



Towards A Strategic Approach to Developing the Digital Library at Algerian Universities

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Abstract ;

It is evident that digitization has gained significant attention in scientific and academic spheres across various Arab countries. It has emerged as a focal point within their development, political, and educational agendas. Algerian universities have also embraced digitization, albeit informally, in response to local societal developments in the digital era. This transition has been motivated by the numerous advantages and diverse availability of digital resources, necessitating a comprehensive understanding of the technical aspects of digitization within our academic institutions.

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1. INTRODUCTION

As a product of human social evolution, digitization represents a contemporary trend that is being increasingly adopted in our university libraries as an intermediary measure to accommodate the rapid influx of data and ongoing changes. There has been a debate lately about the interrelation of communication technologies and information industry alongside its circulation across the world as a prelude to the shift towards a digital society that is witnessing abundant knowledge production. Information and the use of multiple systems of information observatories around the world.

The digital library is considered one of the most important outcomes of the information society, as libraries began to seriously seek the development and employ the latest technologies in making information available, especially with regard to information storage and retrieval, electronic publishing, and electronic books. the requirements and preferences of researchers, academics, and beneficiaries in general.

Defining the digital library in the context of the Algerian university is still ambiguous due to the shortage of scientific, academic and professional literature for this term. In fact, it suffers from practical difficulties. The most important of which is the fragility of the infrastructure and the lack of specialized frameworks, which are basic requirements for building advanced digital libraries. Moreover, the shift from the traditional

library to the electronic library has not yet taken the technical aspect and appearance that it is practiced in the developed information society, which led to the emergence of wrong random uses and practices.

Against this backdrop, we have identified a series of key questions that aim to explore the current state of digital libraries in Algerian universities.

- What is the reality of the digital library in the Algerian university?
- What is the neo -functional approach of the digital library at the university?
- What are the uses of the digital library at the university?
- Does the digital library at the Algerian University accommodate the various forms of technologies within the dynamic of the changing movement that the information society is witnessing (challenges) ?
- What are the alternative strategic visions of the Algerian University in developing the digital library between the desire for change and facing challenges?

2. Definition of Study Concepts:

The term "**digital library**" has been defined in a variety of ways, all of which relate to the development of the levels attained by the latter and the evolutionary and functional pattern of the pattern of uses, including the following:

2.1. Electronic Library:

To express one notion, this definition used two distinct phrases. By definition,

the digital library is made up of Can we refer to the digital library as being "electronic" whether it comes from electronic sources or digital sources.

Furthermore, it is a "library that works on modern electronic technologies that are efficient and effective and performs a set of automated procedures" (Abdul Latif, 2002, p. 58).

The electronic thesaurus (ODILIS) provides a definition that takes into account the nature of the information that makes up the digital library, in addition to defining its tools and location(Djamil,2005,p.69), it is defined as a library that contains a significant set of available resources in a machine-readable form..and is accessed through computers, and this digital content can be Keeping it locally or making it available remotely via a computer network.

It was noted in another description that "it covers two categories of electronic resources that are offered on optical discs and miniatures; combined with the digital unit" (Mohsen, 1996,p.66).

2.2 Virtual Library :

They are reffered to as libraries that are connected to many digital libraries and institutions to provide a specific service without the researcher necessarily knowing where the source of the service is, and in which information is processed, stored and retrieved using modern electronic methods, and it is present on the Internet and has no place in reality (Muhammad-Yasser & Mohsen, 2002,p.50).

Additionally, there are other

researchers who define it as that library for which there is no known entity in itself , meaning that it is transparent and its collections are formed from multiple sources of information, which the computer deals with only and is obtained through networks . "Effective planning and management play a crucial role in the development of digital libraries and archives" (Zeinhum & Abd al-Jawad, 2006, p. 46).

Due to the engineering-paced distribution of digital knowledge today, this library may be bigger and more extensive than the electronic library. Which means that the size is no longer a factor in determining the library's frame; millions of documents can be stored on a storage device that is no larger than what we might imagine, as opposed to the previous concept's electronic library, which takes up space but is no bigger than the default size.

