

The Role of Artificial Intelligence in Improving the Performance of Local Communities and Enhancing Transparency in Algeria: Reality and Prospects

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Abstract:

Local communities in Algeria embody the systems of administrative decentralization and deconcentration, in accordance with Article 18 of the 2020 constitutional amendment. Moreover, elected local councils, pursuant to Article 19 thereof, constitute the basis of decentralization and the space for citizens' participation in the management of public affairs. In order to ensure their regular and continuous functioning, and to provide the best service to users, Algeria has sought to modernize them through the use of information technology, particularly by resorting to artificial intelligence tools, such as relying on algorithms and software in the fields of financial and administrative management, such as employees' salaries, budget preparation, management of civil status services, biometric documents, vehicle registration, public procurement, and others. Thus, this research paper raises the following problem: To what extent can artificial intelligence contribute to improving the performance of local communities and enhancing transparency in Algeria?

We attempted to answer this problem by adopting an analytical approach, based on three axes: the first relates to the role of artificial intelligence in improving the performance of local communities in Algeria, the second concerns the role of artificial intelligence in enhancing the transparency of local communities' performance, and the third addresses the challenges and prospects of using artificial intelligence in managing and administering local communities in Algeria. In conclusion, we arrive at valuing certain achievements and proposing some recommendations to improve the quality of local communities' performance in light of the endless development of artificial intelligence tools and the requirements of enhancing transparency.

Keywords: local communities, artificial intelligence, quality of public service, enhancing transparency.

Abstract:

Local municipalities in Algeria embody the systems of administrative decentralization and non-centralisation, in accordance with Article 18 of the 2020 constitutional amendment. Furthermore, in accordance with Article 19 of the same amendment, elected local councils are the basis of decentralisation and citizen participation in the management of public affairs.

In order to ensure their smooth in a regular and steady manner and to provide the best service to those who deal with them, Algeria has sought to modernize them through the use of information technology, in particular the use of artificial intelligence tools, such as algorithms and software in the areas of financial and administrative management, such as user fees, budget preparation, civil status and electoral office management, biometric documents vehicle registration, public procurement,...etc.

This research paper therefore raises the question: to what extent can artificial intelligence contribute to improving the performance of local authorities and enhancing transparency in Algeria?

We attempted to answer this question by following an analytical approach based on three axes: the first relates to the role of artificial intelligence in improving the performance of local communities in Algeria, the second to the role of artificial intelligence in enhancing the transparency of local communities' performance, and the third to the challenges and prospects of using artificial intelligence in the management and administration of local communities in Algeria. The third axis concerns the challenges and prospects of using artificial intelligence in the management and administration of local communities in Algeria. In conclusion, we assess some of the achievements and propose some recommendations to improve the quality of local community performance in light of the endless development of artificial intelligence tools and the requirements for enhancing transparency.

Keywords: local communities, artificial intelligence, quality of public service, enhancing transparency.

Introduction:

Local communities, embodied in the municipality and the wilaya, constitute the basis of administrative organization in Algeria and the link between the citizen and the central authority. The legislator has entrusted them, within the framework of the two organic laws regulating them—Law 11-10 as amended and supplemented, and Law 12-07—with a set of powers in the fields of urban planning, local development, investment, public health, housing, education, maintenance of public order, protection of heritage and preservation of archives, civil status, reducing isolation of citizens, tourism, sports, leisure, social protection, etc. This requires precision in budget preparation according to set objectives, prioritization, and transparency in transactions, in order to improve the performance of local communities.

In this context, the world has witnessed, since the end of the last century, a digital revolution through the adoption of information and communication technologies aimed at ensuring broader, higher-quality, safer, and more transparent services, within the framework of smart city policies based on improving quality of life, rational, fair, and sustainable use of resources, interactive city management, and effective citizen participation in decision-making. Algeria entered this field in 2000 by adopting the e-administration program, as an international commitment imposed by the United Nations e-government program as an indicator of good governance. Since 2023, it has also adopted the national digital transformation strategy with the vision “Digital Algeria 2030,” which the High Commission for Digitization began

designing and monitoring its implementation in September 2023, as a step towards applying smart city policies.

