

**Mechanisms for applying electronic management and its role in
improving the quality of public service
- the health sector in Algeria as an example -**

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Abstract:

This study aims to shed light on the knowledge of the role of electronic management in improving services in public institutions and adapting the digital environment to the strategy adopted by public authorities and evaluating it within the electronic requirements for health services, enhancing them and activating the information system and the extent of its impact on the health service. The study concluded with a number of recommendations that It aims to value efforts, strengthen them with the necessary capabilities, reduce costs, and highlight shortcomings by activating mechanisms and creating a healthy digital foundation

Keywords: electronic administration; public service; health sector in Algeria.

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1. INTRODUCTION

The introduction must contain the basic elements that are systematically accepted in the formulation of the introduction, such as: the study problem - the study hypotheses - the study objectives - the importance of the subject - the methodology used in the study - previous studies - the terms of the study.

Public administration is widely regarded as the driving force behind a country's development as it is primarily focused on serving its citizens. The use of electronic administration applications has significantly improved public service by bringing it closer to the citizens, enhancing the performance of public facilities and their role in local development.

As a result, electronic administration has become a necessity for modernity and technological development. This has led authorities to think about streamlining public service by creating databases and digital platforms that can communicate with all state departments, thus avoiding the need for citizens to move from one administration to another. This facilitates the provision of required services in a shorter time frame.

The main problem that arises from this is understanding the impact of electronic management on improving the quality of services in public institutions and to what extent it contributes to their development.

Through the above, the following problem was raised

What is the impact of using electronic management to improve the quality of services in public hospital institutions in Algeria, and to what extent does it contribute to developing services there?

This problem can be broken down into sub-questions such as;
what electronic management means and its objectives,
what public service entails and its principles,
and what efforts are being made by the state to digitize public sectors in Algeria, particularly in the health sector.

-Study hypotheses:

Technological development contributed to the transformation of administration from traditional administration to electronic administration,

which led to improved performance in public institutions.

Access to quality services in public institutions is linked to the extent of their use of electronic management.

The digitization of the health sector in Algeria has led to the upgrading of hospital operations for patients.

-Objectives of the study:

This study aims to:

-Introducing electronic management and the role it plays in improving service in public institutions

-Explaining the importance and characteristics of electronic management in public facilities.

-A presentation of the various objectives and advantages of applying electronic management to improve the services of public institutions.

-Providing a model on the digitization of the health sector in Algeria to evaluate the Algerian experience in this field.

-Divisions of the study:

The study was divided into the following topics:

The first axis: literature on electronic management

The second axis: The conceptual framework of public service and the quality of health services

The third axis: The state's efforts to digitize the health sector in Algeria.

The first axis: literature on electronic management

.1 Definition of electronic management:

Various definitions and interpretations of electronic management have emerged as a result of different perspectives and studies on the topic. Recently, electronic management has become a widely used term, encompassing various aspects that we will explore in this context. According to the World Bank, electronic administration refers to the use of information and communication technology to enhance the government's efficiency, accountability, transparency, and service delivery to citizens and businesses. It also aims to provide citizens with information, eradicate corruption, and enable them to participate in all stages of the political

process and decisions that affect their daily lives.(Al-Hoshi, 2006) .

The European Union defines e-government as the use of information and communication technologies to enhance public service delivery.(word bank)”.

The following is a definition of electronic management in procedural terms: Electronic administration involves transforming traditional administration, which relies on paper-based processes and require individuals to visit the administration multiple times, into an administration that utilizes various media and communication channels. The aim is to provide high-quality services with minimal effort and time, with the ultimate goal of satisfying customers or citizens. (Al-Fikawi, 2002)

12-Objectives of electronic administration: (Moussaoui, January 2018)

The objectives of electronic management are numerous and include the following:

- Restructuring traditional institutions to improve administrative performance by saving time and reducing costs necessary to complete transactions in accordance with the development of the concept of electronic management.

- Enhancing the level of administrative services.

- Providing 24/7 continuous operation of the electronic services system.

- Developing management in general through the use of modern digital technologies like solutions and systems that will improve administrative work and raise the efficiency and productivity of employees, creating a new generation of cadres capable of dealing with these technologies.

- Decreasing obstacles to decision-making by providing and linking data.

2-2Reasons for switching to electronic management: (Al-Wadi and Bilal, 2011)

The transition from traditional management to electronic management

was driven by several reasons and motivations, which can be summarized as follows:

- The increasing trend towards utilizing technological advancements and relying on information to make informed decisions.
- The intensifying competition between institutions, and the need for every institution to have mechanisms for achieving excellence in order to compete effectively.
- The necessity of establishing continuous communication between employees throughout the scope of work.
- The need to adapt to the requirements of the surrounding environment and respond to them accordingly.
- The importance of managing time as a major resource, and utilizing all available energies effectively. (et al., 2013)

Improving educational and living standards, as well as increasing the population, can lead to a rise in citizens' awareness .However, many government institutions still use old and traditional work methods, which can lead to complexity and difficulty in carrying out work. Additionally, bureaucracy is often adopted as a work style in government departments, which results in many procedures that must be passed to complete transactions .

