

Digitalization in Administrative Institutions

الرقمنة في المؤسسات الإدارية

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Abstract:

Recently, the Algerian government has been striving to digitize the Algerian institutional sector through the implementation of the electronic administrative system, referred to as e-government. The government's efforts toward administrative digitalization are evident in numerous projects and programs, leading to improved service quality and functional performance. However, despite these advancements, several obstacles hinder the full realization of these benefits, which the state must address in order to overcome them.

Keywords: Administration, Administrative Digitalization, Administrative Digitalization, E-Government.

ملخص:

عملت الحكومة الجزائرية في الآونة الأخيرة إلى السعي نحو رقمنة القطاع المؤسساتي الجزائري، وذلك من خلال العمل نحو تجسيد المرفق الإداري الإلكتروني تحت مسمى الإدارة الإلكترونية. حيث تبرز مظاهر مساعي الدولة الجزائرية نحو عالم الرقمنة الإدارية في العديد من المشاريع والبرامج المشيدة والمتبعة، وما ترتب عليها من تحسين جودة الخدمات والاداء الوظيفي. إضافة إلى العديد من المزايا الأخرى غير أن هذه الأخيرة تعترض عملية التحصل عليها معوقات عدة وجب على الدولة السعي نحو التغلب عليها.

الكلمات المفتاحية: الإدارة، الرقمية الإدارية؛ المؤسسة؛ الرقمنة المؤسساتية؛ الإدارة الإلكترونية.

Introduction:

Digitalization has become one of the imperatives that administrative institutions must adopt to keep pace with evolving transactions and enhance the quality of services provided, especially in light of the rapid global advancements.

As a result of this necessity, electronic administration has emerged within institutions and public facilities worldwide, including Algeria, which has embraced digitalization across all its transactions. This approach aims to achieve optimal administrative performance and enhance the quality of functional operations within public institutions.

This methodology primarily relies on digitalization techniques and programs, which, in turn, are fundamentally based on internet networks and technological information systems. These technologies accelerate administrative processes and contribute to eliminating bureaucratic inefficiencies.

The Algerian administration has witnessed numerous changes toward digitalization, reflected in various aspects that embody this transformation, particularly through the implementation of electronic technical programs. These initiatives are primarily designed to ensure the success of the transition from a traditional, bureaucratic administration to a technologically driven one, characterized by efficiency, rapid execution, and high-quality services that meet citizen expectations.

From this perspective, the following key question arises:

- What are the main manifestations of administrative digitalization in Algeria?
- And what are the most significant advantages that institutional digitalization has achieved in the country?

To address this issue, we will examine the topic in detail through the following structure:

First main title: Digitalization in Administrative Institutions

First subtitle: The Concept of Digitalization in Administrative Institutions

1.1 Definition of Digitalization in Language:

Contemporary Arabic literature has popularized several terms related to digitalization, such as digital writing, digital creativity, electronic books, and digitization, among others. These terms refer to a new mode of writing that has emerged as a result of the remarkable advancements in information and communication technologies.

1.2 Linguistic Definition of Digitalization:

In linguistic dictionaries, the root word (raqm) conveys several meanings, the most notable being annotation, clarification, writing, penmanship, and inscription. Ibn Manzur states: "The terms 'raqm' and 'tarqim'

refer to the annotation of writing. To 'raqama' a book means to clarify and mark it. A 'kitab marqum' (inscribed book) is one in which the letters have been distinctly marked with diacritical signs." The Quranic phrase "Kitab Marqum" refers to a written or inscribed book.

Additionally, raqm denotes various forms of inscription, including writing, stamping, patterned embroidery, and delineation. For instance, the phrase "Raqama al-thawb" signifies embroidering or decorating a garment with intricate patterns.

Second subtitle: Conceptual Definition of Digitalization

2.1 Digitalization:

Digitalization is a technological term that describes an environment saturated with computers, smart devices, and all forms of digital technology connected to the internet. This environment, often referred to as a digital ecosystem, consists of individuals with functional computer literacy—commonly known as digital literacy—which enables them to effectively use internet-based technological tools for information collection, management, processing, and dissemination.