Artificial intelligence (AI) plays a central role in this framework by exploiting and using available data through digitization, analyzing and processing it to solve existing problems, predict potential future problems, and assist in decision-making (preventive and curative). Accordingly, this research paper raises the following issue: To what extent can artificial intelligence contribute to improving the performance of local communities and enhancing transparency in Algeria?

This issue is addressed through an analytical approach based on three main axes: the first concerns the role of artificial intelligence in improving the performance of local communities in Algeria, the second relates to the role of artificial intelligence in enhancing transparency at the level of local communities, and the third addresses the challenges and prospects of using artificial intelligence at the level of local communities.

I. The Role of Artificial Intelligence in Improving the Performance of Local Communities:

The Algerian legislator, pursuant to Law 11-10 relating to the municipality (2011) and Law 12-07 relating to the wilaya (2012), assigned to the municipality and the wilaya, as local communities, a set of tasks and powers, some of which are general (Articles 103–124 for the municipality and 73–101 for the wilaya council), and others related to the President of the Municipal People’s Assembly (Articles 77–95, in his capacity as representative of the state and the wilaya) and the wali (Articles 102–123, also as representative of the wilaya and the state). These powers cover all aspects of life, including urban planning, health and hygiene, public security, housing, education, mosques and cemeteries, roads, tourism, culture, sports, cultural heritage, archives, social protection, investment, and development, among others. In order to fulfill these duties, the municipality develops its plans and prepares its budget in a way that ensures the implementation of these plans according to its resources.

Given the central role played by these two local communities in public life, they have received the attention of the legislator within the digital administration program (Hanan, 2021), aimed at governing the management of local communities. The municipality is among the first public facilities to be affected by modernization policies, starting with defining the technical specifications of the birth certificate extract required for issuing the national identity card and passport, pursuant to the decision dated 9 Dhu al-Qa’dah 1431 corresponding to 17 October 2010¹, followed by the decision dated 22 Jumada al-Thaniyah 1432 corresponding to 25 May 2011 relating to the application file for the national identity card and passport, then the two decisions dated 1 Safar 1433 corresponding to 26 December 2011 relating respectively to the technical specifications of the biometric electronic passport and determining the date of its introduction². Citizens can now request these documents and track their applications online through the following websites:

(<https://passeport.interieur.gov.dz>),

<https://demande12s.interieur.gov.dz/Ar/default.aspx>,

<https://passeport.interieur.gov.dz/Ar/DemandeCNIBE>

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This was followed in 2014 by the digitization of civil status documents (birth certificate, death certificate, and marriage contract) and the establishment of the automated national civil status register, pursuant to Articles 6/3 and 25 bis to 25 bis 5 of Law 14-08 amending and supplementing Ordinance 70-20 relating to civil status³. These documents can now be obtained and used following the issuance of Law 15-04 dated 11 Rabi' al-Thani 1436 corresponding to 1 February 2015, defining the general rules relating to electronic signature and certification,⁴ and Executive Decree 15-315 dated 28 Safar 1437 corresponding to 10 December 2015 relating to the issuance of civil status document copies electronically⁵. One of the results of digitizing civil status documents is the exemption of citizens from submitting civil status documents recorded in the automated national register to administrations, public authorities, and local communities connected to the register⁶, thereby reducing the burden on citizens and combating bureaucracy.