Transforming these institutions is not an easy process, as it requires methods and techniques that take a great deal of time in preparation and planning. Despite the challenges, it is important for these institutions to adapt to the changing times and improve their work methods to better serve citizens 3-2.Mechanisms for implementing electronic management: (Hamza, 2020)

There are many mechanisms that must be available to achieve effective electronic management that leads to achieving its goals permanently and continuously.

A-2 Technical mechanisms:

The three essential elements of an organization's electronic administration system are computer hardware, software, and

communication networks.

Computer hardware refers to the physical components and accessories of the computer system. It is crucial for organizations to keep up with the latest hardware advancements to save on maintenance costs and development costs, and to ensure that the hardware is compatible with the software and information systems they use (Ammouna, 2009).

Software systems are needed for management purposes, but organizations must also update and develop them regularly to keep up with advancements in the field and to ensure that they align with the services provided by the organization (Qureshi, 2011).

Communication networks are the most crucial element from a technical perspective, as they enable electronic communication between computers and facilitate information exchange between users. A group of computers is connected and organized through communication lines, which allows users to transfer and exchange information. Without communication networks, electronic administration is not possible.

B- Administrative and human mechanisms: They are:

- Administrative mechanisms: It requires the availability of a set of elements, the most important of which are:

- Developing strategies and establishment plans

- Leadership and administrative support (top management must support the implementation of information technology

- Organizational structure (requires changes in structural and organizational aspects

- Educating and training employees

- Establishing legislative frameworks and updating them according to developments.

- Human mechanisms:

The human resource is considered one of the most important resources that can have an effective impact in achieving success in implementing electronic management. Here we mean experts, specialists, workers in the

field of knowledge and technology, and employees of the relevant departments.

-3Electronic management functions:

Electronic administration performs a number of basic and important functions in administrative reform and a radical change in traditional management methods. These functions include the following:

1-3Electronic planning:

It differs from traditional planning in three features: (Al-Qudwa, 2010)

It represents a dynamic process towards broad, flexible, short-term goals that are subject to continuous renewal and development.

-A continuous process thanks to ever-flowing digitization.

-It goes beyond the traditional idea of dividing work between management and implementation work, as all employees can contribute to electronic planning at all times and places.

2-3Electronic regulation: (Najm, 2010)

The components of the organization have undergone a transition from the traditional model to the electronic model in a form known as matrix organization, which is based on small units and companies without an organizational structure.

3-3Electronic oversight: (Al-Qadir, 2016)

This system enables real-time monitoring within an organization or company's internal network. It reduces the time gap between discovering and correcting deviations. It is a renewable process that primarily detects deviations through the flow of information and networking between managers.

4 -3Electronic leadership is divided into three types: (Ghalib, 2005)

A - Practical technical leadership: This type of leadership focuses on the use of internet technology and relies on informatics, speed, and quality. It is known for instilling a sense of confidence in the electronic leader, characterized by quick and decisive actions in conducting business.

B - Soft human leadership: Refers to leaders who possess a human touch and are capable of attracting and linking the workforce to the administration. It also strengthens the connection between the administration's services and products with the target group.

C - Self-leadership: This type of leadership focuses on a set of characteristics that define the leader within online business management. Self-leadership is characterized by the ability to motivate oneself and remain focused on accomplishing tasks.

•The second axis: public service

Public service is a term used to describe services that can only be provided within a collective framework and cannot be exploited for personal gain. These services are made available to everyone equally and in accordance with the law. It is mandatory to use these services in order to ensure their proper utilization.

2 -The reality of the Algerian experience in digitizing the health sector:

The health sector occupies great importance, especially with the increase in epidemics and diseases around the world, as Algeria has resorted to adopting a digital approach to face current challenges and using technology at the level of health services and care.

2-1 Components of electronic management in order to achieve quality health services in Algeria: (Nasri, 2020)

1Digital health technology refers to all the basic technological mechanisms and equipment, such as computers, internet networks and everything related to information and communications technology that is related to the health sector .

Electronic operations at the health department level include electronic efforts that aim to redesign health administrative work using modern technical tools .

The Health e-strategy involves developing and building the health e-vision, by determining the health institution's priorities and capabilities in order to develop future plans that contribute to the development of health services .

Improving the performance of health services is made possible through an advanced technical and information base. This is achieved through a network of information systems for electronic management in the health sector. (Muhammad, 2019)

Electronic leadership for health institutions represents the competencies and skills required for innovation, knowledge creation, and finding the necessary solutions at the right time (el jadi, 2019).

