From Traditional Management to Digital Management: Challenges and Strategies for the Transition to E-Management in Algeria

من الإدارة التقليدية إلى الإدارة الرقمية: تحديات واستراتيجيات التحول نحو الإدارة الإلكترونية في الجزائر

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Received: 28/09/2024 ***Accepted: 26/11/2024*** ***Published:01/01/2025***

Abstract:

This study aims to explore the transition from traditional management to digital management in Algeria, focusing on the challenges and strategies to overcome them. It examines the differences between the traditional and digital models, addressing technical and organizational challenges, infrastructure issues, and the development of digital skills. The study employs a descriptive-analytical approach to assess the current state of e-management and its strategies in Algeria.

The findings indicate that the transformation requires addressing both technical and organizational challenges, and the proposed strategies offer effective solutions. Recommendations include improving technical infrastructure, enhancing training on digital skills, and developing integrated strategies that align with the local context.

Keywords:E-Governance; Digital Transformation; Digital Transformation Strategies.

JELClassificationCodes: O33, M15, H11.

ملخص:

تستهدف هذه الدراسة استكشاف الانتقال من الإدارة التقليدية إلى الإدارة الرقمية في الجزائر، مع التركيز على التحديات واستراتيجيات التغلب عليها. تدرس الفروق بين النموذجين التقليدي والرقمي، وتعالج

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التحديات التقنية والتنظيمية، وقضايا البنية التحتية وتطوير المهارات الرقمية. تعتمد الدراسة على المنهج الوصفي التحليلي لتقييم الوضع الحالي للإدارة الإلكترونية واستراتيجياتها في الجزائر.

حيث تُظهر النتائج أن التحول يتطلب معالجة تحديات تقنية وتنظيمية، وتقدم الاستراتيجيات المقترحة حلولاً فعالة. تشمل التوصيات تحسين البنية التحتية التقنية، وتعزيز التدريب على المهارات الرقمية، وتطوير استراتيجيات متكاملة تتناسب مع السياق المحلي.

كلمات مفتاحية: الإدارة الإلكترونية؛ التحول الرقمي؛ استراتيجيات التحول الرقمي.

تصنيفاتJEL : O33، M15، H11.

1. INTRODUCTION:

In light of the rapid digital development and comprehensive technological transformation occurring worldwide, institutions face significant challenges in improving their efficiency and adapting to the digital environment. Digital management is one of the key strategies that can support organizations in this transition, as it provides the tools and techniques necessary to enhance organizational performance, streamline processes, and improve decision-making. This study focuses on evaluating the digital management strategy and effective implementation methods within institutions, aiming to enhance digital integration and achieve sustainability and innovation in administrative processes.

This study seeks to highlight how digital management can be applied in institutions through the adoption of advanced technological strategies, offering targeted solutions to improve organizational performance. Digital management involves the development of technical infrastructure, enhancing the digital skills of employees, and integrating technological systems, contributing to the efficient and effective achievement of the institution's goals.

1.1. Research Problem: Amid the rapid changes in the business environment and accelerated technological development, the following problem arises:
How can strategies for transitioning to e-management enhance the effectiveness of institutions in Algeria and overcome the challenges associated with this transformation?

To address this problem, the study is divided into the following sub-questions:

- What are the essential elements of strategies for transitioning to e-management?
- How can strategies for transitioning to e-management contribute to improving the effectiveness of institutions in Algeria?
- What are the main challenges faced by Algerian institutions in implementing e-management, and how can they be overcome?

1.2. Objectives of the Study: The study aims to achieve the following objectives:

- Analyze and evaluate digital management strategies and their role in improving organizational performance.
- Review the fundamental concepts of digital management and its importance in achieving digital integration.
- Provide recommendations for the effective implementation of digital management strategies within institutions.

1.3. Previous Studies: The main findings of the previous study are as follows:

- **Study by AyoubChekir (2019):** "Electronic Management in Algeria: Applications and Challenges," published in the Journal of Management and Development Research and Studies. This study highlights the significant revolution in management due to developments in information and communication technology, as countries have transitioned to electronic societies. Algeria is compelled to keep pace with these developments by adopting an electronic management project aimed at modernizing administration and public institutions through the use of information and communication technology to facilitate transactions and provide faster, lower-cost services. However, the transition to electronic management is still in its early stages, with only partial applications due to several difficulties and obstacles. (Chekir, 2019)
- **Study by HajarDidouche (2021):** "Electronic Management and Its Role in Developing Public Services," with reference to the application of electronic management in local communities in Algeria. Journal of Current Financial and Economic Studies, 4(2), 17-33. This study aimed

to identify the concept of electronic management and its role in developing public services, focusing on its application in local communities in Algeria. Using a descriptive-analytical approach, the study concluded that electronic management applications significantly contributed to improving the quality of public services, particularly through digitizing civil registry records, biometric passports, and biometric identity cards. The study recommended the need for collaboration and coordination among all sectors to achieve a complete transition to electronic management. (Didouche, 2021)

