
Title: The Impact of Electronic Administration on the Improvement of Public Service in Algeria: Reality and Challenges

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Abstract

The shift toward electronic public service is the foundation for rationalizing and improving public service. This process requires the availability of various efforts and resources aimed primarily at enabling state institutions to facilitate public service and offer it in a distinctive manner to the citizen. Despite Algeria's continued efforts to establish it through several serious attempts, it remains far from the countries that have made significant progress in this field. This transformation faces challenges and stakes that threaten its realization and success.

Keywords: Impact of Electronic Administration, Improvement of Public Service, Algeria, Reality and Challenges

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Introduction

In light of the tremendous developments in modern technologies and the information revolution, along with the availability of the internet and other communication networks, it has become necessary to benefit from this technology to ensure quality performance and production, develop work methods, and achieve desired goals efficiently. These technologies are a driving force for economic, social, and political transformations on a global level. One of the most important outcomes of these developments is what is known as *electronic administration*, which came as a practical response to the use of computer applications in administration, aiming to develop traditional work methods and replace them with more flexible and effective ones, while facilitating communication between public administration and its various branches and between the administration and the citizen.

In light of this increasing progress in information and communication technology, Algeria, like other countries, has realized the great importance of electronic administration in achieving administrative development. It is a tool to facilitate and simplify administrative procedures, increase employee productivity, save time, and ease communication between administration and citizen. All of this aims to modernize the provided services and transition from traditional administration to electronic administration to enhance and rationalize service quality. As a developing country, Algeria constantly seeks to catch up with developed countries by keeping pace with developments in all political, economic, cultural, and informational fields. Within this context, it has sought to adopt this strategy or transformation to modernize public service. However, this transformation faces challenges and stakes that threaten its realization and success.

Hence, the research problem is articulated in the following question:

What is the impact of electronic administration on improving public service in Algeria? What are its most important achievements and applications? What are its main challenges?

We will attempt to address this problem by discussing the following points:

1. A conceptual introduction to public service and electronic administration.

2. Algeria's efforts to incorporate technology to improve public service.

3. The challenges facing electronic public service in Algeria.

1. Conceptual Introduction to Public Service and Electronic Administration

1/ The Concept of Electronic Administration

A- Definition of Electronic Administration:

The definition of electronic administration is linked to the important and growing role of using modern information technology to activate administrative work or public services and eliminate the administrative problems resulting from the use of paper in administrative dealings, which leads to negative bureaucracy that hinders the fulfillment of customer needs.

The concept of electronic administration is broader and more comprehensive than merely having computers, software, and other technologies. It is an integrated management of various logistical operations, electronic business, and public relations. It involves presenting technologies related to public service, organizing service requests, meeting the needs of the administration's client—i.e., the citizen—and organizing the relationship between state institutions, the private sector, and official and unofficial bodies.

In this regard, Dr. Yassine Saad Ghaleb Ibrahim defines it as an integrated organization and an open functional and technical structure:

"It is a framework that includes both electronic business (e-business) to refer to the electronic management of businesses, and electronic government (e-government) to refer to the electronic management of public administration or government business targeting enterprises or governmental institutions and departments."

There are many definitions of this concept; among the most important are:

- **Electronic administration is:**

"The use of various technological communication tools and information in managing how government administration delivers its public electronic services of value and communicates with those seeking to benefit from public services with more democracy by enabling them to use electronic communication means through a single portal."

- **Electronic administration is:**

"The process based on the exceptional capabilities of the internet and business networks in guiding and monitoring the resources and core capabilities of the institution and others without boundaries to achieve the institution's objectives."

It mainly relies on information technology in performing administrative processes and integrates a combination of human, informational, technological, and automated resources in a way that ensures the provision of electronic service and works to achieve efficiency and effectiveness in delivering services to the client with the required quality.

Electronic administration means:

"Transforming all administrative processes of a paper-based nature into electronically based processes using various electronic technologies in management. This means transforming the paper-based workflow in the organization into an electronic workflow, which is referred to as e-work or paperless administration."

Another definition states that:

Electronic administration is:

"A method used to raise the level of performance and efficiency. It is a paperless administration because it uses electronic archiving, electronic directories, and voice messages. It is an administration that meets requirements and relies mainly on knowledge workers."

Electronic administration is also defined as:

"The management and administration of public facilities and the organization of relations among them, and between them and the citizen, using data communication systems in order to provide public services at lower costs and in less time."

