

The role of e-government in improving the performance of public facilities

دور الإدارة الإلكترونية في تحسين أداء المرافق العامة

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Abstract:

E-government represents a strategic option for improving the performance of public facilities and achieving administrative development. However, its success requires concerted efforts to overcome structural and technological challenges, along with the adoption of comprehensive national policies to ensure an effective and sustainable digital transformation. It can be said that e-government is not just a technical tool; it is also a lever for modernizing the state, achieving transparency, improving the quality of public services, and enshrining the principles of administrative justice. Despite some challenges in Algeria, implemented experiences demonstrate significant progress in digital transformation, the efficiency of public facilities, and the quality of services they provide, particularly in the justice and postal sectors.

Keywords: e-governance, public utilities, digital transformation, digital age

Introduction:

In light of the rapid digital transformations witnessed by the contemporary world, e-government has become one of the fundamental pillars of modernizing the administrative work system within public institutions. This type of administration is no longer merely a technical option or an organizational luxury; it has become an absolute necessity imposed by the requirements of good governance and citizens' aspirations for more efficient and transparent public services. The transition from the traditional paper-based model, based on direct communication, to an integrated digital model represents one of the most prominent manifestations of administrative reform in the modern era, due to its profound impact on improving the quality of services, enshrining the principles of justice and equality, and reducing bureaucracy and administrative corruption.

Algeria, like many countries, has given special importance to e-government as part of its strategy to improve public service performance and keep pace with global trends in this field. This has been achieved by launching structural projects and programs aimed at digitizing public structures and simplifying administrative procedures in various vital sectors, most notably the justice system, the postal service, education, and others.

Despite the efforts made, the digital transformation process still faces a number of legal, regulatory, and human challenges that hinder the achievement of its desired goals. This requires researchers, experts, and public authorities to approach this issue from a critical analytical perspective that considers the legal, technical, and administrative dimensions of e-government,

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especially in light of its interconnected relationship with concepts such as e-governance, digital government, and e-commerce.

To discuss this topic, we pose the following problem:

To what extent has the implementation of e-government in Algeria contributed to improving the performance of public services and achieving the principles of transparency, efficiency, and equality, given the organizational and technical challenges surrounding this transformation?

Therefore, I will address this topic in the following points:

Section 1: The concept of electronic administration:

Firstly: Definition and origin of e-administration:

secondly: Characteristics of e-government and its relationship to related terms

Section 2: E-government applications in Algeria and their impact on public service:

Firstly: E-administration and its impact on public service

Secondly: E-government applications in Algeria

Thirdly: difficulties and challenges facing the widespread implementation of e-government:

Section 1: The concept of electronic administration:

Firstly: Definition and origin of e-administration:

I-Definition of e-government:

Although the topic of e-governance is relatively new, it has received widespread attention from researchers and professors in various fields of knowledge. Professor Ricard defined it as:

E-governance is an application that uses information and communications technology to support administrative tasks electronically, allowing for the rapid flow of information, both within and outside the organization, with the goal of improving productivity and performance, and achieving transparency and accountability¹.

We can also defined e-governance as: "An administrative process based on leveraging the distinct capabilities provided by the Internet and business networks in the areas of planning, directing, and controlling the organization's core resources and capabilities, with the goal of achieving desired objectives." ²Professor Mohammed bin Hilal defined it as administrative efforts aimed at exchanging information and providing services to citizens quickly, efficiently, and at a low cost, through the use of computers and the Internet. This is achieved while ensuring the confidentiality and security of information within the framework of the organization's policies and procedures, thus achieving the necessary flexibility to respond to rapid changes internally and externally³.

It can also be defined as a comprehensive process for all tasks and activities within an administrative institution, relying on the necessary information to achieve the requirements of modern management. This is achieved by reducing the use of paper, simplifying procedures, eliminating red tape, and achieving speed and accuracy in completing tasks, thus preparing every department for future integration into e-government⁴.

From the previous definitions, a comprehensive definition of e-governance can be derived, as follows:

E-governance is the efficient and effective use of information systems and information and communications technology to carry out administrative tasks and activities, contributing to their completion with ease, convenience, and a high degree of accuracy. This management works to save time and effort, simplify procedures, while ensuring the privacy and security of information, with the aim of achieving the organization's goals and aspirations⁵.

II-The emergence of e-administration:

in the field of information and communication technologies. This concept is E-government is a newly emerging term, born from the technical and technological developments closely linked to the digital revolution the world is witnessing today, making it necessary to question when and how e-government emerged.