- **Distinction of the Current Study:** The current study, titled "Electronic Management and Transformation Strategies in Algeria: An Analysis of Goals, Characteristics, and Constraints," differs from previous studies by focusing on comprehensive digital management strategies and their practical applications in various types of institutions. This study aims to provide practical models and tangible solutions to overcome the challenges faced by institutions in the digital transformation, considering organizational, technological, and social dimensions.

1.4. Methodology of the Study: This study relies on a descriptive-analytical approach to evaluate digital management strategies at the institutional level. Available data will be analyzed, along with an assessment of practical experiences and applications of digital management, focusing on their impact on improving organizational performance. The methodology will also include a review of current scientific literature on digital management and an analysis of successful international examples of implementing these strategies.

1.5. Structure of the Study: The study begins with an analysis of the concepts of management and electronic management, clarifying the objectives, characteristics, and differences between traditional and modern models. Following this, the focus shifts to strategies for transitioning to electronic management in Algeria, reviewing the challenges faced by institutions and potential future solutions to improve digital integration and enhance the effectiveness of implementation.

2.Section One: Analysis of the Concepts of Management and Electronic Management: Objectives, Characteristics, and Differences Between Traditional and Modern Models.

This section addresses the analysis of traditional management and electronic management concepts, focusing on the definitions and primary objectives of electronic management, as well as the importance of adopting it in institutions. It reviews the characteristics of electronic management and how they differ from traditional management, including interaction speed, document nature, and scope of customer service. The aim is to provide a comprehensive overview of how efficiency and effectiveness can be improved through the transition to electronic management.

2.1. Concept of Management: Management is defined as "a social system based on the mutual relationships between its parts and parties to achieve the desired goal, requiring interaction with the external environment to ensure its continuity and existence" (Harsh and Youssef, 2021, p. 166). Additionally, management is viewed as "the process of mobilizing, organizing, controlling, and directing resources towards achieving the organization's goals efficiently and effectively; it is a social process aimed at cooperation, participation, and effective intervention to accomplish the required objectives" (Alawi, 2017, p. 14). Thus, an operational definition of management can be presented as follows: "A social system that coordinates between human and non-human resources to achieve the required efficiency and effectiveness in Algerian management."

2.2. Definition of Electronic Management: Definitions of electronic management vary depending on the entity or author defining it, reflecting the multiple perspectives and objectives associated with its applications in different contexts. Below are some definitions that reflect this diversity:

- **First Definition:** Electronic management is an integrated system that uses technology to transform administrative work from traditional manual methods to reliance on computers, contributing to improving decision-making speed and reducing costs. Electronic management encompasses all types of communications both within and outside the institution (Ghaleb, 2005, p. 22).
- **Second Definition:** According to the Organisation for Economic Co-

operation and Development (OECD), electronic management is defined as "the application of information and communication technologies to deliver public services, aimed at improving management effectiveness, reducing costs, and increasing access to government services" (OECD, 2003, p. 18).

- **Third Definition:** Electronic management is defined as a modern management model based on electronic technology, aimed at transforming administrative processes from traditional to electronic modes using computers and their applications. This includes all administrative functions and tasks assigned to employees using computer communication means, such as email and digital communication, thereby enhancing communication between managers, employees, and customers (Mouissi and Bilal, 2021, pp. 124-125).
- **Fourth Definition:** Electronic management involves using information and communication technology to redesign and modernize administrative processes and improve the delivery of public services, thereby enhancing government performance efficiency and effectiveness, increasing transparency, and fostering community participation (Heeks, 2006).

Based on these definitions, electronic management can be described as the process of transforming procedures and services from a traditional form to an electronic form, aiming to maximize the benefits of time, money, and effort.