Based on the above definitions, it can be said that electronic administration is a new alternative that reconsiders the nature of the relationship between the state and the citizen, stemming from the changes occurring in the concepts of public administration and the content of public service. It represents a reengineering of administration in an electronic form through a strategic transition from traditional systems of work and organization to a system that is fundamentally based on technological techniques aimed at accelerating administrative processes, eliminating bureaucracy, reducing costs, and maximizing the efficiency of the services provided. Accordingly, electronic administration is based on several characteristics, including:

- **Paperless administration:** It includes a set of fundamentals where paper exists but is not used intensively. Instead, there are electronic archives, email, and voice messages.
- **Placeless administration:** It relies primarily on electronic means of communication.
- **Timeless administration:** The world now operates in real-time, 24 hours a day, seven days a week.
- **Managing files instead of storing them, viewing contents instead of reading them, and reviewing them instead of rewriting.**
- **Using email instead of traditional mail.**

B/ Principles and Objectives of Electronic Administration

The concept of electronic administration is based on a number of principles and objectives, as follows:

Principles of Electronic Administration

Electronic administration is based on principles that have made it a suitable alternative to traditional, commonly used methods, summarized as follows:

- **Providing the best services to citizens:** This focus on citizen service requires the creation of a working environment rich in skills and professionally prepared competencies to use modern technology in a way that allows for diagnosing each problem, selecting available information, identifying strengths and weaknesses, drawing conclusions, and proposing appropriate solutions.
- **Focus on results:** Electronic administration concentrates on turning ideas into tangible results on the ground and delivering benefits to the public by reducing the burden on citizens in terms of effort, money, and time, and by providing service around the clock, every day of the week.
- **Ease of use and accessibility for all:** Every citizen should be able to access the necessary information or obtain the needed benefit.
- **Continuous change:** This is a fundamental principle of electronic administration, which regularly seeks to improve and enrich existing systems, raise performance levels, and either achieve customer satisfaction or excel in competitiveness.

Objectives of Electronic Administration

The objectives of electronic administration are linked to administrative functions in general and

include all government work, as it is more of an administrative issue than a purely electronic one. Its implementation allows for achieving the best results in public sector activities and providing high-quality and effective services based on understanding users' needs. Among these objectives, we mention:

- **Improving the level of services:** There is no doubt that the ultimate aim of electronic administration is to deliver services to the public in a decent manner and with specifications that align with the quality of electronic administration itself. Therefore, electronic administration program planners consider many aspects to improve the service level, such as avoiding the mistakes that an ordinary employee might make in their work. This is because the computer, depending on its provided program and database, gives accurate, error-free results. This facilitates the processing of transactions for individuals, companies, or institutions, especially since the electronic administration system shortens many procedures and stages. It also raises the efficiency of administrative performance by reducing the use of manual forms, adopting electronic forms, ensuring information confidentiality and security, and thus improving the productivity of required services without the need to be physically present at service-providing locations.
- **Reducing administrative complexities:** Electronic administration aims to reduce the administrative complexities that delay decision-making and complete work in record time by simply referring to a pre-prepared database in the administration. This acts as a form of delegation, allowing the employee to make decisions based on it instead of referring to administrative superiors as in traditional administration. It also eliminates the complications of traditional administrative oversight by replacing it with simpler and more accurate control mechanisms.
- **Achieving maximum benefit for electronic administration clients:** This is reflected in taking necessary steps to reduce physical, organizational, and language barriers, simplify administrative formalities, clarify used terminology, and take measures that ensure equality in treatment and processing. It also includes respecting citizens' guarantees in dealing with the administration by applying the principle of the rule of law and strengthening citizens' rights against the administration. This is a key factor in democratic governance and the principles of good governance and an open administration built on transparency,

responsibility, honesty, justice, effectiveness, equality of treatment, and respect for the rule of law, ultimately leading to social stability and economic development.

C/ What Are the Requirements of Electronic Administration?

To complete the transition from traditional to electronic administration and ensure its successful implementation, a set of essential conditions must be met, summarized as follows:

- **Administrative requirements:** These include the following elements:
 - **Establishing strategies and foundation plans:** This stage covers strategic analysis activities of the business environment, strategic design and choice, and the implementation of an electronic business strategy. This requires support and endorsement from top-level management along with sufficient financial allocations for the required transformation.
 - **Availability of infrastructure for electronic administration:** It is necessary to work on developing various communication networks in line with the transformation environment, which requires a broad and accommodating network capable of handling a large volume of communications. Technical equipment such as tools, devices, and computers must also be made available at all levels and for both individual and institutional use on a large scale.
 - **Establishing the necessary legal framework for applying electronic administration:** This should be done before implementation by defining the legal framework that approves the electronic transformation, during implementation to fill any legal gaps or shortcomings that may arise, and after implementation by setting legal rules that ensure the security of electronic transactions and specifying punitive measures for those involved in electronic administration crimes.
 - **Administrative reform requirements:** This includes job specialization in running electronic programs, experts for securing information, protecting programs and transactions, and managing documents. It also entails attempting to introduce radical and fundamental changes in administrative and technical concepts and the need for conscious and enthusiastic leadership capable of sound management and rationalization.