Modern technologies based on information and communication technology have established themselves in various fields, and the field of administration has not been immune to this development. This has prompted it to adopt a similar approach, employing modern technological means to carry out administrative tasks and replacing traditional management methods with more efficient and effective electronic methods.

The first actual use of technology in government work dates back to 1995, when the Central Postal Service in the US state of Florida launched an experiment allowing citizens to access the institution's services via computer without having to travel to the institution⁶. In Algeria, the digital transformation project began with individual attempts and was quickly adopted by successive governments, seeking to establish a digital society based on information and communication technologies. This was achieved by bringing about a qualitative shift in administrative work methods and the provision of public services.

This trend has been embodied in the effort to modernize vital and sensitive sectors in the country, with most public administrations now relying on the internet to perform their duties and provide services to citizens. This digital transformation has encompassed numerous ministries and administrative institutions, including local authorities such as municipalities and states, civil status departments, the education and higher education sectors, as well as the customs, social security, health, interior, and other vital sectors.

secondly: Characteristics of e-government and its relationship to related terms:

I-Characteristics of e-administration:

The essential characteristics and most important features of e-administration can be listed as follows:

1- Mastery and accuracy in completing tasks: E-administration is a modern mechanism and approach aimed at developing administrative work and abandoning traditional methods, which were often characterized by slowness and bureaucracy. E-administration represents a true revolution against the old style of administrative performance, characterized by its precision and clarity in implementing tasks, in addition to its ability to process requests and transactions immediately, which contributes to improving the quality of services provided to citizens⁷.

1- Reducing costs: Adopting e-administration initially requires the allocation of significant financial allocations to provide necessary equipment such as computers, servers, and management software. However, this initial investment can be later offset by reduced costs, particularly those associated with labor recruitment, leading to long-term financial efficiency.

4-Simplifying procedures: The need to modernize administration and simplify its procedures has prompted most public institutions to incorporate information systems into their operations. This is due to the speed of implementation and ease of access to services they provide, which enhances the effectiveness of administrative performance and improves the relationship between the administration and citizens⁸.

5- Achieving Transparency: Transparency is one of the most prominent goals sought by institutions, organizations, and administrative bodies, to which e-government contributes effectively. It provides a digital system that facilitates the tracking of various operations and transactions, with oversight mechanisms that ensure accountability for every action or service provided. Transparency represents a bridge that strengthens trust between citizens and civil society, on the one hand, and the authorities responsible for providing public services, on the other. It also allows for broader community participation in evaluating administrative performance.

6- An Effective Means of Providing Information to All: E-government is an effective tool for ensuring fair and secure access to information. It enables the transformation of traditional procedures for administrative documents and transactions into encrypted electronic formats,

whether in dealings with citizens or between various administrative bodies. This transformation not only ensures the protection of information, but also enhances the integrity of administrative work and establishes a relationship of trust between the administration and citizens⁹.

7- Access to Quality Services: The implementation of e-government contributes to improving the quality of administrative services by achieving speed, accuracy, and ease of delivery, at the lowest possible cost. It also reduces the rate of human errors that employees may make when completing transactions, and contributes to accelerating administrative procedures, which improves the citizen experience and increases satisfaction.¹⁰

8-Paperless Management: One of the most prominent features of e-administration is its complete reliance on digital devices and modern technologies, eliminating the need for paper, which was the cornerstone of traditional management. This has been replaced by the use of electronic archives, email, voice messages, and teleconferencing systems, which have contributed to accelerating and facilitating administrative transactions and reducing reliance on material resources¹¹.

9- Locationless Management: Another advantage of e-administration is that it does not require the physical presence of individuals within the administration. Various transactions can be carried out automatically from anywhere. Simply having a computer or smartphone connected to the internet allows citizens or employees to complete the required operations without having to travel, saving effort and alleviating the burden of traditional procedures.

10- Direct Supervision: E-administration has provided modern mechanisms for supervision and monitoring through the use of digital screens and cameras, enabling management to monitor work sites and directly supervise the progress of activities and tasks, which enhances discipline and increases performance efficiency.

11- Confidentiality and Privacy: E-governance provides high levels of confidentiality and information protection, relying on advanced software that enables the withholding of sensitive data and restricting its access to only authorized individuals through passwords and multiple authentication systems. This makes it superior to traditional governance in terms of information protection and privacy assurance.