2-2The state's efforts to digitize the health sector in Algeria:

It can be said that the health situation in Algeria is constantly improving compared to previous years, as Algeria, according to a statistical report from one of the British statistical institutes, ranked 72nd out of 110 regarding spending on health, which is considered low compared to approved international standards. (GNU, 2021)

Regarding the case of Algeria, we find that the average life expectancy is constantly increasing, as it was estimated in 1990 at 66 years, reaching 69 years in 2000 and 2008 by two years, which indicates a noticeable improvement in the health situation in Algeria compared to the year 2008, where it reached 71 years, reaching 74 in 2009. (Tawfiq, 2021)

On the other hand, child mortality rates witnessed a continuous decline, as the mortality rate of children under five per 1,000 births in 1990 reached 64 children, then decreased in 2000 to 48 children, then to 28 children in 2009. This indicates the improvement of the health sector, especially in recent years.

As for general government spending in the health sector, it is increasing significantly, especially between the years 2000 and 2007, as the percentage of government spending in 2000 was estimated at 9%, rising in 2007 to 10.7 over the last 7 years. (www.who.int/whostat/2011/ar/index.html)

2-3 The state's efforts to digitize the health sector in Algeria:

- Launching a digital health platform that connects patients with doctors:
- A group of Algerian talents launched a digital health platform directed to doctors and citizens to join in order to ensure an easier health care experience under the name “Docta”. This idea comes within the framework of the need for digital solutions that keep pace with reality and improve the health care experience in the country and provide high-quality services. .
- This platform aims to organize medical appointments and manage patients’ medical information and files on one platform, in addition to improving the doctor’s relationship with the patient by facilitating communication with the latter. In addition, this platform enables easy communication between the patient and the therapist and taking care of patients in a short time. (Ayad, 2020)
- Launching 6 digital projects as a comprehensive strategy to digitize the sector, which are: (Bouزيد, December 21, 2020)
- The digital hospital project: which is considered a digital platform that includes a database that contains the patient’s electronic medical file and includes various practices, diagnoses, treatment and analysis procedures. It also contains all the data of the active partners in the field of health, including public and private medical practitioners, through which the exchange Data and information electronically.
- A project to digitize contractual relations: with social security bodies: This is done by activating the recovery card through coordination between the Social Security Authority and the Health Administration through a digital space dedicated to this contractual relationship.
- A project to integrate biometric identification card information into the patient’s electronic medical file, which facilitates the hospitalization process and also allows the patient to view his accurate health information.
- A project to digitize the central administration and link it to health institutions, which ensures the rapid process and quality of the health sector and increases the uploading of files related to medical activities and linking them to the central health network database.

- A project to digitize health structures' activity plans: This allows the material and human aspects of health structures to be evaluated accurately and as quickly as possible, which will increase the effectiveness of health structures.
- The electronic pharmacy project: which includes a database of consumed medicines and accurate knowledge of hospitals' needs in order to be able to rationalize expenses and know the real consumption in terms of quantity and quality.

This is what liberates the national pharmaceutical complexes and creates competitiveness that benefits the producer and the consumer.

Most of these projects are part of the Electronic Algeria Project for the year 2013. (Bakadi, 2023)

Conclusion:

- The various efforts made by the state to digitize the health sector and public institutions through the use of information and communication technology confirm its keenness and serious endeavors to promote and develop public services in general and health services in particular, by giving absolute priority to this field through the development of digital databases for patients and databases that are considered As a link between the patient and the doctor
- The digitization process in Algeria still suffers from many shortcomings, including:
 - Weak planning and implementation of public policies.
 - Low effectiveness of administrative systems, which leads to difficulty in implementing electronic management,
 - Lack of accountability and weak political will to activate oversight mechanisms.

The study concluded with a number of results and recommendations, including:

A- Results

Modern technologies have forced various sectors, especially the health sector, to adapt their services to digitization so that they can provide

high-quality services.

- The quality of health services is linked to the extent of application of electronic management and optimal use of information systems.

- The health sector represents one of the vital and sensitive sectors that affects the country's development path.

- The efforts made by the Ministry of Health in the recent times, especially after the Corona pandemic, highlight the importance of digitization in the health sector.

Recommendations

- The necessity of developing a security system capable of confronting any cyber attack, whether it targets the patient or the sector in general.

- Organizing laws to protect patient privacy, especially with the availability of digital applications, especially those that use personal information without the consent of individuals, which may expose them to danger.

- Strengthening hospital institutions with various modern devices to keep pace with technological developments.

- Allocating sufficient financial funds to establish digital floors and develop information systems

- Intensifying scientific seminars and conferences that value the digitization of public administration.

- Improving human performance through developing training programs

- Paying attention to the motivational aspect (encouraging those working in the field of administration and preparing them to shift towards electronic management by monitoring good incentive systems.

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