The virtual library, an expression mostly linked with computer engineering, is the antithesis of realism and even the traditional library. It is indicated by the term virtual to distinguish it from tangible physical items.

2.3. The digital library :

It should be noted that the digital library did not begin as a stage of "**major transformations**" but rather as "**small creations**" that took shape with initiatives and attempts to digitize historical information sources or sources that had lost copyright (**public sources**) may account for the difference in the definition of the term. The campaign is growing

gradually to extend to the digitization of "**gray literature**" or university productions such as dissertations and theses. The process of digitalization then advanced to include some books with high value and widespread social influence, creating a level playing field for businesses and institutions with a "**commercial orientation**". (Jhon petter, 2019, p.56)

It is that library that purchases digital information sources, whether they were created digitally in the first place or have been converted to digital form, and does not use traditional printed sources, even if they are first made available online. Bibliographic corrections are made using an automated system, and access to the sources is provided through a network of computers, whether local or global, or through a source other than the Internet (Kelly bohen, 2000, p. 17)

According to Emad and Abdel-Hadi (2006) it was stated that the digital library constitutes institutions and systems of huge databases that contain various sources of stored information, and comprehensive retrieval systems that brilliantly handle digital data through multimedia, and support the beneficiary in his dealings with the information available on the various information networks, including the Internet.

As stated by the Council of Libraries and Information Resources, these organizations offer information resources and have specialist employees "to select and build digital collections, process, distribute and preserve them, and ensure their continuity and flow and provide

them in an easy and economical way for an audience of all ages. Beneficiaries" (Abdel-Hadi, 2002, p. 17).

The definition of a "digital library" was given in the Odlis electronic dictionary as "a library that contains a sizable set of available sources in a machine-readable format" (as opposed to both printed and film resources) (Microform), and it is accessed through computers and this "digital content can be kept locally Or make it available remotely through computer networks" (Heshmat, 2015, p. 120) .

As suggested by Imad Issa Saleh Mohammed In his doctoral dissertation, he defined a procedural - albeit temporary - definition of digital libraries, where he defined it as " the library whose policy is directed towards increasing its balance of digital resources, whether originally produced in digital form or that have been converted to digital form (digitized), and whose bibliographical control , organization and maintenance processes are carried out." Using an integrated automated system, it provides tools and methods for searching and retrieval of various types of sources, whether at the level of alternative documents (metadata) or the documents themselves (content), and access to its internal and external repositories and benefit from its various services through a network of computers, whether local or extended or over the Internet (MuhammadAnis, 2006, p. 5)

Based on the aforementioned, we can say that the digital library is the product of digitization or digital

conversion processes, and it can be considered a conventional extension of the electronic library, while the virtual library can be considered as the one that starts with information sources that were originally digital (or automated media texts), and no forms were practiced on these documents. physical change.

The "digitization" movement, which dominated the operations of information facilities around the world at the start of the 1990s, gave rise to the digital library. This was made possible by the remarkable progress made in the computer industry and telecommunications networks, which opened the door for numerous technological applications in libraries, documentation centers, and archives.(Stefan groo,2019,p.65)

From a technical perspective, digitization is a stage that emerged after bibliographic databases of subpar information sources failed to meet the needs of the beneficiaries, in addition to the growth that the scanner industry had previously experienced.

Thus, the shift towards the virtual digital library has become an imperative, not a choice In the world of libraries and library research, which was characterized by the following characteristics:

- The ability of the automatic temporary system to manage data sources.
- The ability to link the Information Institute with the beneficiary researcher through electronic channels.
- The ability of workers to intervene in electronic dealings when the beneficiary declares his need to do so

- The ability to collect, organize, store and circulate information electronically and absorb the new technologies available in the age of electronics.

- The ability to control information databases in an easy, more accurate and effective way

- The ability to communicate via e-mail, distribute and retrieve questionnaires

- It gives the researcher the opportunity to publish and spread at a time when the specialized spaces for research on periodical papers have narrowed.

- The ability of the digital system to extend service and break geographical barriers.