12- Absence of direct contact between transacting parties: Among the most notable transformations brought about by e-governance is the ability to manage commercial or administrative transactions remotely, without the need for parties to be physically present in the same location. Institutions can conclude contracts and complete transactions using electronic correspondence, or what is known as an electronic agent, allowing individuals to obtain services or goods from the comfort of their homes, with the highest levels of efficiency and flexibility¹².

II-The relationship of e-governance to other related terms: Before addressing concepts related or similar to e-governance, it is essential to briefly review traditional administration, highlighting their similarities and differences. Although both concepts are identical in their primary purpose—the accomplishment of administrative activities and work to achieve desired goals—they differ in the means and methods used to implement these tasks.

- Traditional administration is defined as the position or position occupied by individuals performing administrative work within organizations. It is also considered a science, art, and system used to achieve goals in a timely manner, while achieving optimal use of available resources. 1 This administration relies primarily on the human element in implementing, planning, and monitoring work within specific legal frameworks, and relies heavily on paperwork and direct communication between parties.

- In contrast, e-governance relies on the use of the latest technological means and modern communication networks to accomplish administrative work more efficiently. It relies on electronic transactions and remote communication, making it faster and more accurate than traditional administration.

The fundamental differences between traditional and e-governance can be summarized in the following points¹³:

- In business processes: Traditional administration relies on the use of paper for all procedures, requiring the allocation of large archive spaces to store files, folders, and official documents. E-administration, on the other hand, relies on archiving transactions electronically within databases, making them easily accessible over the network and difficult to hide or tamper with.
- The nature of interaction between parties: Interaction in traditional administration is relatively slow, requiring physical presence and direct communication. In e-administration, interaction occurs quickly and efficiently through electronic networks, allowing for immediate communication between individuals or between an individual and a group, with minimal time and effort.
- The type of documents used: Traditional administration relies on paper documents to carry out business and transactions. In contrast, operations in e-administration are conducted paperless, as all transactions are completed in digital formats through electronic systems.
- Customer Service Timescale: Traditional management is restricted to customer service during official business hours, which are dependent on the presence of employees within the organization. E-management, on the other hand, provides services around the clock, including outside of official business hours and seven days a week, which increases customer satisfaction.
- The nature of communication methods used: Traditional management communicates through face-to-face meetings and paper correspondence. E-management, on the other hand, relies on modern technological means, such as computers, the internet, email, and digital management platforms.
- Style and Approach: Traditional management relies on a style based on secrecy and hierarchy, where orders are issued horizontally or vertically according to a strict administrative chain of command. It also focuses on business planning and management by directly controlling and directing others. This model reflects the concepts of authority, discipline, and centralized control. E-management, as a product of digital transformation and technological development, transcends these traditional characteristics, as it is based on the concepts of transparency, modernity, and flexibility. This management does not focus on direct control, but rather relies on smart systems, delegation of authority, and facilitating access to information for all, which enhances performance effectiveness and provides an interactive and collaborative work environment¹⁴.

1-The difference between electronic government and electronic government:

As a result of the development of information and communications technologies, many terms related to digital governance have emerged, the most prominent of which is "e-government." Despite the similarities between the two concepts, there are fundamental differences that can be summarized as follows:

- **Comprehensiveness and Scope:** E-government is a more comprehensive and broader concept than e-governance. It encompasses all government departments and agencies and focuses on providing services to citizens in an integrated and coordinated manner, while e-governance is limited to transforming administrative processes within an organization or entity from paper-based to digital.
- **Objective and Scope:** E-government aims to strengthen the relationship between citizens and government by providing public services electronically, encompassing both political and administrative dimensions. E-governance, on the other hand, focuses on improving the internal performance of an organization through technology¹⁵.
- **Institutional Character:** The term "government" refers to a political and structural entity composed of institutions and individuals responsible for managing the affairs of the state, and has an official and sovereign character. In contrast, the term "administration" refers to a broader

administrative system that encompasses all levels and institutions, whether governmental or private. Therefore, e-administration is more functional and applied in nature than political¹⁶.

The Relationship Between electronic government and electronic government: It can be said that e-government is an integral part of e-government, representing the administrative and functional component of digital transformation processes, through the modernization of the information infrastructure and the development of electronic systems used to manage work within government institutions.

E-government encompasses all electronic processes through which institutions implementing e-government concepts are linked, using advanced computer technologies¹⁷.

Accordingly, it can be said that e-government is one aspect of e-administration, as it specializes in managing the public affairs of the state with the aim of improving government performance. E-government is considered a form of e-administration, meaning the use of electronic means to manage public affairs to achieve social, economic, and political goals, eliminate routine and centralized work, and ensure a high level of transparency¹⁸.