- **Economic and Social Requirements:**

This includes efforts to create a socially supportive and understanding mobilization regarding the necessity of transitioning to electronic administration, with sufficient awareness of the benefits of applying technical means in administrative bodies. This also involves leveraging media and civil society organizations to support awareness meetings, seminars, and events that promote the advantages of electronic administration, along with scheduling training sessions on the use of technical tools at various levels. Moreover, it is essential to ensure adequate financial allocations to cover expenses related to electronic administration projects, without neglecting investment in the field of information and communication technology, and establishing sustainable funding sources at both the central and local levels.

- Human Requirements (*Electronic Leadership*):

The human element is considered the most important resource that can be invested in to achieve success in any project and organization. Thus, the human element is of critical importance in implementing electronic administration, as it is the originator of electronic administration—it was discovered, developed, and harnessed by humans to fulfill their intended objectives. Therefore, electronic administration is created by and for the human element. The human infrastructure for electronic business consists of:

- **Practical Technical Leadership:** Utilizing internet technology gives the electronic leader a set of new qualities such as agility, the ability to provide information, and a constant drive for innovation.
- **Soft Human Leadership:** This concept requires a leader characterized by professionalism and knowledge in order to improve customer interaction and deliver better services.
- **Self-leadership:** The leader in internet-based business management should possess characteristics such as self-motivation, focus on task completion, initiative, and flexibility to adapt to changing environments.

- Security Requirements:

Despite all the advantages and services offered by the information age, there are major challenges primarily centered on information confidentiality—whether related to electronically storing and saving data, maintaining confidentiality between institutions, or ensuring the availability and equal access to necessary information.

D/ Obstacles to the Implementation of Electronic Administration

The use of electronic administration faces numerous obstacles that hinder its optimal application. Among the most important are:

- Administrative Obstacles, including:

- Weak planning and coordination at the top management level for electronic administration programs.
- Insufficient attention by top management to evaluate and follow up on the implementation of electronic administration, which is reflected in the failure to implement necessary organizational changes such as adding or merging departments.
- Lack of coordination between agencies and administrations, even those using the same types of equipment and software that could facilitate sharing and exchanging information.
- Complex administrative procedures and the absence of regulations and organizational frameworks specific to electronic administration programs.

- Human Obstacles, including:

- A limited number of employees proficient in the basic skills required to use computers and the Internet.
- A lack of training programs and technical re-skilling for administrative staff in advanced technologies.
- Insufficient financial and moral incentives to encourage personnel working in management information systems to develop and pursue ongoing training and education.
- Issues related to unemployment that may arise from the application of electronic administration, as machines replace human workers, some of whom resist or reject the digital shift out of fear for their positions and privileges.

- Financial and Technical Obstacles, including:

- Limited financial resources to provide the necessary infrastructure such as equipment, application software, computer system development, website creation, and network connections.
- Insufficient funding for training employees in information systems.
- High maintenance costs for computer equipment and a lack of skilled labor in this field.

- Difficulties related to repairing, maintaining, and upgrading hardware systems.
- High costs of system development amid a scarcity of consulting and expert firms.
- Concerns from stakeholders about the negative impact of modern technology on their interests, including labor downsizing and reduced motivation.

- Political and Legal Obstacles, including:

- The absence of effective political will to support a qualitative leap toward electronic administration and the lack of necessary political awareness to persuade administrative entities of the need to apply modern technologies and keep up with the digital age.
- The absence of a legally protected electronic work environment that defines the conditions for electronic transactions, such as the lack of legislation prohibiting the hacking or sabotage of electronic administration programs and determining penalties for offenders. In addition, there are challenges related to electronic signatures, the evidentiary value of electronic correspondence, and the difficulty of identifying users on networks due to the absence of legal frameworks ensuring client identity verification and addressing issues of privacy and confidentiality in electronic transactions.