Within an institutional framework, digitalization integrates intelligent technological systems and information networks into the workplace. These systems, which are enriched with software applications and smart devices, play a pivotal role in facilitating seamless digital communication. Connected through internet-based media networks, these technologies enable smooth and efficient linkage of digital knowledge content and cultural products, offering new insights into knowledge management and human intelligence.

In essence, digitalization encompasses a set of computing tools designed for the efficient use of information and electronic communication in institutional management¹.

Digitalization in Algerian public institutions has witnessed a qualitative leap, particularly in recent years, in terms of delivering public services to citizens with the goal of ensuring their satisfaction. Digital administration is essentially a technological process that converts analog signals into digital data. In this context, public service digitalization refers to the integration of public services within government operations by applying digital technologies to social and institutional frameworks and expanding this process accordingly.

Digitalization is also defined as the adoption of various modern technological programs in administration, organizations, and institutions to facilitate task execution and improve operational efficiency. This transition moves institutions away from traditional work methods to a new model that enables remote communication and virtual service requests through available digital networks.

The shift towards digitalization in administrative institutions has led to the emergence of the term e-administration, which is defined as the

management of informational resources through internet technologies and communication networks. E-administration is characterized by abstraction and dematerialization, where tangible elements and their associated processes are minimized to the extent that intellectual capital becomes the most crucial factor in achieving objectives and the most effective resource in optimizing institutional performance².

Digitalization is the process of converting physical products into digital resources. It represents a fundamental transformation in the way institutions operate by utilizing modern digital technologies to achieve strategic objectives and enhance customer satisfaction. Digital transformation integrates information and communication technologies (ICT) and advanced digital innovations into all aspects of institutional operations.

Moreover, this transformation equips individuals with new skills and entails the restructuring of institutions to align with digital advancements³.

2.2 The Importance of Administrative Digitalization

- Enhancing productivity and improving workforce efficiency.
- Eliminating bureaucracy and reducing administrative inefficiencies prevalent in traditional governance.
- Ensuring transparency in transactions while eliminating favoritism, nepotism, and undue influence.
- Streamlining hierarchical administrative structures, thereby accelerating and simplifying procedural workflows.
- Establishing new regulatory frameworks and creating a work environment distinct from traditional governance models⁴.

2.3 Requirements for Digital Administration in Algerian Institutions

The transition towards digital administration in Algerian institutions necessitates several fundamental requirements, including:

- Establishing strategies and foundational plans, which encompass administrative frameworks or a national-level entity responsible for planning, monitoring, and implementing e-government projects. At this stage, it is essential to secure support and endorsement from senior management within the administrative structure, along with allocating dedicated financial budgets to facilitate the required transformation⁵.
- Enhancing administrative organization, public services, and governmental transactions to align with the principles of e-administration. This may involve restructuring institutions, such as eliminating outdated departments and establishing new administrative units tailored to technological advancements.
- Developing the infrastructure for digital administration, which necessitates expanding and modernizing communication networks while ensuring the availability of technical equipment, computing devices, and

digital tools to facilitate seamless access for both individuals and institutions.

- Ensuring the availability of specialized competencies and skills, which requires a highly qualified and well-trained workforce with advanced knowledge of technological developments and expertise in digital administration principles⁶.
- Administrative reform requirements to achieve a successful transition towards digitalization in public administration. This includes specialized expertise in operating electronic systems, cybersecurity experts to safeguard information and protect software applications and transactions, as well as professionals in digital document management. The transition necessitates fundamental changes in administrative and technical concepts, along with the presence of competent and motivated leadership that understands and supports digital transformation.
- The need for a supportive policy framework that facilitates electronic transformation and backs digital administration projects. This includes providing both financial and institutional support to overcome challenges and advance digital transformation programs in public administration⁷.
- Establishing a unified customer service channel, in collaboration with electronic service management, to enhance operational efficiency and improve service delivery.
- Considering economic and social requirements that facilitate societal mobilization in support of the transition to digital administration. This includes fostering awareness of the benefits of integrating technological tools into administrative systems and leveraging various media outlets and civil society organizations to promote the advantages of digital governance through seminars, conferences, and awareness campaigns. Additionally, it is crucial to implement training programs at various educational levels to enhance technological literacy and ensure adequate financial allocations for digital administration projects. Investment in the field of information and communication technology (ICT) should not be overlooked, and sustainable funding sources must be secured.
- Developing the necessary telecommunications infrastructure, which requires the deployment of electronic computing systems and integrated data networks to enhance interconnectivity among governmental entities in the implementation of digital public administration. This development should align with social and economic progress, the transition to a knowledge-based economy, and the optimization of human resources and capital. Furthermore, public sector reform must be prioritized, with technology serving as an enabling tool to drive institutional efficiency and innovation⁸.