2-The Relationship Between E-government and E-commerce: The term e-commerce is among the common terms in the world of technology and the digital economy. It refers to the implementation of commercial activities related to goods and services through transfers and transactions conducted over the internet.

E-commerce represents an open market that provides the opportunity to offer services or products, whether by the seller or the buyer, and provides the ability to interact immediately between supply and demand using electronic media¹⁹.

E-commerce is a modern form of commerce conducted via various electronic media, such as the internet, mobile phones, faxes, and other digital media. These methods enable the immediate and efficient exchange of goods, services, and even information. Accordingly, the common denominator between e-administration, e-government, and e-commerce is the reliance on information and communication technology to complete services and transactions²⁰.

3-The Relationship between E-Governance and E-Governance: In light of the digital transformation, the term "e-governance" has recently emerged as a concept closely linked to e-governance. E-governance aims to improve the performance of public institutions, enhance transparency, and raise the level of responsiveness to citizens' needs by enabling them to directly access government information and services through official websites. E-governance relies on key elements, including e-governance, e-citizenship, and e-participation. Hence, it can be said that e-governance represents a network of relationships that includes the public sector, the private sector, and civil society organizations, with the aim of reshaping the relationship between the state and the citizen and activating the principle of community partnership through the extensive use of e-governance technologies²¹.

4-The Relationship Between E-Government and E-Governance: The concepts of e-government and e-governance are often confused, and are often treated as having the same meaning. However, there is a fundamental difference between the two concepts:

- E-government is based on the use of information and communication technology (ICT) in public administrations with the aim of transforming administrative work methods and approaches, contributing to improving administrative performance and providing higher-quality and more effective public services. It involves using technology as a means to improve administrative structures and simplify procedures²².
- E-governance is a more comprehensive and general concept, as it refers to the management of information and communication technology to develop public policies, promote the principles of transparency, accountability, and participation, and combat corruption. E-governance seeks to achieve good governance by involving citizens and civil society institutions in decision-making, monitoring government performance, and ensuring that services reach those entitled to them in an effective and fair manner²³.

Therefore, it can be said that e-government is a tool of e-governance, representing the executive and technical aspects, while e-governance represents the broader framework encompassing the political and regulatory dimensions of modern government practices.

Many countries seek to achieve e-governance as a strategic goal to achieve an effective, corruption-free government that responds to citizens' needs and provides an interactive system that ensures the monitoring and evaluation of the effectiveness of administrative performance.

Section 2: E-government applications in Algeria and their impact on public service:

Firstly: E-administration and its impact on public service: By focusing on the basic principles that govern the operation of these facilities, this is done through studying three main points:

I-Developing electronic management of the general principles of public facilities: The importance of the regularity and continuity of public utility services (such as water and electricity), which are essential to the lives of individuals, requires a set of principles to ensure the smooth functioning of these services, such as equality, changeability, and continuity, which are:

1- The principle of continuous and regular operation of public facilities: This means that public facilities must continue to operate without interruption to meet the needs of citizens on a permanent basis, as the disruption of these services leads to disruption and disorder in the lives of individuals and society, such as water or electricity outages or disruption of transportation... etc. This is one of the fundamental principles that govern the work of public administration, as e-administration contributes effectively to the embodiment of this principle, as it allows individuals to complete their administrative services at any time, regardless of place or time, through electronic portals that provide the service automatically and continuously. It also allows interaction with the administration even in cases of employee absence or outside of official working hours²⁴.

This system enhances overall performance efficiency and mitigates emergency crises that may result from strikes or employee absences by bypassing physical presence and providing digital information and procedures available 24/7. It also contributes to securing data and transactions within computerized systems, preserving user privacy and reducing the risk of misuse or delay. In conclusion, this principle represents a cornerstone of modern public utility management, and the transition to digitalization is one of the most effective means for its effective and sustainable implementation²⁵.

2-The principle of equality before public services: This principle stipulates that all individuals wishing to use the services of a particular public service shall be treated equally, without discrimination based on gender, religion, or opinion. However, access to these services requires the fulfillment of legal or regulatory conditions specified by specific regulations, with individuals obligated to bear the associated burdens and costs according to fair rules²⁶.