Furthermore, Law 17-05 dated 19 Jumada al-Ula 1438 corresponding to 16 February 2017 introduced the points-based driving license system, including the adoption of the biometric⁷ driving license, whose application can be tracked via:

<https://passeport.interieur.gov.dz/Ar/SuiviPCBEP>

It is also possible to apply electronically for a certificate of eligibility for a driving license for residents abroad who obtained a driving license in Algeria through the link:

<https://capacitepc.interieur.gov.dz/HOME>

The concerned wilaya examines the application.⁸

The volume of services provided remotely by local communities has increased to include 18 fields, as indicated on the official website of the Ministry of Interior, Local Authorities, and Transport. The website includes 7 main windows, 4 informational and 3 service-related (online services, civil status, and remote counter), through which citizens can submit their applications, as shown in the following table:

Figure (1): Table showing services provided online, prepared by the researcher based on data from the website of the Ministry of Interior, Local Authorities, and Transport (www.interieur.gov.dz/index.php/ar).

Sector	Service Provided	Paper-Based	Electronic
Urban Planning and Construction	14 certificates and permits	Files are submitted at the municipality headquarters	Municipality, via the link: https://prestations.interieur.gov.dz/guichet/
Housing	Public rental housing	District/Administrative district committee	District/Administrative district committee via the link: https://prestations.interieur.gov.dz/guichet/
	Rural housing	Municipality	Municipality via the link: https://prestations.interieur.gov.dz/guichet/

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Sector	Service Provided	Paper-Based	Electronic
	Construction within a social subdivision	Municipality / District or Administrative district committee	https://prestations.interieur.gov.dz/guichet/
	Subsidized promotional housing	District/Administrative district committee	District/Administrative district committee via the link: https://prestations.interieur.gov.dz/guichet/
Territorial Planning	Request for accreditation to open a study office	Secretariat of the committee in charge of technical study and opinion, Municipality of Algiers-Center	At the wilaya level, except Algiers (administrative district), via the link: https://prestations.interieur.gov.dz/guichet/
Civil Status	Request for a copy of the family record book	Municipality	Municipality via the link: https://prestations.interieur.gov.dz/guichet/
	Request for correction of civil status data	Municipality	Municipality via the link: https://prestations.interieur.gov.dz/guichet/
	Request to schedule a marriage contract appointment	Municipality	Municipality via the link: https://prestations.interieur.gov.dz/guichet/
	Appointment request for a mixed marriage permit	Directorate of Regulation and General Affairs / Wilaya	Directorate of Regulation and General Affairs / Wilaya via the link: https://prestations.interieur.gov.dz/guichet/
Movement of Persons and Property	Renewal of the national identity card	Municipality	Via the link: https://prestations.interieur.gov.dz/guichet/
	Extension of visa or residence for foreign nationals	Directorate of Regulation and General Affairs of the Wilaya	Directorate of Regulation and General Affairs of the Wilaya via the link: https://prestations.interieur.gov.dz/guichet/

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Sector	Service Provided	Paper-Based	Electronic
Associative and Political Life	10 requests, including: Municipal associations	Municipality	Municipality via the link: https://prestations.interieur.gov.dz/guichet
	National, wilaya, and inter-wilaya associations	Wilaya	Wilaya via the link: https://prestations.interieur.gov.dz/guichet
	Organization of a public meeting / public demonstration	Wilaya of Algiers	Wilaya of Algiers via the link: https://prestations.interieur.gov.dz/guichet
Solidarity Operations	Request for Ramadan solidarity grant	Municipality	Municipality via the link: https://prestations.interieur.gov.dz/solidariteramdhan
Burial and Transfer of Bodies	Request for exhumation and reburial	Municipality	Municipality via the link: https://prestations.interieur.gov.dz/guichet/
Sensitive Equipment	07 requests including: accreditation and renewal for sensitive activities; acquisition and use of sensitive equipment	Directorate of Regulation and General Affairs of the Wilaya	Wilaya via the link: https://prestations.interieur.gov.dz/guichet
	Acquisition of sensitive equipment from abroad	Directorate of Regulation and General Affairs of the Wilaya	Ministry of Interior and Local Authorities via the link: https://prestations.interieur.gov.dz/guichet/
Weapons and Ammunition	License to acquire weapons and ammunition and its renewal; possession license	Directorate of Regulation and General Affairs of the Wilaya	Wilaya via the link: https://prestations.interieur.gov.dz/guichet

