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MECHANISMS FOR APPLYING ARTIFICIAL INTELLIGENCE IN PUBLIC ADMINISTRATION

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Abstract:
This study aims to identify the mechanisms that public administration can rely on in its endeavor to digitize public institutions and apply artificial intelligence, and move from traditional administration to smart administration to support transparency and raise the efficiency and quality of services provided to citizens. We pointed out the necessity of providing digital infrastructure, linking public institutions to communication networks, and training employees in this field. Despite the emergence of some challenges, such as weak digitization, limited database in some departments, and lack of specialized competencies, the Algerian state is determined to harness all its capabilities to implement this. The strategy, whatever the cost, is what we are witnessing explicitly in the great digital transformation that has become a visible reality in various public administrations with the launch of official websites, electronic portals, and smart applications through which they meet the needs of citizens.
Keywords: Digitization, artificial intelligence, public administration, digitization of administration..

Introduction:

The digitization strategy is part of the digital transformation project that Algeria is looking to strengthen across various government sectors. This reflects the strong political will of the country's highest authority to achieve it, which is comprehensive digital transformation in Algeria (Ben mouloud, 2026).

The implementation of artificial intelligence in the Algerian administration goes through a set of effective practical mechanisms, the first of which is providing the appropriate digital infrastructure,

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such as digitizing public administration and spreading its use among employees who need to be trained in this field. In this way, the administration can aim to achieve positive and effective results by improving the quality of its services, speeding up the pace of administrative decision-making to achieve development, and reducing bureaucracy.

This was practically realized with the creation of the High Authority for Digitalization under the supervision of the Presidency of the Republic, according to Presidential Decree No. 23-314,(presidential decree, N23-314) which defined its internal structure and organizational working mechanisms. It was given a central role enabling it to lead the national digital transformation comprehensively and across all sectors, unifying efforts to reflect the state's political will to make digitalization a strategic driver of economic and social development and a key tool for modernizing public administration and building a sustainable digital economy.(Supreme Prefecture for Digitization 2026).

This has started to become clear through the launch of several digital platforms that help meet citizens' needs remotely, reinforcing the digitization of administration, applying artificial intelligence in public administration, and implementing the President's strategy to generalize the digitization of administration. In this context, we will try through this discussion to address the main mechanisms that can be relied upon to apply artificial intelligence in public administration to improve the quality of services provided by public facilities to citizens. From here, we raise the following question: How can artificial intelligence be applied in public institutions?

To answer this issue, we divided our research into three main sections. In the first section, we addressed the concept and importance of artificial intelligence. In the second section, we covered the implementation of artificial intelligence in public administration. In the last section, we discussed the main challenges and requirements for applying artificial intelligence in public administration. In this study, we relied on the descriptive analytical method.

1- The concept and importance of artificial intelligence

Today, the world is witnessing a major technological revolution and boom that has contributed greatly to the emergence of artificial intelligence and its uses have expanded greatly. Therefore, it was necessary for the Algerian state to move towards devoting the uses of artificial intelligence in its administrations to keep pace with current developments, by bringing the administration closer to the citizen using artificial intelligence, so that the citizen can access artificial intelligence applications and platforms and request his services from them wherever he is and at any time, and from here we will learn in this topic the concept of artificial intelligence and its importance.

1.1- concept of artificial intelligence

The emergence of the term artificial intelligence is among the modern terms, but it is witnessing a terrible development and acceleration in its applications and uses in the private sector, and therefore it was necessary for the public administration to keep pace with this rapid development and work with it in its public facilities, administrations and institutions to satisfy citizens so that there is not a large gap between the public and private sectors.

The emergence of artificial intelligence, according to some experts and researchers, dates back to the 1950s, when mathematicians wondered about the ability of the computer to what extent it could acquire the ability to think and simulate human behaviors, and after the popularization of the Internet. With its spread, artificial intelligence has become a reality in various areas of life (Dubi, 2025, p475).

Researcher John McCarty is considered one of the first researchers to use the term artificial intelligence. This researcher gave a lecture in 1956 that included for the first time the phrase "artificial intelligence," analyzing its goals and the vision for this field. He defined it as: "A field of computers that aims to create systems capable of accomplishing work that essentially requires human intelligence." Through this definition, it is inferred that the term artificial intelligence refers to the processes of using complex logarithms capable of processing a huge amount of information to simulate and imitate human behavior. With the development of this field, researchers have been able to direct artificial intelligence to

learn and continuously improve independently without referring to humans, based on new inputs of information (Dubi, 2025, p475).