2.3. Objectives of E-Governance: E-governance aims to achieve a set of primary objectives in its dealings with clients, including (Matar, 2011):

- **Reducing Administrative Costs:** Lowering the costs of administrative procedures and improving the associated processes.
- **Enhancing Administrative Efficiency:** Improving the efficiency of administrative work in dealing with individuals and institutions.
- **Increasing Customer Capacity:** Enabling the processing of larger numbers of customers simultaneously, thereby reducing long waiting times.
- **Minimizing Direct Interaction:** Reducing direct interactions between parties, which limits the influence of personal relationships on transaction processing.

- **Transitioning to Electronic Archiving:** Replacing traditional paper filing systems with electronic archiving systems, facilitating error correction and quick document sharing.
- **Eliminating Bureaucracy:** Simplifying and streamlining the division of labor and specialization.
- **Providing Continuous Services:** Offering services to clients continuously and around the clock.
- **Achieving Time and Financial Efficiency:** Ensuring timely and cost-effective completion of tasks.
- **Promoting Transparency:** Enhancing transparency and reducing nepotism.
- **Supporting Employee Rights:** Encouraging creativity and innovation among employees.
- **Protecting Information Security:** Safeguarding the security and confidentiality of information and minimizing the risk of loss.
- **Reducing Administrative Procedures:** Streamlining administrative processes through the availability of digital information and reducing the need for paperwork.
- **Optimizing Human Resources:** Improving data accuracy, thereby enhancing trust in the information shared.

2.4. Importance of E-Governance: E-governance is significantly important at both the institutional and national levels, contributing to (Moisy& Bilal, 2021, p. 126):

- **Lowering Production Costs:** Reducing the costs of production and increasing the profitability of institutions.
- **Enhancing Quality of Government Performance:** Improving the quality of performance of government institutions.
- **Mitigating Risks of Paper Transactions:** Reducing the risks associated with paper-based transactions.
- **Boosting Exports:** Supporting national economic growth.
- **Creating New Job Opportunities:** Leveraging the potential of advanced technological markets.

Researchers emphasize that the rapid developments in information technology are expected to continue, allowing for the implementation of

advanced technological applications that contribute to enhancing the efficiency and effectiveness of institutions. Some point out that technology plays a significant role in improving productivity and efficiency, facilitating communication between different geographic units of the institution through digital information systems.

2.5. Characteristics of E-Governance:E-governance is characterized by several features, including (Moisy& Bilal, 2021, p. 127):

- **Accuracy and Speed in Service Delivery:** Providing services and transactions with precision and speed, ensuring that customer requirements are met efficiently.
- **Cost Reduction:** Achieving cost savings by transitioning from traditional models to electronic models, which decrease the need for human labor.
- **Simplified Procedures:** Streamlining processes to easily and quickly meet the needs of citizens through the use of technology.
- **Enhanced Transparency:** Promoting transparency within institutions through electronic monitoring and regular accountability.
- **Effective Use of the Internet:** Utilizing the internet and business networks around the clock, enabling remote work and increasing task distribution efficiency.

2.6. Differences Between E-Governance and Traditional Management: The differences between e-governance and traditional management can be summarized in the following table:

Table 1: Differences Between E-Governance and Traditional Management

Aspect	E-Governance	Traditional Management
Communication Method	Relies onelectronic networks.	Relies on traditional means such as mail and telephone.
Nature of Relationships	Characterized by indirect relationships through electronic networks.	Depends on direct relationships between parties.
Speed of Interaction	Allows for rapid and simultaneous interaction between parties.	Characterized by relatively slow interaction.
Document Type	Does not rely on paper documents; uses electronic tools.	Primarily relies on paper documents.
Customer Service Scope	Provides service 24/7.	Typically offers service only five days a week.
Resource Utilization	Optimally utilizes physical and human resources.	Relies on available resources in a limited manner.
Information Type	Manages dense, diverse, and transparent information.	Focuses on hierarchical information and confidentiality.

Source: Prepared by the researcher.

The table illustrates the fundamental differences between e-management and traditional management. E-management relies on electronic networks, facilitating rapid and continuous communication among parties. In contrast, traditional management depends on conventional means such as mail and telephone, resulting in slower interaction. Furthermore, e-management allows for the transparent management of dense and diverse information, while traditional management focuses on hierarchical and confidential information. Additionally, e-management provides services around the clock, whereas traditional management services are typically limited to five days a week. E-management optimally utilizes resources, while traditional management faces constraints in this regard. These differences highlight the importance of transitioning to e-management to enhance institutional performance and meet the increasing market demands.