- Security Obstacles:

These stem from distrust in technology and reluctance to engage in electronic transactions out of concern that they may pose risks to security and privacy within government services. A notable obstacle is the lack of a sense of security regarding many electronic transactions, such as online money transfers and credit card operations.

2/ Concept of Public Service

A/ Definition of Public Service

The concept of public service is tied to the emergence of the state as a sovereign authority and its role in fulfilling the public needs of society through activities across various economic and social sectors to enhance public welfare and achieve development.

Public service refers to the process carried out by public institutions to provide services to citizens based on the relationship between them. It is a collection of activities offered by the state or an official entity for the benefit of the general public

and all citizens without discrimination, aiming to serve the common good.

B/ Standards of Public Service

To improve and elevate public service, mechanisms for change must be adopted, the most important of which are:

- Equal access to public service for all.
- Continuity and sustainability.
- The ability to evolve and change.

Public service represents a relationship between individuals and the government to meet societal needs through public facilities supervised by the state. This is done according to principles and regulations that ensure quality public service. Within the framework of good governance, public service is seen as a concept that enshrines citizen and civil society participation in public affairs and in shaping decisions on issues of concern to them. It also promotes transparency, which affirms the citizen's right to access information and monitor project implementation processes.

Second: Algeria's Efforts to Integrate Technology in Improving Public Service

Algeria's efforts in integrating technology into the relationship between administration and citizens have been evident across various sectors (higher education, health, education, justice, social security, postal services, and transportation). In 2013, the Ministry of Interior launched the **Citizen Portal** <http://www.elmowatin.dz>, an inclusive electronic portal that contains all the information a citizen may seek in their dealings with various public administrations. It also provides updates on legislation and institutions and allows users to access ministry and directorate websites, download various forms, and access remote services.

To improve public service and keep pace with digital development, the government has employed information and communication technology in service delivery across several key sectors, most notably:

1/ Postal and Telecommunications Sector

In light of Algeria's profound transformations in the economic, political, and ICT fields, the need arose to undertake fundamental changes in the postal and telecommunications sector, summarized as follows:

- **Electronic ATMs:** Facilitating the automatic withdrawal of funds.

- **CCP Electronic Withdrawal Card:** Allows citizens or clients to withdraw funds from any postal ATM or automatic teller across Algeria to improve response speed and meet citizens' continuous demand for service.
- **Balance Inquiry Services:** Each user is assigned a secret code based on their postal account number to access this service.
- **Electronic Postal Check Request Services:** Users fill out their personal information electronically in the form of a digital application.

Requesting Account Activity Statements:

This involves submitting a request to review withdrawal and payment transactions that have taken place within a specific current postal account.

- **The Electronic Payment Card (The Gold Card):**

Announced by *Algeria Post* in Algiers on **December 8, 2016**, it serves the following purposes:

- Conducting various withdrawal and payment operations on postal accounts via the Internet.
- Paying utility bills for electricity, gas, and water.
- Fuel payment services via the *Naftal* mobile application.
- Withdrawing cash through ATMs and in-office service counters.

- **New Notification Service via SMS:**

Algeria Post has recently launched a new service through the website <http://ccp.poste.dz>, where customers receive SMS alerts on their phones when funds are deposited into their accounts.

2/ Justice Sector

In the framework of modernizing the justice sector, the following achievements have been noted:

- **Obtaining a Criminal Record Certificate and Nationality Certificate** via the

Internet.

- **Information Systems** include:

- ***Automated Judicial File Management System:*** Allows citizens to follow up on their cases through an electronic portal.
- ***Automated Correctional Population Management System:*** Manages the profile and activities of detainees from the day they enter correctional facilities until their release.

- ***Warrant Management System:*** Provides a national database to identify all individuals wanted by law.

- **Online Electronic Counter Service:**

This service takes the form of an email-based portal that allows citizens to receive direct responses to their inquiries. The inquiry is reviewed by a team consisting of judges, legal professionals, and Ministry of Justice officials before a response is sent to the citizen's email.

- **Electronic Monitoring Bracelet:**

Used as a tool for electronic supervision

3/ Higher Education and Scientific Research Sector

To modernize administration and adapt to evolving public administration environments, the Ministry of Higher Education and Scientific Research has taken steps toward an administrative model aligned with the system's goals, including:

- **E-learning at the University Level:**

In 2016, Algeria launched a *distance-learning Master's program* in four universities: University of Algiers 1, University of Algiers 3, University of Blida 3, University of Oran, and University of Constantine.