The OECD also defines artificial intelligence as: an automated system that deduces, based on explicit or implicit objectives, and through data and inputs, how to generate results and outputs, such as predictions, content, recommendations, or decisions that may affect physical or virtual environments. Artificial intelligence systems are characterized by varying degrees of independence and adaptability.

However, the organization's definition of artificial intelligence in 2018 gave humanity a greater status and reduced the independence of artificial intelligence, as it defined it as: ‘‘Artificial intelligence is an automated system designed by humans to achieve a set of goals, and provides predictions, recommendations, and makes decisions that allow influencing real or virtual environments. Artificial intelligence systems are designed to operate with varying levels of independence. In addition, intelligence is machines that perform cognitive functions similar to humans."(Dubi, 2025, p475).

Finally, we can define artificial intelligence as a scientific field, a new technology, a set of systems and sets of logarithms, a set of activities, a set of tools: the main goal is to simulate human behavior in a specific field at a specific time and in a specific place. This is the same thing that applies to public administration, given that it practices a studied activity that is accomplished at a specific time and in a specific place and is based primarily on complex knowledge and is translated into activities, services, decisions, plans, predictions, and innovations It can be improved by resorting to artificial intelligence.

1.2- The importance of artificial intelligence in public administration

Public service and the public service are among the most important areas of public administration activity. It seeks to provide public services to citizens, by exploiting all competencies and planning in order to achieve this goal. Perhaps the development we are witnessing today in the field of technology has made the government adopt some electronic systems in order to maintain a certain level of service provision and keep pace with the current technological development. This is what led to the emergence of electronic administration Adopting artificial intelligence in public administration

management, due to its great importance in achieving effectiveness and facilitating the quality of services for citizens (Khabal, 2022, p15).

The importance of artificial intelligence in improving performance through data analysis is also evident, which leads to making improved decisions and achieving gains in efficiency and effectiveness. It allows public administration to rely on the data that has been collected and processed in order to make the correct, correct and most rational decisions Administrative activity is based primarily on the concept of administrative decision-making, and therefore the path of its adoption must be improved in order to lead to achieving a positive result represented by achieving gains in efficiency and rational use of resources, while at the same time achieving the greatest possible number of objectives (Dubi, 2025, p476).

The importance of artificial intelligence also lies in the fact that it allows the generation and processing of large amounts of data at a lower cost while creating greater value for public administrations. This will inevitably lead to reducing the commission of errors in decisions and contracts, and preventing cases of corruption and fraud. The process of data processing and analysis allows for monitoring risks and in various fields such as security, fraud detection, errors and monitoring the use of these technologies also contributes to the development of the smart city by processing the huge amount of data in various fields.(Dubi, 2025, p477).

The importance of artificial intelligence in public administration enables it to create general value for society by creating new innovative services and contributes to selling new public policies. It also allows for understanding the needs of citizens and social needs. In light of this, the proposed public services will be more appropriate and more credible, which supports the legitimacy of public administration. This will improve the decision-making processes and their sequence, by increasing the available information, analyzing it, proposing predictive scenarios, and automating them.

Artificial intelligence also provides new technical tools that contribute to maximizing citizens' interaction with public administration services, which leads to continuous improvement and the provision of more customized public services according to citizen

categories. Continuous interaction strengthens citizens' participation, provides them with monitoring and follow-up tools, and leads to enhancing trust between public administration and citizens.

Smart services and modern activities related to supporting sustainable development provided by artificial intelligence result in several benefits, including the success of the smart city management strategy in all fields, especially by improving energy and water management, managing human flows, and rationalizing the use of natural resources (Dubi, 2025, P477).

2- Application of artificial intelligence in public administration

The question arises for many researchers and officials about how to devote, apply and embody artificial intelligence within public institutions and how they can benefit from this technology. Accordingly, through this topic, we will try to clarify the most important mechanisms and techniques used to apply artificial intelligence in public administration, as we will address the digitization of administrative services and the uses of chatbots, and then we will discuss the automation of administrative services and supporting transparency .

2.1- Digitizing administrative services and using chatbots.

Smart administration depends on converting paper transactions into electronic services based on artificial intelligence, such as extracting administrative documents electronically and processing citizens' requests automatically, as artificial intelligence applications and platforms allow performing several tasks in a short period of time, such as doing, for example:

2.1.1- Extract administrative documents electronically

The official portals affiliated with the Ministry of Interior and Justice allow the electronic extraction of many administrative documents such as birth certificates, marriage contracts, death certificates, and criminal records, without the need to travel to municipal headquarters or courts, as the process is carried out through dedicated digital portals that save effort and time.