3. Axis Two: Strategies for Transitioning to E-Management in Algeria: Challenges and Future Solutions.

This section discusses the reasons driving Algeria's transition to e-management, the various types of e-management, the fundamental requirements for its implementation, the features of e-management, the essential components for the success of e-projects, and the obstacles and challenges faced. The analysis includes how technological developments and electronic culture influence the adoption of e-management and reviews strategies for addressing these obstacles to achieve effective digital transformation in Algerian institutions.

3.1. Reasons for Transitioning to E-Management: The reasons behind adopting e-management practices are not solely tied to the needs of administrations or institutions; they stem from the inevitability of change imposed by the demands and challenges of the modern era and the dominance of knowledge-based initiatives. Modern societies are compelled to embrace technological experiences to achieve a higher level of services. The dissatisfaction among groups using traditional methods significantly influences the emergence of the idea of transitioning to e-management. The followingreasonscanbeidentified (Fathi, 1997, pp. 222-221):

- **Time Factor**: The time criterion is one of the most significant factors determining local and global competition and is the primary reason for progress and development. Striving to provide a product that meets global quality standards is not sufficient for success in competition; rather, time is a crucial element in determining the prospects for a particular administration or institution to compete and survive.
- **Advancements in Computing and Its Applications**: The world of computing has undergone qualitative and rapid development since the 1950s. No decade has passed without witnessing a new generation of computers, culminating in personal computers. This evolution has been accompanied by advancements in technology, with tech applications achieving unprecedented accomplishments. Learning from afar through acquiring programs and methodologies from leading global universities has become possible, leading to the emergence of new concepts and theories. There is an expectation that machines will make decisions based on electronic programs, which may reduce the role of human

workers.

- **Advancements in Communications**: Communications play a crucial role in institutions as they serve as a link between various departments. Due to significant technological advancements, electronic communications have emerged, enabling management to obtain information with exceptional speed and accuracy. Tangible benefits of communication advancements include reduced transportation and delivery costs, time savings, and decreased routine tasks, while intangible benefits involve better oversight of operations and continuous improvement of working conditions.
- **Widespread Electronic Culture**: Today, individuals possess an increasing awareness of electronic culture, which has proliferated through distance learning, media, satellite channels, and internet cafés. Engaging with digital technology no longer necessitates a specialized university degree in higher media, contributing to the promotion of the transition to e-management.

3.2. Types of E-Management at the Institutional Level

The main points related to the various types of e-management can be highlighted in the following table:

Table 2: Types of E-Management

Type	Description
E-Government	- Management of public affairs through electronic means to achieve social, economic, and political objectives. - Eliminating routine and centralized tasks with high transparency. - Includes relationships between government and individuals, businesses, and employees.
E-Commerce	- Exchange of information and services online to achieve rapid economic development. - Includes electronic payments using banking cards. - Considered the first application of e-management.
E-Health	- Provision of medical consultations and services through electronic means. - Monitoring the results of medical tests and surgeries online. - Reducing wait times by sending prescriptions electronically to pharmacies.
E-Learning	- Conducting lectures and exams through local networks or the Internet. - Discussing scientific theses and benefiting from free lessons available online.
E-Publishing	- Following breaking news and economic and social bulletins. - Quickly accessing literature from original sources online.

Source: *Prepared by the researcher.*

Table 2 illustrates the various types of e-management and their main descriptions. It provides a brief analysis of each type of e-management, helping to clarify how these types are applied in various fields such as government, commerce, health, education, and publishing. The table offers a comprehensive overview of how each type contributes to enhancing efficiency and effectiveness in achieving organizational and administrative objectives across different institutions.

3.3. Requirements for Implementing E-Management: The implementation of e-management requires a set of integrated requirements that form the system within which e-management grows. E-management cannot be effectively applied unless all of the following requirements are met:

- **Administrative Requirements**: To implement e-management, the following administrative requirements must be present (Aban, 2015/2016, p. 75):
  - ✓ Establishing foundational strategies and plans.
  - ✓ Leadership and administrative support.
  - ✓ The need for administrative reform.
  - ✓ Culture, education, and awareness.
  - ✓ Establishing and updating legislative frameworks.
- **Human Requirements**: The human element is the most crucial factor in achieving the success of any electronic management project, requiring radical changes in the quality of human resources and appropriate training (Najm, Strategy, Functions, and Issues, p. 75).
- **Economic and Social Requirements**: This includes efforts to spread technological culture through training programs, encouraging investment in information and communication technology, and providing necessary funding (Aban, 2015/2016, p. 75).
- **Technical Requirements**: The hardware and technologies are fundamental to the success of the e-management project, including the hard infrastructure for electronic businesses and the soft infrastructure for electronic operations (Najm, Strategy, Functions, and Issues, p. 54).