- The ability to link information to the beneficiary researcher and the ease of intervention in electronic dealings upon request directly

3.The library and the new digital environment:

The progress and development that took place in various and different fields was never a social boom, nor random, accidental, sudden technological episodes. Hence, it is no secret to those concerned that the documentation units, libraries and information (as an influential factor) are among the social institutions that have contributed throughout the long history of mankind, in research, preservation and availability of multiple and different knowledge resources depending on the nature of each stage, as well as in the proper construction of the knowledge system and the construction of civilization and progress. scientific and technical, as

the sponsor and custodian of intellectual and scientific production.(Lauren Jhoncher,2019 ,p.57)

In front of these growing needs, in parallel with the terrible increase in the volume of information flowing around the world, and what accompanied this stage in the history of library development, and from the great interest in computing, automation, or automation processes that provided and facilitated many of the "black box" procedures in them, "digitization" initiatives came. In university libraries (in particular) as a major influence in the economic, social, cultural and even political fabric of the country, and in view - also - of its strategic location by supervising the university formation of future executives.

Considering that the ultimate goal of libraries is to serve all categories of beneficiaries and in the required manner, in parallel with the rapid development in the system and structure of the contemporary person who always searches for the most important of the important and at the desired speed(Delphine Berneau ,2020,p.65) and therefore the beneficiaries are now imposing two principles, the first at the level of groups, and the second at the level of competence of specialists, Libraries may be in the midst of the required accuracy in the collections and the desired speed of the trustees, a direct precursor to the emergence of second-class sources of information such as evidence and bibliographies , then third-rate sources as an attempt to control the "second" in light of their inability to

reconcile intellectual production on the one hand with accuracy and comprehensiveness On the other hand, required by information facilities(Dominique Pergnet,2019,p69), an attempt to reduce the time gap between the researcher and the information. This means that the trend towards investing in digitization in answering these needs is an urgent demand at the present time (Claudine Rechart,2020,p.52)

In light of these changes, Algerian university libraries are not far from this ocean of accelerated technological movement, through their reliance on plans and strategies aimed at collecting these availability and benefiting from them as much as the need and circumstances require. The party of some (university) libraries as an attempt to approach and try to invest in this technology as a reality imposed by the global technological reality and as a socio-professional imperative imposed on libraries to deal with in the service of their patrons. Whatever has been said about these initiatives and experiences, they remain in their continuous cycle a step towards serving the beneficiary in a way that is compatible with the developments in his environment.

We see this transformation through the evolution of the concept of "publication logic" based on meeting the needs according to the careful study of beneficiaries' requests and studying them well in order to meet them in the best way, to the concept of "dispute logic" based on providing the beneficiary with a huge

amount of information and documents, where he is free to Pick and choose what he wants.

4. Towards a neo-functional concept for the library at the Algerian University :

As communication networks developed, the process of " digitization " emerged in the contemporary university library at the Algerian University, transforming paper-based knowledge into digital information that is unbounded by time and location. The period of the seventies and eighties , when another alternative problem was raised about library management , from the point of view of the services, facilities and solutions it provided(Sallah and others,1996,p.56). It is beyond dispute that digitization has aided in the transformation f the vertical system, but on the other hand, it has created new challenges in terms of the specialization of skills and strategies for meeting beneficiaries' information needs. effectively the beneficiaries' information demands are being met in the digital environment. In the context of a digital library, the user is forced to consult the librarian in order to provide him with the technical support he needs to query the databases, which sets a new standard for the education and training of the librarian. Following the creation of the digital collections, the university offices can offer the following services, which are listed below:

- Participating in processing and analyzing digital information.
- Providing services that take into

account the privacy of the beneficiary.

- Searching for and retrieving information by asking the librarian.
- Referencing service and answering beneficiary inquiries.
- Beneficiary training service with the use of electronic resources.
- The continuous counseling and selective broadcasting of information. If we discuss the recipients of the electronic library services, we must present all information relevant to the recipient in order for him to take use of the resources the digital library offers. Identifying the social groups that make up the beneficiary community
- Ensuring the training of beneficiaries on the use of library resources until digital library education is included in curricula and curricula.