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Sector	Service Provided	Paper-Based	Electronic
	Authorization to professionally import and market explosive materials; temporary import/export for sports shooting federation	Ministry of Interior and Local Authorities	Ministry via the link: https://prestations.interieur.gov.dz/guichet
Guarding and Transport of Funds and Sensitive Materials	Authorization to practice activities, transport funds, and renew licenses	Directorate of Regulation and General Affairs of the Wilaya	Ministry via the link: https://prestations.interieur.gov.dz/guichet
Organization of Fundraising	Authorization request for fundraising in mosques within one wilaya	Municipality	Wilaya via the link: https://prestations.interieur.gov.dz/guichet
Manufacture of Vehicle Plates	Accreditation request for manufacturing number plates	Directorate of Regulation and General Affairs of the Wilaya	Wilaya via the link: https://prestations.interieur.gov.dz/guichet
	License to install number plates	Municipality	Municipality via the link: https://prestations.interieur.gov.dz/guichet
National Flag Production	Authorization request to manufacture the national flag	Directorate of Regulation and General Affairs of the Wilaya	Wilaya via the link: https://prestations.interieur.gov.dz/guichet
Stamps and Seals Manufacturing	Authorization request to manufacture stamps and seals	Directorate of Regulation and General Affairs of the Wilaya	Wilaya via the link: https://prestations.interieur.gov.dz/guichet
Public Writer Profession	License request to the profession	Directorate of Regulation and General Affairs of the Wilaya	Wilaya (except Algiers administrative district) via the link: https://prestations.interieur.gov.dz/guichet

Sector	Service Provided	Paper-Based	Electronic
Leisure and Entertainment Establishments	License to operate leisure establishments	Directorate of Regulation and General Affairs of the Wilaya	Wilaya (except Algiers administrative district) via the link: https://prestations.interieur.gov.dz/guichet
Beverage Sales	License to operate and transport beverages	Directorate of Regulation and General Affairs of the Wilaya	Wilaya (except Algiers administrative district) via the link: https://prestations.interieur.gov.dz/guichet

By analyzing this table, the following can be observed:

- The multiplicity of online service access portals, numbering three, with some services repeated across more than one portal, which may create confusion for citizens regarding which portal to use. Therefore, it would be preferable if the Ministry of Interior and Local Authorities adopted a single service portal (a remote one-stop shop).
- The Ministry of Interior, Local Authorities, and Transport webpage is not updated in some of its sections, as it still يحمل the former name of the ministry, and the latest updates date back to 2015, 2016, or 2021. This makes some portals inconsistent with recent legal amendments.⁹
- The use of the remote service system is somewhat complex, as it first requires identifying the authority to which the request should be submitted, i.e., returning to the “My Procedures” portal or specific portals, which in practice leads to time loss and contradicts the requirements of digital transformation. Therefore, it would be preferable to create a single list of online services in the form of a dropdown menu, allowing redirection, via the same platform and using artificial intelligence techniques, to the competent authority.
- The website only rarely allows tracking the progress of requests, which limits its effectiveness.
- It is observed that for the same service, there is sometimes the possibility of paper submission but not digital submission before the same authority, such that the submission authority differs between paper and digital formats, which contradicts the principle of transparency and respect for jurisdictional rules.
- Although the services currently available online cover these fields, most of which are vital for both citizens and local authorities due to their connection to daily life—thus making procedures simpler and time-saving, and facilitating the monitoring role of local authorities over activities within their territory and the preparation of statistics for forecasting needs and ways to meet them—it is noted that the website lacks statistics related to the number of online services provided in order to evaluate the performance of local authorities (number of services delivered, response time rate, number of accepted cases, number of rejected cases). These indicators would activate the role of local authorities in performing their functions.