In this context, the implementation of an e-government system contributes to tangibly strengthening this principle, as services are provided automatically without direct human intervention, thus limiting opportunities for discrimination or personal preference. Anyone who meets the technical requirements and is able to use electronic means can obtain the desired service without the need for mediation or intervention by a public employee. Thus, the e-government system contributes to reducing the manifestations of favoritism, mediation, and bribery by minimizing direct interaction between service seekers and public employees.

Therefore, e-government represents not only a technical development, but also an effective tool for supporting the principles of administrative justice and achieving greater transparency in the provision of public services.

3-The principle of the facility's ability to be changed and modified at any time is one of the fundamental principles governing the regularity and continuity of these facilities' performance of their function in serving the public interest. According to this principle, the competent administrative authority has the authority to amend the regulations and procedures governing the operation of the public facility, in line with new developments and in response to economic, social, and technical transformations. Individuals or entities dealing with the facility do not have the right to invoke what they consider to be acquired rights that would hinder such amendments, as long as their objective is to achieve the public interest²⁷.

Electronic means and modern technological developments have imposed a new reality on both public administration and individuals, namely the need to keep pace with rapid developments in the fields of technology and knowledge. In light of this digital transformation, it is no longer acceptable for administrative bodies, or even their contracting parties, to lag behind in this development. Hence, the importance of e-governance as one manifestation of this principle emerges. It has become the right of the public administration—indeed, its duty—to require private entities contracting with it to manage certain public facilities and to rely on the latest scientific and technological means in providing services, ensuring enhanced efficiency, quality, and continuity. The application of this principle is not limited to public facilities managed on a profit-making basis, but extends to all types of facilities, especially those managed under a franchise system. Although these facilities are managed by private sector contractors, they remain subject to the supervision and guidance of the public administration, given that their fundamental objective remains linked to achieving the public interest. This justifies the administration's intervention to modify and develop work methods to keep pace with modern requirements²⁸.

II-Improving the electronic management of public facility employees' work:

The public employee represents the pivotal human element in exercising administrative activity within public facilities. Effective management cannot be imagined without qualified employees capable of implementing administrative policies and achieving their objectives. With the shift towards e-governance, the importance of this human role increases. Technology does not produce public services on its own, but rather relies on the human element to operate and utilize them effectively in a way that serves the public interest and enhances institutional performance. Therefore, the success of e-governance is not solely linked to the provision of technical infrastructure. It primarily requires the qualification and training of employees to use modern technologies efficiently and professionally, to ensure the effective and high-quality delivery of public services. Accordingly, e-governance aims to achieve a number of objectives²⁹, the most prominent of which are:

1-Facilitating daily transactions for individuals: Information technology has become an unavoidable necessity in daily life, prompting governments to implement e-government. This contributes to the ease of delivering services to all citizens, enabling faster and more efficient implementation of daily business and decisions. This is reflected in the speed of completing individual transactions. Its impact is evident in:

- Overcoming bureaucracy: E-government meets the needs of individuals without the need to travel between government departments. It reduces administrative red tape and enhances the speed of completion. It alleviates pressure on offices and reduces costs and effort.
- A strategic shift in the financial aspects of employee work: Improving the handling of sick leave, as e-government contributes to reducing the manipulation of sick leave and achieving better oversight by changing the leave system to require electronic approval from specialized doctors.
- A new promotion system: The electronic system will help determine promotions based on employee performance, providing fair opportunities for career advancement and enhancing discipline and competition.

2-Improving the efficiency of government administration: E-government has become an important component of achieving development, given its role in serving the interests of society and individuals. It also contributes to efficiently meeting public needs and serves as a foundation for building an effective government administration that keeps pace with development. This can be achieved through:

- Advancement through integration between government agencies: E-government seeks to provide fast and effective government services through integration between various entities. Citizen satisfaction is a key driver of e-government's success, dependent on the quality of service and the speed of access.

The use of technology changes citizens' perceptions of government agencies and increases their confidence in them.

- Advancement through administrative transparency: E-government contributes to establishing transparency and making information easily available, which enhances administrative democracy, facilitates sound decision-making, and prevents the monopolization or concealment of information. It also regulates the handling of confidential information and emphasizes that all non-confidential information must be made available to all.

3-Employee requirements for implementing an electronic management system: Implementing an electronic management system does not necessarily mean eliminating employees, but rather leads to radical and fundamental changes in the administrative and technical concept of the employee. The transition from traditional management to electronic management requires reconsidering how employees are selected and appointed and the criteria for their eligibility. Employees must have the ability and enthusiasm to make this transformation a success, as administrative reform is an ongoing process that does not stop³⁰.