Depending on the organizational and functional developments through various stages, the library at the Algerian University is one of the civilized facilities that would play a significant role in improving the university level on the one hand and the advancement of scientific research on the other. As it has evolved into a scientific documentation cell and a fundamental and essential center in the processes of preserving, analyzing, organizing, and disseminating information, it has now become necessary to keep up with the changes of the era. In the beginning, it was simply a place for preserving intellectual production and placing it within the reach of researchers.

For the first time ever, the library at Algerian Universities is experiencing

significant changes to its purposes, guiding principles, modes of operation, and output. The event caused the procedural definitional framework for this library's notion to modify and move toward modernity.(Taher hadjer ,2006,p.46)

Accordingly, we can acknowledge that it is an integral part of the virtual society, which was affected by its knowledge and technical requirements, so that it began to abandon its traditional form somewhat modestly, and gradually adopt the requirements of technology and try to keep pace with the quality of its customers' needs. Information and communication technology has become obligatory on it to use advanced devices and computers in collecting its administrative and educational interests and functions , in order to adapt and properly deal with the changes of the digital electronic society, in order to become a library specialized in managing and organizing information in order to serve the university and scientific research.

5. The Reality of the digital library at the Algerian University:

The library at the Algerian University used computers in an effort to handle numerous complexity in office procedures and in providing services to beneficiaries, but without planning for them, which caused it to live in a state of technological chaos and randomness even though it appears to be organized.(

The library in our universities has additionally contributed to our

understanding of the use of technology and the lack of human competence, as it has been established that 90% of Algerian library employees are unrelated to the field of libraries and information, and that 80% of them have less than a baccalaureate degree (Al-Sufi, 2004), As a result, it is essential that these libraries continue to be filled with technology and remain devoid of any useful documentary content. It also results in Algerian libraries' inability to choose between different technologies, which makes it difficult to combine them to produce a single interactive cooperative project. The development of technologies and the lack of professionalism and speed also led to the optimal and correct exploitation of the applied technologies .

Despite the experience gained by libraries and even the guardian authorities from this stage, the matter is still moving along at the same pace due to the lack of institutional work in the management of digitization projects as this technology continues to follow the steps of the automation processes (more than 20 years) (Ben-Laalam, 2001, p. 27) .

Regarding the methodological component, theization Final L'informatization processes in Algerian university libraries are still in progress, notably with regard to catalogs, which are a crucial step in utilizing the availability of automated media. The "Regional Network of University Libraries" initiative could be a step towards fully automating catalogs, which will pave the way for making digitization processes easier and

more convenient in the short and medium term.

On this basis, the reality of digitization in the Algerian university library reveals to us that digitization initiatives and projects in university libraries, at the present time, have not yet completed the organizational and methodological steps to control its process and outputs, through the weakness and ineffectiveness of collective and institutional work, not to mention strategic work.

6. The challenges of the Algerian university in developing the library - between the desire for change and challenges:

Nowadays, the Algerian University is required to transfer and adapt various forms of technologies within the dynamic of the changing movement that the information society is witnessing. Therefore, we must provide all the mechanisms and capabilities that create the appropriate environment for the quality of performance in the university institution, specifically in the field of intellectual production and scientific documentation, which can be preserved by paying attention to the mechanisms of preserving and publishing it in electronic libraries. It is also required to review its policy regarding the development of its collections, as the electronic library has become an important mediator between the user and intellectual production, whether local or global, so the university must raise the challenge in order to develop the academic community and

develop information services according to the needs of researchers, students and users in general.

Among the challenges that make it keep pace with modernity and contemporary are the following :

- **Internet challenge :**

Due to the wide range of contemporary, quick, and efficient services available, the Internet has grown in significance and become an absolute necessity for scientific research in the university library in Algeria. However, because of the abundance of these services and the high demand for university library services, the university library has struggled to keep up with the demand. This constituted great pressure and forced it to put restrictions and conditions in front of the beneficiaries, and on the other hand, the Internet provided many benefits to the university library by providing its information on websites it defines the library's organization, interests, services, and internal system, and facilitates search in the existing bibliographic information bases to collect the network of thousands of libraries in the world.