- **University Registrations:**

Universities now offer online registration for new students holding a baccalaureate certificate through the websites:

www.orientation.ini.dz, www.ini.dz, and www.mesrs.dz.

Electronic registration is also available for Master's programs.

- **Virtual Library:**

A key digital service for students and researchers.

4/ Social Security Sector

The National Social Security Institution has moved toward **electronic health insurance services** with the introduction of the *Chifa Card*.

This card allows for identification of insured individuals and their dependents and is a major step in transforming public services. It simplifies reimbursement procedures with social security agencies and healthcare providers by storing all relevant data on a smart chip, replacing the old insurance card.

5/ Ministry of the Interior and Local Authorities

• In 2013, the Ministry launched the **Citizen Portal**, which provides information and electronic services related to everyday life.

• **Transition from Traditional to Electronic Municipalities:**

A digital database for civil status documents has been established, enabling citizens to retrieve documents more easily.

- **Issuance of Biometric ID Cards and Passports.**
- **Online Hajj Registration.**

6/ Urban Planning Sector Modernization:

This involves the creation of the **National Urban Planning Decisions Registry**, which documents urban planning decisions and brings administration closer to citizens. It relies primarily on ICTs within a secure electronic system to help authorities:

- Monitor urban development,
- Assess urban reality,
- Reduce illegal construction.

Data is collected from municipalities and provinces within the jurisdiction of the Regional Urban Planning Inspectorate, which maintains a sub-registry based on submitted files and enters them into a digital database.

Third: Limits of the Impact of E-Governance Applications on Public Service in Algeria

Since the early 1990s, Algeria has witnessed numerous transformations across political, economic, social, and cultural domains. As a subsystem within the global system, Algeria could not escape the environmental changes driven by globalization. This posed new challenges to Algerian public administration, necessitating:

- A re-evaluation of administrative methods,
- Adoption of modern approaches to enhance administrative performance,
- Fulfillment of its developmental role in society.

However, despite a well-crafted plan to implement e-administration, the actual realization remains incomplete due to several barriers, most notably:

- **Limited Technological and Technical Infrastructure:**

Despite Algeria being one of the earliest African countries to adopt computing technologies in the 1970s and 1980s—and the first Arab country to introduce computers into public administration—subsequent economic hardship delayed investments in ICT and weakened development programs.

As a result, Algeria ranks:

- **80th** in telecommunications infrastructure,
- **123rd** in political and legal environment,
- **133rd** in innovation and business environment

(all sub-indicators of network readiness among 139 countries).

- **Weak Information Society:**

Traditional obstacles (bureaucracy, resistance to change, lack of transparency, and corruption) hindered ICT adoption. Internet penetration remained low—**26% in 2014**, rising only slightly to **28% in 2015**.

- **Weak Legal Framework for Digital Technology:**

This includes:

- Lack of civil and criminal laws regulating digital transactions, such as electronic signatures and cybersecurity.
- Absence of legislation conferring evidentiary value to electronic documents and digital signatures, which must be tamper-proof and secure.
- Electronic insecurity globally, as cyberattacks increase, causing significant financial losses for individuals, institutions, and even governments.

Conclusion

The relationship between e-governance and public service holds tremendous importance as the shift toward e-public services is key to rationalizing and improving public service delivery. Using modern technologies—communications tools and digital networks—in public services aims to inject new momentum into institutions across all sectors. It introduces a more mature administrative approach that:

- Facilitates interactions between citizens and institutions,
- Provides integrated, fast, and accurate information,
- Becomes a hallmark of modern administrative work.

Algeria's efforts in applying e-governance have led to a degree of openness toward this model, especially in sectoral experiences as mentioned. However, **despite these initiatives**, overall e-governance indicators remain weak, suggesting the model is still in its **infancy**. Algeria continues to lag behind other Arab and foreign nations that have successfully embraced e-governance as part of administrative reform and service improvement aligned with evolving citizen needs.

Recommendations:

- Deepen public awareness of e-governance and its objectives by promoting digital culture.
- Provide the **human, financial, technological, and legal resources** needed for a successful digital transition, recognizing the significant national effort required.

- Organize specialized **conferences and academic seminars** to foster scientific analysis, opinion exchange, and benefit from leading global experiences.

- Allocate **adequate budgets** for designing and developing in-house software and digital applications within each organization.

- Strengthen **local and international cooperation** to benefit from past expertise and identify both positive and negative experiences.

- Develop a **comprehensive strategic vision** involving the state and all stakeholders to ensure a smooth shift from traditional to electronic administration and improve public service quality while boosting socio-economic development.

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