

Trends of the Algerian National Archives towards the Digital Environment

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Abstract:

The national archives are undergoing significant digital transformations that enhance various archival processes including processing, organizing, managing, preserving, and making archives accessible. Digital technologies play a pivotal role as tools and mechanisms to avail and valorize archival holdings at national archive centers. Through these technologies, institutions are able to engage with users and provide a range of digital services.

This study aims to delineate the main trends at the Algerian National Archive Center towards the digital milieu, by delineating the advancements in digitizing its holdings. It also aims to review the salient digital technologies employed by the Algerian National Archives, and proposes a suite of applications and technologies that the center might adopt to augment and refine its digital services.

Keywords: Algerian National Archives, Accessibility, Valorization, Digital Environment, Digital Archives.

Introduction:

The Algerian National Archive Center is accorded substantial emphasis by the Algerian state, owing to the vast and invaluable repositories of knowledge it houses. As the custodian of the nation's historical memory, the National Archives stand as the primary institution for scientific, particularly historical, research.

It is the preeminent body charged &with the archiving, preparation, and drafting of relevant legislation and professional guidelines pertaining to archival practices. Its objectives also encompass the collection,

organization, preservation, communication, valorization, and promotion of the archival documents' intrinsic value. In recent years, Algerian institutions have undergone a significant digital revolution that has bolstered the development of their services and enhanced interactions with their users.

In a bid to integrate into the digital realm, the Algerian National Archive is transitioning by digitizing its holdings and establishing a website to showcase its services, activities, and the treasures within its repositories. Nonetheless, the center faces challenges in making documents accessible and valorizing them digitally, primarily due to a considerable legislative void in the domain of archives and their dissemination in the digital landscape.

Study Problem:

National archives across the globe are increasingly pivoting towards the digital environment, attracted by the myriad benefits and services it offers, which in turn foster the growth of the archival sector. Advances in information technology have empowered archival institutions to preserve valuable, particularly fragile and ancient holdings through digitization, facilitating the use of digital replicas while safeguarding the originals.

Additionally, digitization enables archive centers to render digital copies accessible to a broad audience at any time and from any location. Digital technologies significantly enhance the availability and valorization of archives via a myriad of activities conducted by the centers, such as conferences, seminars, symposiums, and study days on archival issues, conducted remotely. Archive centers also curate virtual exhibitions leveraging virtual reality technologies.

This research delineates the strides made by the Algerian National Archive Center in digital transformation by identifying the principal digital technologies utilized by the center. The primary question we explore is:

- What are the main trends of the Algerian National Archive toward the digital environment?

Study Questions:

Expanding upon the central query, the study poses several subsidiary questions:

- What advancements has the Algerian National Archive Center made towards the digitization of its holdings?
- Which digital technologies are pivotal at the Algerian National Archives?

- Has the Algerian National Archive Center established a legislative framework for digital archiving?
- What are the foremost opportunities for harnessing digital technologies in archiving?

Research Objectives:

The research aims to:

- Catalog the advancements in the digitization of archival holdings at the Algerian National Archive Center;
- Explore the digital technologies employed at the Algerian National Archive Center;
- Assess the legislative framework surrounding digital archiving in Algeria;
- Recommend a suite of digital applications to enhance the capabilities of the national archive and augment its digital presence;
- Propose methods and mechanisms for valorizing archives within the digital environment.

Research Methodology:

Given the nature of the research and its objectives, a descriptive research methodology was adopted. This approach involves collecting, describing, and analyzing data to systematically interpret phenomena quantitatively. It includes stages such as data gathering, classification, analysis, and interpretation, facilitating an understanding of the Algerian National Archive Center's digital trends and the identification of crucial digital technologies utilized by the center.

Study Terminology:

A. **Algerian National Archives:** This premier institution is tasked with collecting, processing, organizing, managing, preserving, and making archival holdings accessible to the public. It also plays a role in enacting legal texts that regulate archiving practices in the country and contributes to setting professional guidelines for archival operations.