- **Electronic Libraries Challenge:**

The university library in Algeria must work significantly with research centers to meet the new occupations and evolving demands of the digital age, which are mostly focused on the use of technology and digital information. Multimedia stored on compact discs, such as (CD-ROM), or online or created in partnership with publishing houses.

- **Multimedia Challenge:**

The new type of information factors has become more demanded by beneficiaries and libraries, as it contains the search feature as well as the speed of browsing, in addition to the huge capacity in storing information, as one disk can contain hundreds of books that the shelves and stores of small libraries cannot contain, so the Algerian university library is required to provide these carriers, in addition to the information technology accompanying them or through which their contents are viewed. As soon as media forms become obsolete and unusable, as will happen to the floppy disk, our university libraries will be forced to keep up with these technological advancements, which will put a strain on the budget and present a new challenge.

- **Electronic Journal Challenge:**

They are electronic journals that are published and disseminated, some of which are freely available while others require a subscription. They are one of the information sources on the World Wide Web. Its quick publication, automatic indexing, linkages to other publications on the network, affordable charges, and availability for storage in warehouses are only a few of its many benefits. It also has the option to be published on electronic carriers.

- **Theses Challenge :**

Computer information contributes to the electronic university theses and they are new media that must be treated in a special way that fits their importance rationally, and with all the attention and

care they offer, especially those related to the thesis. Ph.D. of scientific results and recommendations of great importance.

Obtaining the electronic text of the dissertation has become necessary in light of the tasks entrusted to the library in the Algerian university in light of information technology and the digital revolution, as for depositing a CD or a floppy disk that contains the full text of the document, within the framework of the development of publishing forms and the evolution of the balance of university libraries and the needs of their pioneers. It is simple and open to everyone. However, the problem raised remains with copyright, which is still not protected, especially what is available through the Internet, and accordingly all needs must be taken to put it at the disposal of the beneficiaries on the one hand and to secure and preserve the rights of its owner on the other hand, so it can be made available in a form An electronic book (pdf) with specifying some characteristics in the process of its creation, which prevent copying and prevent downloading or saving from the file in order to preserve authorship, or an extract may be made available to know what is stated in it. Referring to the original text remains linked to the personal presence of the beneficiary, provided that the business owner is consulted on which of the two options is preferred.(ALI RAHOUMA,2005,p69)

- **The challenge of distance education and secondment:**

The transition from the traditional to the virtual university, along with distance

learning via information and communication technology, or more specifically the usage of the Internet, will create new opportunities for people seeking academic degrees and improve the circumstances of those with familial or practical links.

• **Challenging the difficulties of transferring and adapting technologies in the Algerian enterprise:**

Algerian institutions have gone through developments characterized by magnitude and complexity, then the restructuring process came in response to the requirements of the situation that the national institutions were going through on the one hand, and the situation of the national economy as a whole on the other hand. Public socialist, inefficient and with high costs because the nature of the development and industrialization strategy in Algeria is the determinant of the size of the institutions and the nature of the advanced technology used in them (Ben-Laalam, 2001,p.96), and the transfer of technologies to the Algerian enterprise led to the emergence of non-neutral production techniques that influenced more than The work environment, where distortions occurred in its content due to the poor preparation of appropriate conditions to receive and adapt it.

7. Towards a strategic vision in developing digitization mechanisms in the Algerian University :

In an era where numerous countries worldwide are prioritizing the integration of information technology in their universities to safeguard their

accomplishments and uphold their civilizational standing, the Algerian university lags somewhat behind in the practical implementation and functional utilization of these technologies. This is particularly evident in its libraries, which exhibit a limited utilization, particularly in terms of enhancing documentation and information capacities. However, there is an urgent need for the university libraries to evolve into scientific and cultural assets that facilitate the preservation and optimal utilization of intellectual and cultural products intended for consumption, considering the escalating demands of beneficiaries amidst the exponential growth of information dissemination globally. Therefore, in order for university libraries to keep pace with the computerization and automation trends in light of the rapid technological advancements, it is imperative to:

- Establishing discussions in forums and conferences held on a national and international scale, assessing the actual use of information technology in the libraries of the Algerian University, and suggesting the best recommendations to be made to officials in order to establish a suitable environment for the use of technology at the Algerian University.
- Providing annual funding dedicated to supporting the university library and automating it in the best material and human conditions, provided there is a good program for managing resources and

expanding the experience in the later stages.