This transformation also imposes changes within the management system itself, such as the organizational structure, work methods, organizations, and tasks. These changes, in turn, require a review of employee characteristics in terms of number, distribution, training, and retraining. Hence, the need to create harmony between the organizational changes resulting from management reengineering and the qualities required of the human element responsible for implementing these changes becomes clear. Given the connection between these requirements and the reengineering process, this approach is called "human resources reengineering," which requires the creation of a dedicated organizational unit responsible for fulfilling the staffing requirements resulting from management changes, thus achieving the highest levels of employee efficiency.

III-E-administration as a mechanism for upgrading public service:

Information and Communications Technology (ICT) represents a pivotal link in the chain of modern administrative development, having contributed to a qualitative shift in the management methods of public institutions. The reliance on e-government has led to a series of rapid changes aimed at improving the efficiency of public services and enhancing the quality-of-service delivery to citizens³¹. Among the most prominent positive effects of e-government in improving public services are the following:

1-Improving public service for citizens: Contemporary administrative work is witnessing a growing trend toward adopting information and communications technology to improve public service performance, based on the view that it is a fundamental right of citizens. This trend has contributed to enhancing the quality of government services and raising citizen satisfaction through the development of management mechanisms and the adoption of standards of efficiency and effectiveness.

Modern technological media, such as communications, digital devices, and software, are strategic tools in supporting administrative work, enabling increased productivity and the improvement of the quality of basic services, particularly in the education, health, and social

security sectors. The core activity of e-administration is the collection, processing, and distribution of information using advanced systems.

The effectiveness of e-government is demonstrated by facilitating access to services, accelerating procedures, reducing errors, and rationalizing costs, while achieving a high level of transparency and accuracy in service delivery. It also enables the overcoming of bureaucracy and administrative complexity, and provides a conducive environment for the development of flexible and integrated development solutions. Thus, e-government represents an integrated framework for modernizing public administration and improving its performance, in line with the requirements of modern governance and citizens' aspirations for quality and effective public service³².

2-Rationalization of Public Service: The implementation of e-government is based on enhancing the efficiency and rationalization of public service through a set of key pillars that contribute to improving administrative performance and enhancing service quality. These pillars include:

A- Public Service Profitability: E-government enables the re-prioritization of services according to citizens' needs, while reducing the impact of bureaucracy and enhancing citizens' confidence in public institutions³³.

B- Reducing Service Costs: It contributes to reducing financial costs by facilitating remote access to services and reducing the resources consumed by traditional paper and administrative processes.

C-Achieving Responsiveness and Timeliness: E-government enhances the speed of administrative response through instant processing technologies, reflecting a real commitment to providing services within specified timeframes.

D-Achieving Accuracy in Performance: Electronic systems rely on accurate databases and automated processing, which reduces human error and ensures quality service delivery according to precise standards.

E-Transparency and Accountability: Electronic systems enable tracking of processes at all stages, enhancing the clarity of procedures, preventing manipulation or abuse of influence, and creating an environment subject to accountability. Overall, the use of e-government is a fundamental pillar for rationalizing public services by improving their effectiveness, reducing costs, and enshrining the principles of transparency and good governance.

Secondly: E-government applications in Algeria: In recent years, Algeria has witnessed a strategic shift toward adopting information and communications technology (ICT) in the management of its public institutions, with the goal of transitioning from the traditional model of service provision to an e-government model.

This transformation comes within the framework of efforts to improve the quality of services, enhance transparency, and modernize administrative performance. Several vital sectors have taken the initiative to embody this concept, including, for example:

I-Justice Sector:

The justice sector in Algeria is among the sectors that have integrated information and communications technology (ICT), as part of the National Justice Reform Plan launched in 2003. The introduction of this technology is viewed not as an end in itself, but rather as a means to enable citizens to access justice more effectively and expeditiously and facilitate the efficient performance of judicial duties³⁴.

This strategy requires restructuring the sector in line with technological developments, while adopting a new mindset that integrates legal knowledge and information technology. This approach also includes developing the justice system comprehensively, relying on digital tools that contribute to improving judicial performance and facilitating access to information and fair service. This is achieved through³⁵:

1-Internet Services Platform: Since November 2003, the justice sector in Algeria has been equipped with an advanced information infrastructure, consisting of high-quality computers equipped with Internet service, dedicated to judicial sector institutions. This equipment has enabled the establishment of a self-managed internal electronic communications network, facilitating access to information and enabling justice sector employees to use it effectively, thus enhancing the efficiency of judicial administration and achieving its reform goals³⁶.