B. **Digitization:** This process involves converting archival documents from traditional analog formats to digital forms, utilizing scanning and photographic imaging techniques. It marks the initial step towards digital transformation for national archival centers.

C. **Digital Transformation:** Defined as an encompassing initiative based on information and communication technology that transforms an institution's operational style and method (WAHBA.A, 2022), enhancing the ease and speed with which it delivers services to the public.

D. **Digital Environment:** An environment that enables an archival institution to interact remotely with its beneficiaries, leveraging information and communication technology to provide secure access to various services and activities offered by the Algerian National Archive Center.

E. **Digital Archive:** A compilation of documents in diverse digital formats (texts, images, audiovisual files, hypertexts), generated by the activities of various institutions and bodies, both public and private. This includes archives that have undergone digitization.

1. THE ALGERIAN NATIONAL ARCHIVES

1.1 Definition of the Algerian National Archive Center

The Algerian National Archive Center stands as the preeminent institution mandated with the collection, preservation, and safeguarding of the national memory. Tasked with the receipt of archival materials, this institution is responsible for their preservation, enhancement, and provision of public access.

Governed by Presidential Decree 21-122, the center is defined as a public administrative institution, endowed with legal personality and financial autonomy, and is under the supervision of the Secretary-General of the Presidency (21-122, 2021). The National Archive Center is committed to the meticulous preparation, organization, processing, and preservation of the national memory (Ben Taher, 2021), ensuring its availability to a diverse body of beneficiaries including researchers, administrators, and enthusiasts.

It promotes the development of professional archival standards by enacting pertinent legislation, adhering to international norms as prescribed by the International Council on Archives and the International Organization for Standardization.

The center also integrates cutting-edge digital technologies to enhance archival processes, facilitate professional practices, and ensure the enduring preservation of documents for future generations. It defines itself as the custodian of archival materials from various entities, individuals, or families, actively working to valorize these assets, disseminate knowledge, especially historical insights (Medassi, 2022), foster civic pride, and strengthen communal bonds.

1.2 Functions of the Algerian National Archive Center:

Outlined in Article 4 of Presidential Decree No. 21-122 dated 15 Sha'ban 1442 AH (March 29, 2021), which concerns the reorganization of the National Archives Center, its functions are delineated as follows:

- Collection, receipt, preservation, utilization, enhancement, and public dissemination of the national archives;
- Adherence to relevant legislation, regulations, and international standards, alongside the adoption of modern technology to advance archival development;
- Augmentation of archival holdings through all feasible means, including exchanges under cooperative frameworks;
- Supervision and oversight of all procedures related to the transfer of archives, be they public or private;
- Advocacy for the deposit and organization of historically significant archives from individuals and private institutions within the national archival holdings;
- Assured preservation and protection of archives across all mediums;
- Adoption of modern technologies for sterilization, restoration, binding, and reproduction;
- Compliance with standards pertinent to archive facilities;
- Processing of archival holdings and the preparation of tools for archival research;
- Acquisition of documentary and archival resources, ensuring their accessibility and communicability;
- Valorization of documents and archival holdings through the publication of a periodic journal and various publications pertinent to archival work, historical studies, and research, along with the development of archival search tools;
- Maintenance and enhancement of the center's website and its utilization;
- Coordination and implementation of training operations for the center's staff.

1.3 Historical Overview of the Algerian National Archive Center

Since achieving independence, the Algerian state has prioritized the establishment of sovereign institutions, prominently featuring the Algerian National Archive as a key entity. The initial legislative framework specific to archives in Algeria was set forth in Legal Text 64-09 dated January 11, 1964, addressing the reorganization of the mortgage offices' archives in Oran and Sidi Bel Abbes that were destroyed during the war. This was promptly followed by Order 135-64 on May 29, 1964, which instituted a technical certification for libraries and archives (Taga, 2012).

