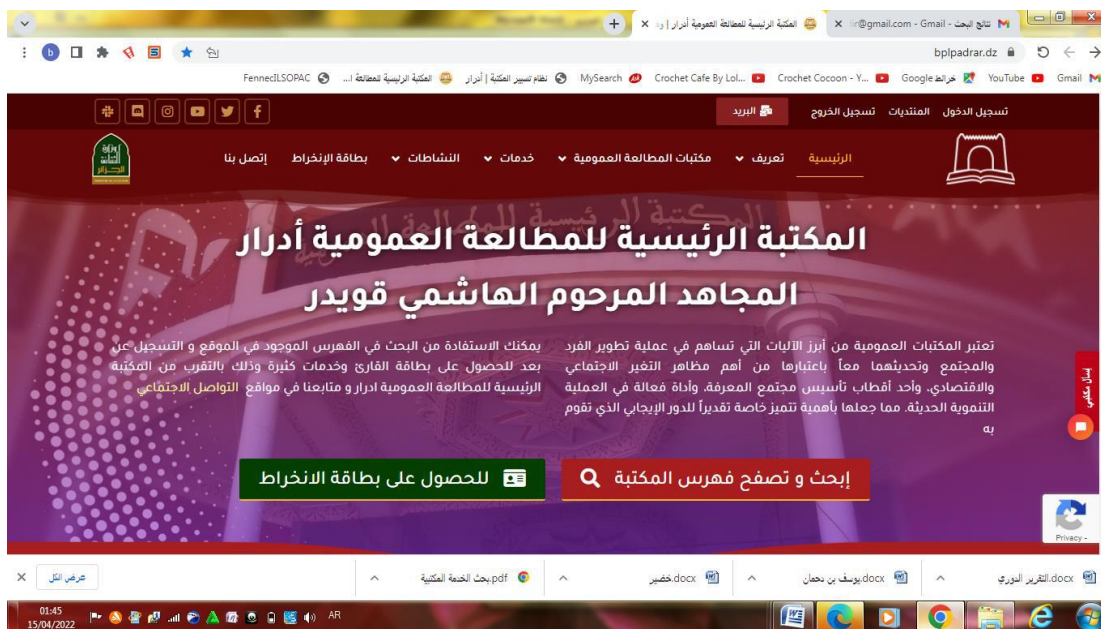
Study Results:
1. A limited number of qualified staff to provide and train users on electronic information services for effective utilization.
2. The library keeps pace with various technological advancements, ensuring necessary physical equipment and network connectivity.
3. Integrating traditional services with improvements by incorporating modern technology and its applications in information service delivery.

4. The library's internet space has been attractively designed to facilitate users' access to and utilization of diverse internet services such as browsing, searching, chatting, email, printing, etc.
5. The library's online platform offers various information services, including reference services, direct online index access, remote registration, room and space reservations, a synchronization system, and local books and publications.
6. Regarding reference service, no FAQ (Frequently Asked Questions) list is available on the website.
7. Utilization of social media platforms for reference service through the "Ask the Librarian" messenger service and the ongoing awareness service to inform users about essential books acquired and various activities offered by the library.
8. Some users need to gain familiarity with the importance and process of conducting searches in the electronic index.
9. Users recognize the significance of acquiring modern research skills tailored to the digital environment, enabling them to meet their information needs through electronic training services.

Recommendations:
1. It is essential to enhance the information literacy awareness of library staff about the significance of providing electronic information services.
2. Conduct future studies to measure user satisfaction with the available electronic services on the library's website and identify any technical, technological, or human challenges they face.
3. Provide selective dissemination of information by individually notifying users of new arrivals in the library related to their field of interest and study. This ensures that users know new additions relevant to their interests, encouraging continued visits to the library and utilization of its electronic services.
4. Ensure the provision of automated equipment and qualified library personnel trained in information technology.
5. Expand the use of information technology in all aspects of library operations.
6. Coordinate among public libraries at the national level to establish an information network to foster collaboration, integration, and information exchange in technical operations and information services provided to users.

Conclusion:
     The rapid developments in information technology have significantly impacted libraries in general and public libraries in particular. Librarians and users can now utilize technological tools to achieve educational and cultural goals. The introduction of automation and information technology into libraries has led to a re-examination of the nature of services and how they are delivered to users. Besides, many libraries have begun changing their services to align with evolving needs and meet current and future community needs. This has also resulted in notable developments in library equipment available in recent years. Librarians must now use technological tools and integrate them within library services. However, using this technology requires skills to interact and engage with these tools positively and effectively. These skills allow librarians to prepare, disseminate and make all library services accessible to readers and researchers. This is an essential requirement for strengthening the use of information technology in these institutions.

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