2.1.2- Automatically processing citizens' requests

It is the process of converting administrative transactions and procedures into integrated digital services through government electronic platforms. These systems allow citizens to submit

applications, follow their path step by step, and receive documents or responses electronically without the need for physical travel to departments.

2.1.3- Reducing waiting time in departments

Among the problems that the public administration suffers from are waiting lines, whether represented by the number of units, cars, customers, machines, etc., regular in the form of a queue to wait for a specific service during a specific period, in public institutions, whether banks, hospitals, government institutions. (Amara, 2025, P64).

Therefore, most administrations are now moving towards devoting electronic waiting systems and smart applications to improving traditional waiting lines.

Possible examples, or rather examples, that the administration has been able to make at the service of citizens include, for example, platforms:

• Digital civil status.
• Electronic platforms for taxes and customs.
• Managing social security files electronically

The public administration can also rely on and use virtual assistants to answer citizens' inquiries 24/7, such as:

• Directing citizens to the required documents.
• Follow up on administrative files. remotely.
• Providing information about government services.

This relieves pressure on employees and improves the citizen experience.

In addition, intelligent analysis of government data can also be carried out, as artificial intelligence enables management to:

• Analysis of big data on population and economy.
• Predicting crises and problems.
• Improve planning and decision making.

2.2- Automating administrative services supports transparency

Artificial intelligence is considered a promising tool that simplifies the relationship between citizens and the administration, making this relationship more interactive and proactive. The administration can be evaluated based on the quality and speed of its response to the needs and demands of citizens. To reinforce this effectiveness in practice,

the state has moved towards automating administrative services. By adopting artificial intelligence, the state can also reinforce the principle of supporting transparency.

2.2.1- Automating administrative services

Automation refers to carrying out routine tasks automatically, like archiving documents, organizing files, processing administrative mail, and generating management reports. Basically, it means turning manual tasks into ones that happen automatically using electronic systems, reducing the need for human intervention by digitizing and simplifying procedures. Chatbots are one of the most common applications, as they make it easier for people to get instant answers about documents and administrative processes, which helps improve efficiency and keep services running smoothly (Taoula, 2025, P188).

The Algerian administration has seen a significant leap in this field, having launched many official apps and websites that meet citizens' needs without having to go to public offices. For example, the National Security website launched an official site to report lost official documents without going to police stations. Similarly, the Ministry of Finance launched an official site to declare and pay taxes remotely. The same goes for the Ministry of Justice, where you can now get a criminal record without going to court—just follow the procedures and provide the sites with personal information, and they analyze it and provide users with the required documents in a short amount of time. Recently, the Ministry of Agriculture launched an official site to buy Eid sacrifices, where you can access the site and fill in the necessary information.

Implementing management automation and using artificial intelligence in it has definitely improved the quality of the relationship between the administration and citizens. This, in turn, has freed staff from routine tasks and enabled smart systems to provide accurate and fast services. This shift reflects the state's commitment to transparency and strengthens the smart government model built on innovation and proactivity(Taoula, 2025, P188).

2.2.2- Support transparency

The administration aims, by adopting and implementing artificial intelligence in running public services, to reduce human errors and improve the efficiency and quality of services provided to citizens, as

well as to speed up administrative performance. Using AI to analyze financial data will inevitably help detect suspicious transactions and financial irregularities, and monitor public contracts, which will definitely strengthen financial oversight and transparency.

The application of artificial intelligence in public administration has also helped enhance transparency and accountability within the government. Citizens can now track procedures and interact with them, which reduces opportunities for corruption and boosts trust in institutions. Here, we can point to Estonia's experience, where the government used AI-supported digital platforms that allowed citizens to know which employees were responsible for each request and the expected time for completion. Similarly, Algeria is following the path of developed countries in applying artificial intelligence, as its official website for purchasing sacrificial animals enables citizens to track their orders until the delivery of their animals. We appreciate this method and call for its implementation across various ministries and sectors, as this mechanism helps reduce administrative bias and increase transparency levels (Taoula, 2025, P192).