In 1971, stewardship of the National Archives transitioned to the Presidency of the Republic, marked by Order 71-360 dated June 3, 1971, which established the Algerian National Archives fund. This foundation was further solidified by the creation of the National Archives Directorate through a decree dated December 31, 1972, and the subsequent formation of the Advisory Council for Archives by Decree No. 74-75 on April 25, 1974. Decree 77-67 dated March 20, 1977, was instrumental in delineating the functions and roles of the National Archives Directorate, the Advisory Council for Archives, and the Central Repository for National Archives. It also facilitated the establishment of archive repositories in the provinces of Algiers, Oran, and Constantine. Later in 1977, the National Archives Directorate was incorporated into the National Center for Historical Studies, which eventually became part of the Ministry of Culture.

The formal establishment of the National Archives Center occurred through Decree No. 87-11 dated January 6, 1987. The foundational legal framework for the National Archives was set with Law 88-09 dated January 26, 1988. In the same year, a decree to establish the General Directorate of National Archives was issued, followed by another decree that instituted the Supreme Council of Archives.

To streamline operations, the decision dated June 10, 1991, pertaining to the internal organization of the National Archive Center was enacted. In 2012, an executive decree was issued to establish regional centers for judicial archives. Employment standards at the center were detailed in a decision signed on April 1, 2010, which classified the National Archive Center and outlined the conditions for assuming senior positions, as further defined by the joint ministerial decision dated October 7, 2014, which set the senior positions for the common ranks at the National Archive Center.

The recent Presidential Decree 21-121 dated March 29, 2021, reorganized the General Directorate of National Archives, similar to Presidential Decree 21-122, which restructured the National Archives Center, and the joint ministerial decision dated March 15, 2023, which reorganized the internal structure of the National Archives Center. These legislative acts, decrees, and decisions collectively aim to fortify a well-structured and organized national institution adept at preserving and safeguarding the national memory for future generations.

1.4 Archival Holdings at the Algerian National Archive Center

The Algerian National Archive Center houses an extensive collection of archival materials, preserved across various media that mirror the historical

epochs during which they were created. These media are organized within a flexible and accessible framework, allowing use and access by beneficiaries in line with the legislative stipulations that govern archival access in Algeria.

The oldest document housed at the center dates from the year 1505 and details a request for military equipment supplies for ships engaged in a campaign against North Africa. The archival holdings of the Algerian National Archive Center are categorized into several branches:

First Branch: Ottoman Period Archive

This archive contains the center's oldest documents, which span from the early days of Ottoman rule in Algeria to the onset of French colonization. It encompasses a range of materials including records from the Beylik, the Treasury, Sharia courts, as well as correspondences and peace treaties that the Algerian (Ben Taher, 2021) state enacted with various European nations.

Second Branch: Colonial Period Archive

This collection holds considerable significance for researchers focused on Algerian history, documenting the era from French colonial rule to the Glorious Liberation Revolution. It is organized into:

First: General Residence Holdings

This includes archives from various French administrative bodies in Algeria, such as the Office of the Governor-General, the Justice Holdings, Directorate of Labor and Social Protection, Directorate of Public Health, Directorate of Economy, Civil Service Holdings, Public Works, the Southern Territories, the Chamber of Commerce and Industry of Algeria, the Directorate of Water and Forests, the Economic Zone of Algeria, Directorate of National Security, Military Affairs Holdings, Directorate of Finance, Judiciary and Sharia Courts (Algerian National Archives Center), Agriculture, Interior, and Fine Arts.

Second: Liberation Revolution Archive

This section houses documents from the Glorious Liberation Revolution, further segmented into holdings of the Provisional Government and the National Council of the Algerian Revolution. It includes archives from the French Federation of the Liberation Front, the Algerian Red Crescent, and the Photo Library of the Liberation War.