2.4 Dimensions of Adopting Digitalization in Public Institutions:

- The acceleration of technological advancements and the associated knowledge revolution, which has highlighted numerous relative advantages of digital applications across various aspects of human life.
- The need to adapt and respond to environmental demands, as the widespread adoption of e-administration concepts and methods presents challenges for organizations and societies that lag behind. To avoid isolation and stagnation, nations must embrace digital transformation to keep pace with the era of speed and information technology.

To fully implement digitalization, the following elements must be in place:

- **Software:** This refers to the intellectual and operational components of computer networks, including email applications, databases, and programming verification tools.
- **Hardware Availability:** Hardware encompasses the physical components of computing systems, including devices, network infrastructure, and peripherals essential for digital operations.
- **Communication Networks and Knowledge Workers:** At the core of this transformation are digital leaders, knowledge resource analysts, and intellectual capital managers, who play a crucial role in the strategic implementation of digital administration within organizations.

Third subtitle: Knowledge Creation (Knowledge Workers)

At the core of this transformation are digital leaders, knowledge resource analysts, and intellectual capital managers, who play a crucial role in the strategic implementation of digital administration within organizations⁹.

Second main title: Manifestations, Objectives, and Outcomes of Digitalization in Administrative Institutions

First subtitle: Manifestations of Digitalization

The most significant manifestations of digitalization are reflected in the various systems and programs adopted by the state to modernize administration in Algerian institutions. Among the most notable of these are:

1.1 Electronic Records Management (ERM) System:

This system represents a modern scientific approach to organizing records generated through institutional operations and activities. It manages the entire document lifecycle, from creation and processing to long-term archiving or disposal.

As a dynamic field, ERM ensures that documented information is efficiently and effectively utilized, both in the present and the future, while minimizing operational costs.

This system applies administrative techniques to facilitate the creation, use, maintenance, and retention of electronic records, while discarding documents deemed unnecessary. The primary objectives are to enhance

document storage efficiency, ensure accessibility to information, and reduce operational costs.

1.2 Phases of Digital Administration:

The implementation of digital records management follows several key phases, including:

1.2.1 Technical Preparation for Digital Records Administration:

- **Classification:** This involves categorizing materials into groups and layers based on shared characteristics or attributes. Each category is stored together to ensure easy identification and retrieval.
- **Indexing:** Indexing is a cognitive process that determines the key descriptor under which a document should be filed. A subject index is typically used, consisting of alphabetically arranged subject headings.
- **Description:** This refers to the process of recording standardized metadata related to the content, structure, and format of documents. The goal is to assist users in determining whether the described materials are relevant to their research or administrative needs.
- **Appraisal:** This process assesses the value of a document based on its administrative, legal, and informational significance to an institution or an individual. It also evaluates the document's potential importance for research purposes.
- **Migration:** Migration refers to archiving techniques that facilitate the transfer of digital records from one storage medium to another or from one digital format to another to ensure compatibility with evolving archival storage systems. This phase marks the transition from paper-based document management to a digital records system, enabling institutions to efficiently store, manage, protect, retrieve, and access records at any time with ease¹⁰.