3.4. Features of E-Management: E-management is characterized by several key features, including (Moisi& Bilal, 2021, p. 130):

- **Reliance on Information and Communication Technology**: This technology is considered a primary tool in technical management, enhancing the effectiveness of administrative work.
- **Utilization of Technology to Accomplish Tasks**: Information technology is employed to efficiently complete the tasks and functions of the administrative apparatus.
- **Improvement of Service Quality**: Technology contributes to enhancing the quality of administrative services, keeping them up-to-date and thereby increasing performance effectiveness.
- **Ability to Manage Administrative Activities**: Technology allows for the continuous management and updating of all administrative activities, facilitating transactions and improving efficiency.

- **Dependence on Modern Software**: Modern technical programs are used to streamline time and effort, thus enhancing management effectiveness.
- **Speed in Service Delivery**: Adding speed as a key element alongside quality in providing administrative services.

3.5.Components of an E-Management Project: For an e-management project to succeed, several essential components must be available (Sari, 2011):

- **Infrastructure**: E-management requires advanced infrastructure, including modern communication networks, both wired and wireless, to ensure effective communication between administrative institutions and citizens.
- **Electronic Means**: Availability of necessary electronic devices, such as personal computers and terminals, to facilitate communication with the electronic system.
- **Availability of Internet Service Providers**: There must be a sufficient number of affordable Internet service providers to enable the maximum number of citizens to interact with e-management.
- **Training and Capacity Building**: This includes training employees on using electronic devices, networks, and databases, as well as promoting electronic culture among citizens.
- **Funding**: The project requires adequate funding for system maintenance, employee training, and regular technology updates.
- **Political Will**: The need for dedicated officials or committees to oversee project implementation and provide the necessary environment for its application.
- **Legal Regulations**: E-management needs laws and legal amendments that support the legitimacy of the system and guarantee users' rights.
- **Cybersecurity**: Ensuring information security and protecting it from manipulation or theft through advanced security systems.
- **Comprehensive Marketing Plan**: Promoting the project through media channels and organizing seminars and conferences to raise awareness about the benefits of e-management.

3.6. **Obstacles and Challenges to Implementing E-Management in Algeria:** Despite Algeria's initial adoption of the e-management project due to

significant advancements in technology and information fields, the implementation of this system has not met expectations. Several obstacles have hindered the effective application of e-management (Harech& Youssef, 2021, p. 179):

- **Weak Internet Communication Channels**: The postal and telecommunications sectors struggle to provide customers with basic internet services, including necessary phones and equipment for online communication.
- **Incomplete Communication Infrastructure**: Algeria faces challenges related to delays in completing communication infrastructure, with varying completion rates across regions. Some areas make progress, while others lag due to geographic differences and population concentration.
- **Limited Internet Usage**: Algeria suffers from low internet penetration due to two main reasons: a lack of necessary infrastructure, such as cables and telephones, and cultural aspects, where many individuals find it challenging to adapt to technological changes and resist understanding how to use electronic devices.
- **Slow Decision-Making Process**: Transitioning from one system to another requires swift and decisive decisions. However, the prevailing bureaucracy in Algerian administration results in slow decision-making, impeding the transformation process.
- **Lack of Trust**: Many economic actors and citizens feel apprehensive about electronic transactions, particularly in financial operations, due to errors in electronic withdrawals and delays in funds reaching accounts, reflecting a lack of trust in electronic dealings.

In addition to the above challenges, there are common obstacles faced by e-management in Algeria that are shared with other administrations worldwide (Al-Rouh, 2007, pp. 55-54):

- **Lack of Skilled Human Resources**: Algeria faces a shortage of qualified personnel capable of handling modern technologies, necessitating increased efforts in training and qualification. This deficiency hampers the ability to implement e-management systems effectively and makes digital transformation more challenging.