Third: Private Archive of the Liberation Revolution

This collection features correspondences from several notable revolutionary figures and interactions between various personalities and revolutionary bodies. Key holdings include those of Abdelhamid Mehri,

Mohamed Boudia, Mahfoud Nahnah, Fouad Soufi, Said Ben Attia, and Bouzid Abdelmajid, providing a personal glimpse into the dynamics of the armed struggle.

Third Branch: Post-1962 Payments Archive

This archive contains records transferred by Algerian administrations following independence. It is characterized by its openness and continuous expansion, in contrast to the earlier described holdings. The Post-1962 Payments Archive includes:

- Government Holdings
- Ministry of Interior and Local Communities
- Ministry of Labor and Social Affairs
- Archive of the National Economic and Social Council
- Archive of the Industrial Cooperation Agency
- Audiovisual Archive
- National Television Enterprise Archive
- Film Miniatures Archive

Additionally, the center houses diverse types of records such as civil status registers, notary records, holdings of the Muslim Scouts, newspaper archives, the Ministry of Algeria and Colonies, letters from Marshal Bugeaud, cartographic archives, and private photo archives.

1.5 Dimensions of the Algerian National Archive

- **Historical Dimension:** The National Archive holds significant historical importance, underscored by the valuable and diverse document collection within the center's repositories. These archival documents, crafted in the context of historical events and as witnesses to these times (Alilich, 2018), are distinguished by their ability to furnish accurate and verifiable information about historical episodes.
- **Cultural Dimension:** The Algerian National Archive Center is pivotal in disseminating knowledge and culture among various (Medassi, 2022) societal segments, particularly researchers and specialists in history and national memory. Algerian legislation facilitates the public opening of archives, allowing free access 25 years after their creation. The National Archive institution is charged with the processing, organization, and preservation of this documentary heritage under optimal conditions. The center augments its holdings through diverse activities such as conferences, seminars, open days, exhibitions, national day celebrations, and the valorization of archives through digital platforms, second-generation web applications, and other digital technologies.

- **Social Dimension:** Archives play an essential role in shaping community self-awareness and knowledge of its history, including the dimensions of its crises and conflicts (Al-Aggoun, 2019). They support the national identity, which comprises a set of historical, linguistic, and psychological characteristics that distinguish one society from another. The National Archive institution bolsters national identity and a sense of belonging by promoting local and national history and the sacrifices made by ancestors, thereby fostering a spirit of citizenship and responsibility across the community.

2. TRENDS OF THE ALGERIAN NATIONAL ARCHIVE TOWARD THE DIGITAL ENVIRONMENT

The realm of information and communication technology is advancing at an accelerated pace, compelling institutions to adapt rapidly to maintain and enhance connectivity with their beneficiaries. National archive centers are increasingly leveraging the benefits of digitization and various generations of web applications. For instance, Web 2.0 technologies have introduced a plethora of applications that facilitate user interaction.

The advent of Web 3.0 has simplified the processes of searching and accessing digital sites and portals, or the digital content of these portals, markedly improving search engines through the use of ontologies that organize documents and information in a way that reflects their inherent (Kaddoura, 2021) meanings.

With the ongoing evolution of artificial intelligence applications, national archive centers are actively seeking to integrate these technologies to refine their services and streamline the search processes within their digital repositories, thereby enhancing the valorization of these holdings. This section explores the experience of the Algerian National Archive Center within the digital milieu.

2.1 Digitization at the Algerian National Archive Center

Digitization of archives entails the conversion of archival materials from analog to digital format, typically using digital cameras or scanners. The primary objectives of digitizing archival holdings are twofold: firstly, to preserve archival assets (GHANEM.N, 2021), particularly those that are fragile and aged, by minimizing physical handling and relying on digital copies for access; secondly, to make digital archival documents simultaneously available to a broad array of beneficiaries, as digitization allows for the accessibility of digital documents at any time from anywhere.

The initial project for digitizing archival records at the Algerian National Archive Center commenced in 2005, beginning with the digitization of selected holdings. Over time, it has become evident that digitization is an indispensable strategy for the center (Hamoui, 2016), attributed to the significant benefits it presents.