Second subtitle: Algeria's E-Government Project (2013–2008)

Enhancing and optimizing public administrative services requires serious efforts to improve institutional efficiency and streamline daily and periodic interactions between the government and citizens. In this context, Algeria's decision to adopt digitalization under the "Algeria E-Government Project 2013" was a strategic move aimed at connecting administrative institutions through a comprehensive communication network, effectively creating a governmental digital portal. This initiative was designed to facilitate interaction among government entities and public institutions by leveraging advanced technological tools to accelerate electronic transformation plans for public services as a fundamental component of e-governance¹¹.

Third subtitle: The Electronic Public Procurement Portal (E-Procurement System)

This project aims to digitize public procurement procedures in accordance with the provisions of Decree No. 15-247, issued on September 16, 2015, which regulates public procurement and public service delegation.

The system serves as a centralized platform for national and local government entities as well as public institutions in Algeria. It is designed to integrate all stages of the public procurement process, including:

- Publication of procurement notices
- Bidding processes
- Submission of applications
- Document transmission
- Evaluation and selection of bidders

By implementing this electronic platform, the government aims to increase transparency, efficiency, and accessibility in public procurement while ensuring a streamlined and structured approach to contracting and awarding processes.

Fourth subtitle: Citizen Portal System

This project is governed by a set of key requirements, including:

- Incorporating advanced technological features to enhance the visual interface of the portal.
- Adapting content to align with the increasing use and success of smartphones, tablets, and other mobile devices among citizens.
- Redesigning the portal with a citizen-centered approach to accommodate evolving user needs.
- Unifying public administration services by establishing the Citizen Portal as a centralized gateway for all electronic government services available online¹².

Fifth subtitle: Civil Status Digitalization Program

A specialized electronic system has been developed to digitize civil status records, including citizens' personal data, official documents, and certificates. This system integrates all relevant information into a sophisticated database hosted on centralized servers, ensuring secure storage and easy retrieval.

The primary objective of this initiative is to provide accurate and reliable information through a streamlined search process conducted by municipal employees, thereby enhancing administrative efficiency and improving service delivery¹³.

Sixth subtitle: Digitalization Program of Algeria Post

Algeria Post is a public service institution that benefits from state protection, given its monopolistic status and the lack or absence of competition. As a result, the institution operates under the supervision of the Ministry of Post, Information, and Communication Technologies, leading to a significant

degree of state intervention. This is often attributed to the institution's large-scale service operations, which include:

- Current postal accounts
- Account inquiry services
- Payment and withdrawal services
- Savings accounts
- Parcel delivery
- Postal money orders
- Mail services¹⁴

Third main title: Objectives of Administrative Digitalization

The digitalization of administration aims to achieve several key objectives, including:

- Reducing the cost of administrative procedures and related operations.
- Enhancing administrative efficiency in interactions with citizens, businesses, and institutions.
- Increasing service capacity by enabling the administration to handle a larger number of clients simultaneously. Unlike traditional administrative systems, which are often constrained by limited processing capacity, digitalization eliminates long waiting lines and enhances service accessibility.
- Minimizing or eliminating direct contact between transaction parties, thereby reducing the influence of personal relationships and favoritism in decision-making and service delivery.
- Eliminating rigid bureaucratic structures by streamlining workflows and enhancing task specialization.
- Emphasizing the principles of Total Quality Management (TQM) in accordance with modern governance standards.
- Replacing traditional paper-based archives with an electronic archiving system, which offers greater flexibility in document management, quick error correction, simultaneous document access across multiple departments, and on-demand retrieval and utilization at any time¹⁵.

Fourth main title: Advantages of Implementing Digitalization in Administrative Institutions

- The primary objective of integrating digitalization into various administrative sectors is to modernize public services by expanding access to digital environments both internally and externally. This

transformation aims to strengthen the relationship between citizens and government institutions through enhanced transparency, efficiency, and responsiveness to public demands, ultimately ensuring the delivery of high-quality, modern public services¹⁶.