3-Challenges and Requirements of Applying Artificial Intelligence in Public Administration

One of the challenges facing public administration in implementing artificial intelligence is the difficulty of providing data, as this data is the backbone of artificial intelligence. The more available this data is about a particular environment, the more AI can offer suitable solutions to improve public administration activities. It's not enough for data to be available; it must also be of high quality, free from noise, consistent, and conflict-free, allowing AI to come up with accurate and reliable proposals and decisions. In this regard, we will try to understand the challenges of applying artificial intelligence in public administration, as well as the requirements for successfully implementing AI in public administration.

3.1-Challenges of applying artificial intelligence in public administration

Despite the importance of artificial intelligence and its role in making it easier to provide services to citizens, it still faces several challenges, which are as follows:

3.1.1-Weak digitalization in some departments and limited databases

Artificial intelligence can't really make an impact in public administration if the basic digital infrastructure isn't in place. This includes things like communication networks, secure databases, and the accounting systems needed to process and store data. AI also relies on sharing data between different units of public administrations across various ministries, so that the suggested solutions and correct decisions can be made by connecting different pieces of information. But this isn't in place in some public administrations. Weak coordination between ministries, agencies, and relevant institutions when exchanging information inevitably weakens and disperses the effectiveness of digital public policies and prevents having a unified vision for planning and implementation.

3.1.2-Lack of specialized competencies

The human element is the foundation on which any successful digital transformation is built, because even the most advanced smart systems won't have a real impact unless there are human skills available to understand and develop the technology. Employees are often not trained in AI, which makes organizations rely entirely on private companies to carry out tech projects, and this weakens their digital independence.

3.1.3- Resistance to administrative change

Resistance to change within public institutions is a big obstacle to integrating artificial intelligence, and this refusal sometimes shows up as employees being hesitant to use new systems or preferring the traditional methods they're used to.

3.1.4- The risks of cyber attacks

One of the challenges facing the application of artificial intelligence is how to protect the data used, especially if it is sensitive. Many departments struggle with the possibility of cyber breaches, leaks, or illegal use.

3.1.5- The high cost of infrastructure

The widespread digitalization across various public administrations is a big challenge that the state actually faces. It has to provide computers and high-quality scanners, connect the administrations to communication networks, and boost internet speed

to the highest level, so the administration can apply artificial intelligence without any issues. This is going to cost the public treasury a lot of money.

3.2-Conditions for the success of applying artificial intelligence in public administration

The success of smart management requires developing digital infrastructure, providing an accurate national database, and training employees in the digital field to manage this data and how it operates. There also needs to be a legislative framework for artificial intelligence, along with a unit responsible for protecting personal data and cybersecurity. In addition, supporting scientific research and innovation is essential. Algeria has already started supporting this direction by creating specialized institutions like the National School of Artificial Intelligence and developing dedicated data centers for AI applications.

Among the technological requirements that the administration must use to apply artificial intelligence is having, for example, digital infrastructure. As mentioned earlier, this infrastructure needs basic equipment like computers, which must be advanced enough to meet AI requirements. Also, the clients—here meaning citizens or end users interacting with the digital system—must have devices with specifications that ensure a minimum level of efficiency, meaning smartphones and advanced computers.

Conclusion

From what we've discussed, we can conclude that Algeria is moving forward with its strategy to digitize its administrations and implement artificial intelligence in public institutions. We see a strong response from some public administrations, which are now using AI by launching multiple websites, digital platforms, portals, and smart applications that meet citizens' needs remotely. Today, the administration has a real opportunity to update its services and shift from traditional administration to smart administration, achieving speed, transparency, and better public services. To make this digital transformation official, this strategy must be national and comprehensive, combining technology, training, and legislation. AI has proven today, with its analytical and predictive capabilities, to be an effective tool that meets citizens' needs and aspirations while also

achieving organizational efficiency and agility, Finally, some of the conclusions reached can be summarized as follows:

- Enacting legislation that regulates the use of artificial intelligence in public administrations, taking into account privacy and transparency, and clearly defining responsibilities.
- Training human resources by educating employees to improve the quality of the services they provide, as well as training them on how to use artificial intelligence.
- Increasing investments in digital infrastructure for artificial intelligence across the country in general, and in public administrations in particular.
- Providing the necessary groundwork and conditions to successfully implement a national AI strategy in public administrations.
- Changing mindsets among employees in public administrations and the need for them to adopt AI technology as a necessary inevitability created by current technological changes, not as a choice.
- Encouraging partnerships with the private sector to transfer knowledge without compromising digital sovereignty.
- Establishing AI units within ministries to oversee the development and adoption of smart solutions, which report directly to the administrative leadership.

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