These benefits, as identified by the center's staff, include the preservation of archival documents, enhanced availability, facilitated communication, and the reduction of economic costs associated with information retrieval. Digitization also provides rapid responses to beneficiary inquiries and supports the provision of remote access to information holdings.

A study conducted at the Algerian National Archive Center on July 8, 2024, as part of a graduation project, revealed that the digitization initiative for the center's holdings is ongoing. The respondents indicated that the progress of the project had surpassed 75% of the holdings intended for digitization, with a focus on the most requested, fragile, historically significant, and aged documents.

In terms of document availability within the center, original copies are accessible; however, the communication of digitized documents has not been fully realized, which stands in contrast to the objectives of digitization. In relation to the searchability of digitized documents, the center has implemented an electronic catalog within the communication room for exploring the holdings. It is noted that the introduction of digital devices, such as smartphones, tablets, or digital storage media, into the center is prohibited, a measure that center officials attribute to the sensitivity of the archives.

Under the leadership of Mohamed Bounaama, the current General Director of the National Archive, there has been a pronounced emphasis on digitization and digital transformation. Dr. Bounaama has consistently highlighted the importance of these initiatives in his engagements at various conferences and seminars.

For example, during a study day titled "National Archive Policy, Normative and Legal Approaches to Document Management of State Institutions," he asserted the critical role of digital transformation in preserving institutional memory as a fundamental aspect of safeguarding the nation's memory (SERVICE).

At another event, "Memory of Constantine in the Mirror of Archives: Raising Awareness and Digitizing Heritage," Bounaama underscored the need for developing a cohesive strategy for digitizing the national archive to

address the sector's digital divide, which he described as a "logical reference" deserving significant attention.

Furthermore, at the first national symposium "Management and Preservation of Documents and Data in the Context of Digital Transformation" held at the Institute of Library Science and Documentation at the University of Constantine, the General Director stressed the necessity of enhancing collaboration between universities and institutions.

He advocated for leveraging academic knowledge and scientific capacity in the realm of digitization and addressing the digital divide. He also noted the initiation of several workshops focused on topics such as digital sovereignty, digital identity, and digital content, which are overseen by the High Authority for Digitization ((APS)).

These statements and initiatives reflect the Algerian National Archive Center's commitment to digitization as a strategic choice for preserving, making available, and communicating archival holdings, as well as promoting the valuable knowledge treasures contained within the center.

2.2 The Algerian National Archive on the Web

Most national archives in European and American countries endeavor to establish a robust web presence, either through Web 2.0 applications or via comprehensive websites and digital portals. Their objective is to maintain proximity to their beneficiaries, offer digital services remotely, and ensure their digital contents, from documents and holdings to manuscripts, are accessible from anywhere.

2.2.1 The Website of the Algerian National Archive

In commemoration of the National Day of Memory on May 8, 1945, the Algerian National Archive Center launched its website to showcase the center, its services, and various activities. However, a recent search via Google failed to show the new site among the search results; access was only possible through a direct link provided by one of the center's officials. Upon trying to access the website, it was noted that the page loading speed was not as fast as that of other Algerian institutional websites. Despite this, the website is well-designed with clear fonts and a rich multimedia presence, including images and explanatory videos. The center's holdings are introduced through an "archival holdings" icon, yet the site lacks a searchable catalog for archival documents. While several contact methods like telephone, fax, and email are provided, the website does not offer an interactive environment or instant chat service for beneficiaries.

Many national archives rely on digital portals to introduce themselves and offer their services, with an automated catalog for searching available archival documents remotely. Digital portals also employ interactive services by integrating Web 2.0 applications and artificial intelligence to respond to beneficiary inquiries, enabling archive centers to broadcast events such as symposiums, conferences (ELGUERRI & CHOUAOU), study days, exhibitions, and other activities aimed at valorizing the archive in the digital environment.