- The transition to digital administration offers numerous benefits for public service agencies, primarily by improving service quality while ensuring a more efficient and structured administrative framework.
- Digitalization also streamlines complex and overlapping administrative tasks, which often hinder service delivery. Given that e-administration accelerates digital transformation in public institutions, its significance is directly tied to the broader impact of electronic governance. The key benefits of e-administration can be summarized as follows:
 - **Increased Efficiency:** E-administration serves as a modern mechanism for administrative reform and organizational change, marking a transformational shift in how traditional administrative functions are performed. It enables real-time processing of requests, ensuring greater accuracy, clarity, and speed in administrative transactions.
 - **Cost Reduction:** Although initial investments in electronic governance require significant financial resources, the long-term impact of digital work models leads to substantial cost savings. Once digital administration is fully operational, it reduces reliance on extensive human resources, ultimately lowering operational expenses.
 - **Simplification of Procedures:** The need for modernization and administrative reform has driven public institutions to adopt advanced information technologies. By utilizing these tools efficiently, institutions can meet citizen needs more effectively, ensuring fast and simplified access to public services. This is particularly crucial given the diverse demographics of service beneficiaries and the expanding scope of government-provided services¹⁷.

- Ensuring Transparency: Transparency in digital administration is reinforced through electronic monitoring mechanisms, which enhance accountability in service delivery. Digitalization facilitates regular audits of administrative performance, ensuring compliance with institutional regulations and procedures, adherence to official working hours, protection of citizen rights, and reinforcement of administrative responsibilities.

Fifth main title: Challenges in Implementing E-Administration

The implementation of e-administration faces several obstacles that hinder its widespread adoption and efficiency. These challenges include:

- Inadequate telecommunications infrastructure, as the postal and telecommunications sector struggles to meet customer demands for telephone connectivity, which remains a key channel for internet access.
- Delays in the completion and expansion of communication infrastructure, leading to disparities between regions. This challenge creates a significant gap in closing the digital divide between Algeria and developed nations, especially as the country approaches its anticipated accession to the World Trade Organization (WTO).
- Limited internet penetration and usage across Algeria, which restricts the effectiveness of digital administration.
- Underdeveloped electronic financial transactions, which, despite efforts to expand digital financial services across financial and commercial institutions, remain slow and inconsistent.
- Regulatory challenges, particularly the absence of comprehensive legislation governing electronic transactions.
- Slow decision-making processes and bureaucratic inefficiencies, which hinder reform efforts and reduce the overall efficiency of administrative integration. Additionally, low public trust in government services exacerbates these challenges¹⁸.
- Lack of strong political leadership to drive a major transformation towards e-governance and convince administrative bodies of the necessity of adopting modern technology in line with the digital era.

- Absence of a legally protected digital work environment, as no established legal frameworks currently regulate electronic transactions. There is also a lack of strict laws criminalizing cyberattacks, including the hacking and sabotage of e-administration systems, as well as appropriate penalties for perpetrators.
- Security and privacy concerns, as skepticism regarding electronic transactions persists due to fears of potential breaches that could compromise government services and data security.
- Prevalence of computer viruses, which spread through global information networks, posing risks to data security and system stability.
- Negative attitudes among some managers and employees toward the adoption of modern technologies, including internet-based systems.
- Inaccuracy of information available online, as unreliable or unverified websites may contain misleading or suspicious content, reducing trust in digital platforms.¹⁹

Conclusion:

Through this discussion, we have sought to highlight that digitalization represents a fundamental transformation within Algerian administrative institutions. It is a strategic shift towards modern operational mechanisms and tools aimed at enhancing the management of public services. This transformation seeks to provide high-quality, technology-driven services that effectively meet citizen demands and the expectations of both clients and administrative employees.

The manifestations of digitalization within Algeria's institutional administration have materialized through various electronic programs initiated by the government. These initiatives aim to achieve a qualitative leap by eliminating the bureaucratic inefficiencies of traditional administration. However, despite its numerous benefits, the digitalization process still faces significant challenges that the Algerian state must overcome to ensure its successful implementation.

Study Findings:

- Digitalization has transformed the management of public services in Algeria, leading to improved service quality for citizens.
- It has accelerated administrative procedures and reduced bureaucratic inefficiencies, resulting in faster and more efficient service delivery.