- There are also many services provided by local authorities, either independently or in partnership with other institutions, for which no digital space has been allocated, such as drinking water supply, wastewater, waste management, epidemic control, basic education, archiving, preservation of cultural heritage, roads, etc., which reduces the volume of services provided and the associated data.
- The official pages on social media for most municipalities are informational rather than service-oriented, creating a gap in data specific to each municipality or wilaya.¹⁰

II. The Role of Artificial Intelligence in Enhancing Transparency and Combating Corruption:

Administrative transparency is one of the strongest pillars of administrative development, as it contributes to combating corruption in all its forms. Referring to the municipal and wilaya laws, they contain several indicators of transparency, including the possibility for citizens to attend meetings of elected municipal and wilaya assemblies, except in specific cases, the mandatory posting of meeting agendas, extracts of deliberations, regulatory decisions of the municipal president, and the possibility of obtaining copies of deliberations. However, these services remain confined to paper-based bureaucracy, as they have not yet been activated online, such as holding deliberations remotely open to the public except in the cases stipulated in Article 26 of the municipal law and the corresponding article of the wilaya law, or publishing deliberation reports on official pages of local authorities, although some municipalities contain such icons, they are not activated.

These modern technologies support the transparency of local authorities, reinforce the concept of public oversight by enabling citizens to track and evaluate the performance of local projects and services through performance indicators (KPIs) measured and updated automatically using artificial intelligence systems (data-based accountability). They also support participatory democracy by allowing stakeholders—citizens, civil society, experts, etc.—to submit complaints and proposals, upon which AI tools can build new insights and more effective solutions.

In terms of transparency in public procurement, the legislator has established this principle as one of the three governing principles (transparency of procedures, access to public procurement, and equality among bidders), given its link to public funds. This is ensured through mandatory publication and information dissemination at various stages of contract awarding, in accordance with Law 23-12 governing public procurement (2023), which repealed Presidential Decree 15-247, while its regulatory texts remain in force until new ones are issued. In this context, the legislator established an electronic public procurement portal in 2013, which publishes documents and information such as calls for tenders, registration of contracting authorities and economic operators, updates, and submission of bids via the portal. However, although the portal contains the required data, the electronic submission mechanism has not yet been activated despite more than 12 years since its creation, possibly due to technical or legal constraints, which weakens its role in combating corruption and enhancing transparency.

At the local level, although local authority pages contain sections dedicated to public procurement, they are not activated. It would be preferable at least to include basic information similar to the Ministry's page.¹¹

The role of artificial intelligence in public procurement lies in strengthening transparency through objective processing of bids using machine learning algorithms that detect abnormal patterns indicating corruption or manipulation, such as inflated project invoices or fraud. AI can also propose improved tender formulations and assist in selecting bidders, especially in restricted tenders.

III. Challenges and Prospects:

The journey of local authorities with artificial intelligence in Algeria is still at an early stage, as the state seeks to digitize various sectors under the "Digital Algeria 2030" strategy. Digitization is the foundation upon which AI tools rely. However, several challenges exist:

- weakness of digital infrastructure of local authorities due to limited budgets and unequal internet access between urban and remote areas.¹²
- Lack of interoperability and data standardization due to fragmented databases.
- Complexity of access procedures to digital services.
- Low digital awareness and lack of trained personnel.
- Citizens' concerns about digital transactions despite legal protections (Law 18-07 on personal data protection).
- Absence of a legal framework for AI responsibility and ethics.
- The digitalization across all sectors.

Despite these challenges, Algeria's commitment to digital transformation opens promising prospects:

- Using civil status digitization as a database for AI analysis of population trends.
- Deploying chatbots for instant responses to citizens.
- Using AI and Big Data for resource management and infrastructure planning.
- Predictive maintenance using sensors.
- Optimizing transportation and waste management.
- Environmental monitoring and early warnings.
- Smart dashboards for decision-making.
- Digitization of cultural heritage.
- KPI-based transparency.
- AI-based electronic surveillance systems.

Conclusion:

The integration of artificial intelligence into the work of local authorities in Algeria represents a strategic transformation affecting all aspects of administration. It is key to achieving sustainable development, social justice, and transparent governance.