2.2.2 Second Generation Web Applications (Web 2.0)

With the advent of Web 2.0 applications, many national archives in European and American contexts have swiftly embraced these technologies, recognizing the advantages they confer on both the archival institution and its beneficiaries. These platforms have been instrumental in enhancing the visibility of national archive centers and have facilitated the provision of services such as direct communication with users.

Additionally, they have enabled institutions to live stream a variety of events such as symposiums, seminars, study days, open days, and exhibitions. The center could effectively utilize various Web 2.0 applications like the X platform for posting updates and official announcements, the YouTube platform for broadcasting live events and seminars, and the Flickr platform for sharing digital images of events or select historical archival documents.

Moreover, news services can be distributed via RSS feeds. All these applications serve to introduce the institution's services and activities (El-Cherif, 2012), fostering greater interaction with beneficiaries and facilitating the exchange of information.

Regrettably, the Algerian National Archive Center has yet to adopt any platform or second-generation web applications, marking a significant delay in harnessing digital technologies to offer archival services. This lack of digital engagement does not support the center's capacity to reach or interact with its beneficiaries nor does it foster a space for interaction and the exchange of ideas, knowledge, and expertise among users, including academics and researchers. Therefore, it is imperative to leverage these applications to cultivate an interactive environment between the Algerian National Archive Center and its users.

2.2.3 Digital Archive Legislation

The legislative framework governing archives is a crucial aspect that ensures archive centers can perform their roles effectively. Legislation

related to archives facilitates the execution of archival tasks within a legal framework, clarifying the rights and responsibilities involved (Bizen, 2018). The Algerian National Archive has diligently developed a corpus of legal and regulatory texts that safeguard archival holdings and define the professional practices associated with this field in a traditional setting. However, in the realm of digital archives, there exists a substantial legal vacuum and a significant legislative gap that undermines the archival institution's stature as a sovereign entity. Since 1988, no new legislation specifically addressing archives has been enacted.

Despite the digital transformations that have occurred across various sectors in Algerian institutions, which have seen the development of legislative frameworks for digital transformation, the Algerian National Archive has not yet managed to enact specific laws governing the digitization and management of archival documents or the legislation pertinent to making such documents available in a digital environment.

In his remarks at the national symposium on "Management and Preservation of Documents and Data in the Context of Digital Transformation," the General Director of the National Archive acknowledged that the Algerian state is considering the legislative dimension and noted that additional legal texts are being drafted to regulate and frame the electronic archiving of documents, records, and data.

3. Opportunities for the Algerian National Archive in the Digital Environment

The digital environment offers national archives unparalleled opportunities to enhance their services and valorize their archival holdings through an array of digital technologies and applications, such as virtual reality, augmented reality, and artificial intelligence.

3.1 Virtual Reality Applications

Virtual reality (VR) is a computer-simulated environment that crafts a three-dimensional world, allowing individuals to interact within an artificial setting. This technology utilizes VR goggles to present a sequence of images and sound clips, creating an immersive environment that mimics real-world experiences (Hayek). Also known as computer technology that provides a three-dimensional environment, it envelops the user and responds to their actions in a realistic manner.

Virtual reality technology empowers national archives to organize virtual exhibitions and enables beneficiaries to engage with one another in virtual social chat rooms. It also allows for virtual tours of the various services and

departments of the National Archive Center, providing insights into the tasks and functions performed, and acquainting visitors with the tools and methodologies employed in various archival processes. This technology serves as a means to valorize archival heritage and introduce memory institutions to a broader audience.

3.2 Augmented Reality Applications

The term "Fourth Industrial Revolution" was introduced at the World Economic Forum in Davos, Switzerland, in 2016, heralding the arrival of cutting-edge digital technologies such as artificial intelligence, augmented reality (AR), big data, and blockchain. These technologies are pivotal in evolving the digital landscape and reshaping our understanding of numerous digital phenomena.

Augmented reality, a product of the Fourth Industrial Revolution, integrates elements of the real world with virtual images generated by computer technology, enabling users to interact with both two-dimensional and three-dimensional objects that coexist with the actual environment.