- Despite its many advantages, digitalization faces challenges related to telecommunication infrastructure and digital awareness among some employees and citizens.
- There is an urgent need to develop legislation that supports digitalization, ensuring its sustainability within a strong legal framework.
- Digitalization has enabled administrative institutions to systematically organize and store information, facilitating easy access and retrieval, thereby enhancing administrative efficiency.

¹ Peter B. Seel, translated by Dīaa Warad, revised by Neqin Abdul Raouf, *The Digital Universe: The Global Revolution in Communications*, Hindawi Foundation, CLC High Street, Windsor, United Kingdom, 2018, pp. 20–25.

² Najm Aboud Najm, *Administration and Electronic Knowledge*, Dar Al-Yazouri for Publishing and Distribution, Amman, Jordan, 2009, p. 157.

³ Mohamed Ahmouda Ibrahim, *Digitalization to Ensure the Quality of Education*, National Virtual Conference on "Digitalization as a Guarantee for the Quality of Higher Education, Scientific Research, and Achieving Sustainable Development," Part One, February 21–22, 2021, pp. 142–160.

⁴ Maryam Khalis Hussein, *E-Government*, Baghdad College of Economic Sciences Journal, Ministry of Finance, Iraq, 2013, p. 446.

⁵ Saeed bin Mualla Al-Maamari, *Administrative and Security Requirements for the Implementation of Security Management*, Master's Thesis in Administrative Sciences, Naif Arab University for Administrative and Security Sciences, Saudi Arabia, 2003, pp. 18–21.

⁶ Hussein, *op. cit.*, p. 446.

⁷ Ali Al-Sayyid Al-Baz, *E-Government and Local Administration*, Arab Electronic Local Administration, available at: www.arablawninfo.com, accessed on 24/07/2024 at 18:45.

⁸ Naffa Khaldoun, "Jordan E-Government Programme," Jordan E-Government Initiative, Jordan, September 2005, p. 1.

⁹ Fawzia Sadiqi, *The Role of Digitization in Improving Public Service in Algeria – An Analytical Study of Local Communities*, PhD Dissertation, Faculty of Media and Audiovisual Communication Sciences, Department of Communication and Public Relations, University of Constantine 03, 2021, p. 127.

¹⁰ Ashraf Mohamed Abdu, *Digital Document Management Systems – A Paperless Office*, Dar Al-Kutub wa Al-Dirasat Al-Arabiya, Alexandria, Egypt, p. 20–22.

¹¹ Samia Yetouji, "Frameworks for the Digitization of Public Administration in the Algeria Electronic Project 2013," *Ma'aref Journal*, Department of Legal Sciences, Vol. 09, 2015, p. 220.

¹² Nassira Rabie, "The Necessity of Digitization as a Mechanism for Implementing E-Governance in Algeria," *Al-Ustadh Al-Baheth Journal for Legal and Political Studies*, Vol. 06, No. 02, 2021, pp. 1044–1045.

¹³ Bouras Bouabdallah, "The Necessity of Transitioning to E-Governance to Enhance Public Service," *Algerian Journal of Law and Political Sciences*, Vol. 03, No. 05, 2018, p. 127.

¹⁴ Ministry of Post and Information and Communication Technologies website, full access link: www.mptic.dz, accessed on 23/07/2024 at 19:45.

¹⁵ Abdelsalam Abdellawi, "The Importance of Administrative Digitization in Modernizing and Enhancing Public Service in Algeria," *Sawt Al-Qanun Journal*, No. 07, Part 1, 2017, p. 63.

¹⁶ Mahdid Hamid, "Digitization and E-Learning in the Higher Education Sector, Part 1," National Virtual Conference on Digitization as a Guarantee for the Quality of Higher Education, Scientific Research, and Sustainable Development, p. 142–160.

¹⁷ Abdelkarim Achour, "The Role of Administrative Digitization in Improving Public Service: Algeria as a Model," *Ibħath Journal*, Vol. 06, No. 02, 2021, pp. 280–293.