- Working towards linking the university library with international libraries, which creates a scientific technological environment specialized in all disciplines and curricula projects at the university.
- Teaching information technology and its basic skills in all stages of educational levels, in order to facilitate access to the socio - technological environment for the success of technology applications in all uses, especially the library.
- Coordinating the university's efforts to digitize official sources of information, especially at the local (national) level.
- Encouraging applied research in the Algerian University to develop systems and software that are compatible with local requirements and comply with international standards to support the various activities and functions of digital libraries.
- Preparing appropriate software to automate library work, especially the issue of information retrieval.
- Training the library staff to fully understand and comprehend the capabilities of information technology and its application in university libraries.
- Securing and developing software, networks, and electronic equipment.
- Multimedia database service as

well as providing beneficiaries with access to the Internet.

- Building search engines that can help library users easily find the required information.
- Emphasizing and working on activating interest in information and its importance among members of society, from base to top, so that every member of society acquires it from an early age. At school, the skills of accessing and searching for information .

In a broader context, it is evident that we face a pressing need to confront the challenges of change that have imposed new priorities within the university environment, particularly concerning the horizontal dimension associated with the library structure and its operational framework. Additionally, the vertical dimension pertains to the transformations that have occurred within the university and its libraries from their inception until the present day. Consequently, we find ourselves in a critical juncture where it is essential to acknowledge that desired changes do not occur on their own accord, and the era of miracles has come to an end. Instead, we must focus on providing the necessary dynamics and mechanisms that pave the way for the emergence of an appropriate environment conducive to change and the attainment of desired scientific accomplishments.(Aymen Amin,2020,p65)

8.Digital libraries models in Algeria :

The two most prominent projects in this field are the digital library project of

Prince Abdul Qadir University, and the virtual library project for social and human sciences adopted by the Ministry of Higher Education and Scientific Research.

8.1 First - Digital Library Project of Prince Abdul Qadir Islamic University:

Where the Ahmed Urwa Library of Prince Abdul Qadir University is the forerunner in the introduction of modern technology at the national level, as the legislator represents the following goals:(Ali mouhamed,2005,p.89)

Expanding the use of the library through the possibility of making the resources available remotely.

Preserving the intellectual vessels of scarce information references.

- Availability of library resources at any time and place.
- Meeting the growing needs of beneficiaries.

8.2 Algerian Virtual Library Project for Social Sciences and Humanities:

The project is one of the pioneering projects in the field, and it is a project adopted by the Ministry of Higher Education and Scientific Research within the framework of the policy of strengthening the national program for scientific research and the development of technologies in the field of social and human sciences, and the integration of information and communication technology in documentary media systems. Among the project's objectives are the following:

- Solving the space problem that many libraries and documentary centers suffer

from in the storage process documents, by switching from printed documents to electronic documents.

- Facilitating remote access to documents such as manuscripts, theses and rare documents.

- Assisting libraries in forming a homogeneous collection of the same kind by developing a plan to build.

- Collections and their development within the framework of a national documenting policy.

9. CONCLUSION

The provision of technical solutions and alternatives within the framework of knowledge construction at the Algerian University, as an institution dedicated to information and documentation, stands as an urgent matter on the agendas of projects and plans devised by decision-makers and officials in our nation. The objective is to furnish beneficiaries with essential and reliable scientific and academic knowledge, with the aim of establishing a comprehensive and continuous knowledge repository for the Algerian university community. This community will play a vital role as actors, participants, and leaders in development endeavors, while simultaneously addressing the challenges that often highlight the university's failure to effectively manage the relationships between authentication units and their users. It is worth noting that despite the recognition of the significance of these technical solutions, there exists an unexplained deficit in their implementation. This discrepancy

becomes particularly noteworthy when considering the substantial annual budget allocated by the state to enhance and improve the Algerian University, with library services ranking among the most critical areas of focus.

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