2- Establishing the Ministry of Justice's website: In November 2003, the official website of the Ministry of Justice was established with the aim of making legal information available to the general public, within the framework of enhancing transparency and bringing the administration closer to the public. Initially, the website's content included comprehensive information about the organization of the justice sector, its tasks, programs, and various activities, in addition to general legal information. Part of its content was also directed towards supporting internal communication between sector employees, within the framework of developing the digital administrative structure³⁷.

With the development of the internet and the growing need to facilitate access to public services, the Ministry of Justice's website has evolved into a digital platform offering various legal and administrative services related to the justice sector and law enforcement. This is achieved by allocating electronic spaces for each service, procedure, or development related to the judicial field. These services include providing citizens with information and procedures related to legal aid, bail, rehabilitation, pardon requests, prisoner affairs, citizenship applications, and other related topics. With the development of electronic signature technologies and the digital transformation, citizens can now benefit from many judicial services remotely through the central website of the Ministry of Justice at <http://www.mjjustice.dz>, which represents the official digital portal for accessing e-justice services³⁸.

3-Establishment of the Algerian Law Portal: The Algerian Law Portal is a pioneering digital initiative that aims to provide a specialized working tool for legal professionals, including judges, lawyers, professors, and students. It was launched in November 2003 as a reference platform containing comprehensive and accurate information about the Algerian legal system. This portal provides legal professionals with various legal documents and texts, including legislation, regulations, and judicial precedents, as well as international agreements and treaties ratified by Algeria. This contributes to enhancing legal culture and facilitating access to reliable and up-to-date information³⁹.

2- Establishment of the National Center for Criminal Record: As part of the modernization of judicial administration and the development of its services, the National Center for Criminal Record was established in February 2004. It serves as a national reference in the field of organizing and managing criminal records. This project aims to improve the effectiveness of judicial administration by ensuring the provision of a vital service, namely the preparation and delivery of Criminal Record Card No. 03, in a timely, accurate, and effective manner. The center is a pivotal tool in modernizing administrative and judicial work mechanisms, thus fulfilling citizens' aspirations for efficient and modern digital judicial services.

II-Postal and Communications Sector:

Algeria Post is one of the public entities under the supervision of the Ministry of Post and Information Technology. The state's intervention in its management reflects the importance of its role in providing services to citizens. In light of technological transformations, the institution has adopted a modern service model based on respect for citizens and strengthening their trust through the adoption of an electronic services system. This approach comes within the framework of the institution's efforts to modernize the postal sector and achieve more effective performance, contributing to improving the quality of services and achieving tangible results

that support its position as a strategic public institution⁴⁰. These can be translated into models, for example:

1-The electronic window: These are electronic devices that allow the automatic withdrawal of banknotes, thus providing services to customers and clients.

2-The electronic debit card: This is an electronic payment and withdrawal card issued by Algeria Post to holders of postal current accounts. It is also known as the "Golden Card." Its most important uses include:

- Withdraw cash from automated teller machines (ATMs).
- Pay for purchases at electronic points of sale (ETPs).
- Pay online for services (electricity, internet, telephone bills, etc.).
- Transfer funds from one account to another.
- Check your balance and print your account statement from Algeria Post ATMs.

III-Social Security Sector: the social security sector in Algeria is undergoing fundamental transformations as part of its modernization process, given its strategic importance and direct connection to citizens. The National Social Insurance Fund for Salaried Workers is one of the most vital facilities in this sector, due to its effective economic and social roles, particularly in ensuring and improving the quality of social insurance services⁴¹.

As part of these reforms, the Ministry of Labor, Employment, and Social Security launched a project to modernize work mechanisms. The most prominent manifestation of this project is the adoption of the "Shifa" electronic card, an advanced technical tool that enables the automated processing of information on social security insured persons and their beneficiaries. This smart card contains administrative, medical, and personal data, used by healthcare professionals to facilitate billing and compensation processes.

This project was legislatively framed by Law No. 08-01 of January 23, 2008, which serves as the legal framework complementing social insurance laws. It established the use of the electronic card as a modern mechanism aimed at:

- 1- Expediting the processing of compensation files.
- 2- Facilitating administrative procedures and improving the quality of services.
- 3- Controlling healthcare expenditures.
- 4- Enhancing transparency and highlighting the social rights of insured persons.
- 5- Improving the third-party payment system.

This system also includes reference tools for health professionals, including lists of fees, medical examinations, and pharmaceutical products reimbursable by the National Social Insurance Fund.