Augmented reality applications enhance archival services in a novel manner by allowing beneficiaries to delve deeper into the archival document and its interconnections with other documents. This is facilitated through descriptive summaries and images of related documents, utilizing augmented reality technologies (Atay.M.R & Khair).

This technology not only enriches the experience during exhibitions and seminars but is also regarded as a vital tool and mechanism for valorizing archives and making them accessible to the public.

3.3 Artificial Intelligence Applications:

The advent and evolution of artificial intelligence (AI) applications represent a significant technological advancement, given their enhanced capabilities in managing and processing digital content. Consequently, national archives in several European countries and the United States have incorporated these applications into various functions and services. Artificial intelligence involves computer systems that employ algorithms designed to perform complex tasks that emulate aspects of human intelligence.

Chatbot applications, a form of artificial intelligence, are increasingly utilized in managing and operating reference services, responding promptly to questions and inquiries from beneficiaries. These applications are programmed to provide accurate and timely answers, facilitating instant support for beneficiaries' needs related to document availability, record

access, and navigation through archival holdings (ELGUERRIA & CHOUAOU, 2024).

Artificial intelligence significantly enhances user access to required archival materials by employing intelligent search engines, which may include the institution's internal catalog or a catalog specific to the digital portal of the National Archive.

General Results of the Study

The study has yielded several key findings:

– The primary objective of digitizing holdings at the National Archive Center is to preserve fragile and ancient documents and to ensure their accessibility to beneficiaries at any time and from any location.

– The management of the National Archive is committed to providing all necessary technical, human, and legal resources to facilitate the successful implementation of the archive digitization strategy.

– A notable legal and legislative gap exists concerning digital archives, their management, and the modalities of making them accessible in a digital environment.

– The website of the National Archive is not indexed on search engines, which hinders its discoverability through standard search methods.

– The center has not implemented any marketing strategies for its website, resulting in a lack of awareness among researchers in the archival field about its existence.

– Second-generation web applications are vital tools utilized by national archives globally, yet the Algerian National Archive has not established a presence on these platforms.

– Regarding digital services, the National Archive currently does not offer any remote digital services, limiting its ability to engage with and serve its beneficiaries remotely.

Conclusion:

The National Archive Center faces a considerable delay in transitioning toward the digital environment, highlighting the urgent need for a well-defined national strategy that embraces digital technologies. Achieving this transition requires drawing insights from international experiences in the digital transformation of national archives, as such advancements serve as a fundamental means of valorizing and ensuring the accessibility of the knowledge resources housed within the center.

Additionally, a strong emphasis must be placed on the legislative framework governing digital archives to guarantee the protection and

security of archival documents in the digital space. The optimal use of contemporary digital technologies is essential to enhancing and modernizing the Algerian National Archive sector, ensuring efficiency in management, operation, accessibility, and valorization.

Based on the findings of this study, the following key recommendations are proposed:

– Establish a comprehensive national policy for the management, operation, accessibility, and valorization of digital archives at the National Archive Center.

– Ensure that the objectives of digitization are effectively met by not only preserving archival assets but also making digitized documents accessible to beneficiaries.

– Revise and update Algerian archival legislation to align with the latest developments in the field by enacting legal provisions that specifically regulate digital archiving.

– Develop and implement a national strategy for marketing digital archival content to increase visibility and reach.

– Integrate second-generation web applications as a means to introduce the institution, promote its activities and key services, and establish interactive communication with beneficiaries.

– Adopt digital portals to diversify the range of archival services offered, create an interactive environment for beneficiaries, and enable remote access to archival documents in accordance with legislative requirements.

– Utilize augmented and virtual reality technologies to enhance the presentation and exploration of documentary holdings stored within the Algerian National Archive.

– Explore the adoption of artificial intelligence applications, given the extensive advantages they offer in optimizing the management, retrieval, and accessibility of archival resources.

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