¹⁸ Abdelkader Abban, *Challenges of E-Governance in Algeria*, PhD Dissertation in Sociology, Specialization: Administration and Work, Faculty of Humanities and Social Sciences, University of Biskra, 2016, p. 162.

¹⁹ Khadija Qamar, "Administrative Digitization in Algeria: Between the Necessity of Transition and Implementation Challenges," *Al-Mufakkir Journal*, Vol. 18, No. 01, 2023, p. 149.

References List:

1. Peter B. Seel, translated by Diaa Warad, revised by Neqin Abdul Raouf, *The Digital Universe: The Global Revolution in Communications*, Hindawi Foundation, CLC High Street, Windsor, United Kingdom, 2018.
2. Najm Aboud Najm, *Administration and Electronic Knowledge*, Dar Al-Yazouri for Publishing and Distribution, Amman, Jordan, 2009.
3. Mohamed Ahmouda Ibrahim, *Digitalization to Ensure the Quality of Education*, National Virtual Conference on "Digitalization as a Guarantee for the Quality of Higher Education, Scientific Research, and Achieving Sustainable Development," Part One, February 21–22, 2021.
4. Maryam Khalis Hussein, *E-Government*, Baghdad College of Economic Sciences Journal, Ministry of Finance, Iraq, 2013.
5. Saeed bin Mualla Al-Maamari, *Administrative and Security Requirements for the Implementation of Security Management*, Master's Thesis in Administrative Sciences, Naif Arab University for Administrative and Security Sciences, Saudi Arabia, 2003.
6. Ali Al-Sayyid Al-Baz, *E-Government and Local Administration*, Arab Electronic Local Administration, available at: www.arablawninfo.com, accessed on 24/07/2024 at 18:45.
7. Naffa Khaldoun, "Jordan E-Government Programme," *Jordan E-Government Initiative*, Jordan, September 2005.
8. Fawzia Sadiqi, *The Role of Digitization in Improving Public Service in Algeria – An Analytical Study of Local Communities*, PhD Dissertation, Faculty of Media and Audiovisual Communication Sciences, Department of Communication and Public Relations, University of Constantine 03, 2021.
9. Ashraf Mohamed Abdu, *Digital Document Management Systems – A Paperless Office*, Dar Al-Kutub wa Al-Dirasat Al-Arabiya, Alexandria, Egypt.
10. Samia Yetouji, "Frameworks for the Digitization of Public Administration in the Algeria Electronic Project 2013," *Ma'aref Journal*, Department of Legal Sciences, Vol. 09, 2015.
11. Nassira Rabie, "The Necessity of Digitization as a Mechanism for Implementing E-Governance in Algeria," *Al-Ustadh Al-Baheth Journal for Legal and Political Studies*, Vol. 06, No. 02, 2021.
12. Bouras Bouabdallah, "The Necessity of Transitioning to E-Governance to Enhance Public Service," *Algerian Journal of Law and Political Sciences*, Vol. 03, No. 05, 2018.
13. Ministry of Post and Information and Communication Technologies website, full access link: www.mptic.dz, accessed on 23/07/2024 at 19:45.

14. Abdelsalam Abdellawi, "The Importance of Administrative Digitization in Modernizing and Enhancing Public Service in Algeria," *Sawt Al-Qanun Journal*, No. 07, Part 1, 2017.
15. Mahdid Hamid, "Digitization and E-Learning in the Higher Education Sector, Part 1," *National Virtual Conference on Digitization as a Guarantee for the Quality of Higher Education, Scientific Research, and Sustainable Development*.
16. Abdelkarim Achour, "The Role of Administrative Digitization in Improving Public Service: Algeria as a Model," *Ibħath Journal*, Vol. 06, No. 02, 2021.
17. Abdelkader Abban, *Challenges of E-Governance in Algeria*, PhD Dissertation in Sociology, Specialization: Administration and Work, Faculty of Humanities and Social Sciences, University of Biskra, 2016.
18. Khadija Qamar, "Administrative Digitization in Algeria: Between the Necessity of Transition and Implementation Challenges," *Al-Mufakkir Journal*, Vol. 18, No. 01, 2023.