Thirdly: difficulties and challenges facing the widespread implementation of e-government:

Despite Algeria's efforts to adopt e-government and employ it in the provision of public services, this transformation still faces several challenges that hinder its widespread adoption across various sectors. While some public institutions have begun providing advanced e-services, other sectors still rely on traditional management methods due to a number of obstacles, the most prominent of which are⁴²:

I-language Barrier:

Algerian administration relies on Arabic and French, while English dominates most global electronic content. This creates difficulties for human resources to adapt to software and electronic systems designed in English.

II-geographic and Demographic Barrier:

Due to the rugged geography and unbalanced population distribution, this negatively impacts the construction and deployment of technological infrastructure in all regions, especially villages and remote areas.

III-low individual and national income:

Economic and social conditions contribute to slowing the pace of digital transformation, especially in light of high rates of poverty and illiteracy and low levels of education, which limits citizens' ability to use modern technology.

There is also a high rate of technological illiteracy, as the number of internet users and electronic transactions remains limited, and many of them are reluctant to use digital means such as bank cards for reasons related to a lack of trust.

IV-Technological Dependence: Algeria suffers from a clear technological dependency, as it consumes tools and software without the ability to produce them locally. This deepens its dependence on foreign resources and weakens its digital independence.

Based on these challenges, a comprehensive review of digital transformation policies in Algeria is necessary. This includes developing local digital content and providing an appropriate legal and technical framework, as well as enhancing digital training and awareness for all segments of society. This will ensure the development of an information society capable of keeping pace with global technological transformation⁴³.

Conclusion:

In light of the analytical and anatomical data presented on the e-government experience in Algeria, it becomes clear that this model represents one of the most prominent challenges for public service reform in the digital age. It has become an unavoidable necessity for achieving effective administrative performance, ensuring the quality of public service, and consolidating the principles of transparency and accountability.

The Algerian experience has demonstrated, despite the positive steps it has taken in some vital sectors, such as the justice and postal sectors, that it still faces profound challenges related to technological infrastructure, weak legal frameworks, and a lack of institutional coordination, as well as a shortage of qualified human resources for digital transformation. Furthermore, the ambiguity of the relationship between the concepts of e-government, e-governance, and digital governance continues to hinder the development of a comprehensive and unified strategic vision. Accordingly, the activation of e-government as a tool for promoting public service requires a comprehensive approach that goes beyond the technical dimension to include regulatory and legislative reform, the valuing of human capital, and the promotion of an institutional digital culture based on the values of openness, transparency, and responsibility. Involving citizens in this dynamic is also one of the key keys to the success of any public digital policy.

E-government is not an end in itself, but rather a means to achieve a modern, effective, and humane public administration that places citizens at the heart of its concerns and responds to their aspirations amidst relentless digital transformations.

Based on the findings of this research, we present a set of recommendations that will enhance the effectiveness of e-governance implementation in Algeria:

- Raising awareness of the concept of e-governance: By organizing seminars, workshops, and training courses aimed at familiarizing individuals with e-governance terminology and its importance, and encouraging them to engage positively with it.

- Qualifying and Training Employees: Creating specialized training programs that enable public sector workers to acquire the technical skills necessary to implement e-governance, in addition to developing mechanisms to eradicate digital illiteracy among groups that are not proficient in the use of technological means.

- Developing Legal and Legislative Frameworks: Updating laws and administrative regulations to keep pace with e-governance requirements, thus facilitating digital transactions and ensuring their legality and reliability.

- Enhancing Digital Infrastructure: By providing the necessary technical and technological capabilities in institutions, such as communication networks, computer equipment, and information systems, to ensure the successful implementation of e-governance at all levels.
- Supporting the conviction of administrative officials: Directing administrative leaders towards adopting the idea of e-management and getting rid of the traditional paper-based view, by consolidating the concepts of modernity and demonstrating that digital transformation enhances the effectiveness of their authorities, rather than diminishing them.
- Continuous human resource development: Focus on continuous training for employees to ensure they keep pace with ongoing digital developments and achieve integration between human and technical aspects.
- Conduct awareness-raising campaigns: Highlight the benefits of digital public services for citizens and emphasize remote access without the need for travel, which contributes to reducing pressure on administrations and achieving citizen satisfaction.
- Provide local authorities with the necessary equipment: Support municipalities and local administrations with modern technological equipment and provide the necessary budgets to cover technical and software needs, thus improving the quality of services provided to citizens.

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