AI adoption is no longer optional but necessary to address contemporary challenges. It enhances efficiency, transparency, and trust between citizens and administration, paving the way for smart cities and prosperous local communities.

However, digitization faces challenges such as weak infrastructure, lack of training, limited awareness, and inadequate legal frameworks. These can be addressed through:

- Expanding fiber optic networks
- Creating unified data platforms
- Training local authority staff
- Generalizing AI use
- Activating e-procurement portals
- Establishing AI regulations
- التعاون with universities
- Creating ethical AI committees
- Implementing smart city pilot projects

¹ Decision dated 9 Dhu al-Qa'dah 1431 corresponding to 17 October 2010, specifying the technical specifications of the birth certificate extract required for the issuance of the national identity card and passport, Official Gazette No. 69, issued on 14 November 2010. Amended and supplemented by the Decision dated 16 Dhu al-Qa'dah 1443 corresponding to 16 June 2022, Official Gazette No. 56, issued on 31 August 2022.

Decision dated 22 Jumada al-Thaniyah 1432 corresponding to 25 May 2011, relating to the application file for the national identity card and passport, Official Gazette No. 31, issued on 5 June 2011.

² The two Decisions dated 1 Safar 1433 corresponding to 26 December 2011, relating respectively to determining the technical specifications of the electronic biometric passport and determining the date of its introduction into circulation, Official Gazette No. 01, issued on 14 January 2012.

Law No. 14-03 dated 24 Rabi' al-Thani 1435 corresponding to 24 February 2014, relating to travel documents, Official Gazette No. 16, issued on 23 March 2014

³ Ordinance No. 70-20 dated 13 Dhu al-Hijjah 1389 corresponding to 19 February 1970, relating to civil status, Official Gazette No. 21, issued on 27 February 1970, as amended and supplemented by Law No. 14-08 dated 13 Shawwal 1435 corresponding to 9 August 2014, Official Gazette No. 49, issued on 20 August 2014

⁴ Law No. 15-04 dated 11 Rabi' al-Thani 1436 corresponding to 1 February 2015, defining the general rules relating to electronic signature and electronic certification, Official Gazette No. 06, issued on 10 February 2015.

⁵ Executive Decree No. 15-315 dated 28 Safar 1437 corresponding to 10 December 2015, relating to the issuance of civil status document copies electronically, Official Gazette No. 68, issued on 27 December 2015. The technical specifications of these documents were determined by the Decision dated 19 Safar 1443 corresponding to 26 September 2021, Official Gazette No. 79, issued on 17 October 2021.

⁶ Executive Decree No. 15-204 dated 11 Shawwal 1436 corresponding to 27 July 2015, concerning the exemption of citizens from submitting civil status documents available in the national automated civil status register, Official Gazette No. 41, issued on 29 July 2015.

⁷ Provisions of Article 02 of Law No. 17-05 dated 19 Jumada al-Ula 1438 corresponding to 16 February 2017, Official Gazette No. 12, issued on 22 February 2017.

⁸ Lookt at • <https://www.interieur.gov.dz/index.php/fr/guichet-distant-fr/fabrication-des-plaques-dimmatriculation/30-le-citoyen-et-l-administration/permis-de-conduire.html>

<https://capacitepc.interieur.gov.dz/HOME>

⁹ AS the two gates attached to civil status • <https://www.interieur.gov.dz/index.php/ar#>

• <https://etatcivil.interieur.gov.dz/>

• <https://passeport.interieur.gov.dz/Ar/DemandeCNIBE>

¹⁰ Look at the municipal civil status of hussein dey • <http://apc-husseindey.dz/ar-DZ>

¹¹ Look at <https://apc-elmadania.dz/>

• https://www.communesdalgerie.com/demarches_p.php

¹² Organisation for Economic Co-operation and Development. (2020). *AI in public procurement: Governing with Artificial Intelligence*. Paris: OECD Publishing.