- **Persistence of Traditional Procedures**: Despite the shift towards digitization, some existing models still rely on traditional, computer-based procedures without significant changes, making it difficult to fully transition to an e-management system.
- **Overlap of Responsibilities and Poor Coordination**: There is a clear issue of overlapping responsibilities among different entities, coupled with a lack of effective coordination. This overlap complicates processes and hinders the efficient implementation of e-management.
- **Absence of Transparency and Influence of Special Interest Groups**: The interests of private groups impact the implementation of e-management by obstructing transparency and compromising the integrity of operations, leading to delays or distortions in digital transformation processes.
- **Lack of Strong Incentives for Individuals**: Individuals lack strong motivation to contribute to the success of the transition to e-management, diminishing its effectiveness and making people feel excluded from this process.
- **Fear of Technology and a Closed-Door Culture**: A traditional culture that fears change and modern technology prevails, leading to resistance to the shift towards electronic systems and difficulties in adapting to their requirements.
- **Difficulty in Shifting from Manual Systems**: Some individuals struggle to abandon old manual systems and adapt to new electronic ones. This adherence to traditional methods slows the digital transformation process and undermines its effectiveness (Al-Baqi, 2004, p. 6).
- **Lack of Strict Security Systems and Regulations**: Algeria suffers from inadequate or poorly enforced security regulations, impacting the success of e-management and exposing digital data and operations to potential security risks.

4. CONCLUSION:

E-management is an advanced step towards improving the efficiency and effectiveness of institutions in Algeria, reflecting the significant transformations in the field of information and communication technology. Through the analysis of management and e-management concepts, it becomes

clear that e-management offers numerous advantages compared to traditional models, such as enhanced responsiveness, increased transparency, and reduced costs. It also contributes to providing better services to citizens and enhances the competitiveness of institutions.

In the first section of the study, the differences between traditional management and e-management were examined, focusing on the distinctive characteristics and functions of e-management. These characteristics include reliance on technology, improved service quality, and the speed of service delivery, leading to enhanced institutional performance and the provision of effective and sustainable services.

In the second section, strategies for the transition to e-management in Algeria were discussed, along with the challenges facing this transition and possible solutions to overcome them. Algeria is striving for a comprehensive digital transformation; however, there are several obstacles that affect the effective implementation of e-management, such as weak infrastructure, limited technical awareness, and slow decision-making processes. Despite these challenges, achieving digital transformation requires coordinated efforts that include improving infrastructure, training human resources, and developing necessary regulations to support effective implementation.

In conclusion, the importance of e-management emerges as a strategic tool for achieving sustainable development and improving institutional performance in Algeria. Relevant stakeholders must adopt clear and integrated strategies to address current challenges and enhance the benefits associated with digital transformation. Success in implementing e-management will enhance institutions' ability to achieve their objectives more efficiently and increase citizen satisfaction with the services provided. However, realizing this transformation requires addressing several challenges and implementing effective strategies. Based on the findings and challenges discussed, we present the following recommendations:

- ✓ **Government Investment in Updating and Enhancing Technical Infrastructure**: It is essential to ensure a conducive environment for effectively implementing e-management solutions. This includes improving digital networks, expanding internet access, and enhancing data security.

- ✓ **Training and Developing Human Resources**: There should be a focus on training employees and developing their skills in the fields of information technology and e-management. Providing specialized training courses and workshops will help improve employee efficiency and enable them to effectively use electronic systems.
- ✓ **Developing Legal and Regulatory Frameworks**: Transitioning to e-management requires establishing clear legal and regulatory frameworks to support technology use and enhance digital security. Laws and policies should be updated to keep pace with technological advancements and ensure the protection of personal data.
- ✓ **Enhancing Collaboration between the Public and Private Sectors**: Collaboration between the public and private sectors can accelerate the implementation of e-management. This includes partnerships with technology companies to provide appropriate solutions and share expertise and knowledge.
- ✓ **Increasing Awareness and Communication with Citizens**: It is important to raise awareness about the benefits of e-management and the significance of digital transformation. Organizing awareness campaigns and workshops for citizens will help enhance their acceptance and integration into new electronic systems.
- ✓ **Monitoring and Evaluating Performance**: An effective monitoring and evaluation system should be implemented to track the performance of electronic systems and ensure that the desired objectives are achieved. Evaluation results can be used to modify and improve the strategies and technologies employed.
- ✓ **Applying Technological Innovations**: Institutions should seek out and implement technological innovations that contribute to improving service quality and efficiency. This includes adopting artificial intelligence, big data, and the Internet of Things.
- ✓ **Streamlining Administrative Procedures**: Complex administrative procedures should be simplified and improved using technology to facilitate the digital transformation process and provide smoother and more effective services to citizens.

Implementing these recommendations will help enhance the effectiveness of e-management in Algeria and contribute to achieving

sustainable development goals. Success in this area requires a collective commitment from all stakeholders, including the government, the private sector, and civil society.

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