E-GOVERNANCE IN THE PUBLIC SECTOR IN ALGERIA: CHALLENGES AND PROGRESS

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ABSTRACT

This paper investigates the e-government landscape in Algeria, analyzing its progress, challenges, and readiness. Algeria's digital transformation journey is marked by advancements in infrastructure, digital literacy, and online services, alongside persistent issues like the digital divide and the need for data security enhancement. The study also delves into Algeria's global ranking in the e-government domain, shedding light on its international standing.

Furthermore, the paper explores the profound impact of e-government on enhancing the quality and accessibility of public services, making them more responsive to citizens' needs and expectations. The conclusion highlights Algeria's promising path toward comprehensive egovernment. With continued efforts in infrastructure development, addressing digital disparities, and reinforcing data security, Algeria is well-positioned to create a more efficient and citizencentric governance model. This paper provides valuable insights into the challenges and opportunities that define Algeria's evolving e-government landscape.

Key words: e-government, Online Services,ICT

INTRODUCTION
In today's era of swift technology progress, the notion of e-governance has become an essential and transformative factor in the worldwide realm of public administration.   E-governance is a method that combines electronic technology with governance principles. It aims to use
Information and Communication Technologies (ICT) to fundamentally change how governments operate, improve the quality of public services, and enhance

transparency and accountability in the public sector.   As countries around the world strive to adapt to the changing landscape of the digital era, the importance and visibility of e-governance have reached unprecedented levels. This has led to significant transformations in how governments engage with their citizens and tackle the intricate issues of the 21st century.

Problem Statement:

Assessing the state of e-government implementation in Algeria entails investigating both the current realities and the essential prerequisites for successful adoption. This study aims to evaluate the government's level of readiness in terms of electronic governance and its progress in this domain, while also identifying the challenges that must be addressed. It seeks to provide a comprehensive understanding of the evolving landscape of e-government in Algeria, shedding light on both the advancements made and the obstacles that need to be overcome to achieve a more efficient and responsive government system.

1.1 Importance of E-Governance in the Modern World

The importance of e-governance in the contemporary day cannot be exaggerated. E-government is now closely associated with effectiveness, ease of access, and governance that prioritizes the needs of citizens.   This concept emphasizes the necessity for governments to adjust to the changing demands and expectations of its citizens by utilizing digital tools and making decisions based on data analysis. E-governance facilitates governments in delivering services with greater efficiency, alleviating administrative costs, and involving citizens in a more participatory and inclusive manner.

Furthermore, e-governance is a fundamental aspect of effective governance, which is a term firmly integrated into the United Nations' Sustainable Development Goals (SDGs).   Sustainable Development Goal 16 highlights the need of fostering peaceful, fair, and inclusive societies through the improvement of institutional accountability, transparency, and responsiveness. These objectives are closely tied to the adoption of e-governance initiatives.

1.2 Relevance of E-Governance in Algeria

Algeria, a crucial country in North Africa, occupies a unique position due to its extensive geographical area and socio-economic importance. Algeria faces a complex challenge of providing efficient and fair public services to its citizens, given its population of over 43 million people and diverse topography ranging from the captivating Mediterranean coastline to the vast Sahara desert terrain. Algeria's exceptional geographical and demographic characteristics pose a set of special issues in the realm of public administration.   The country's vast land area, characterized by divisions between urban and rural areas, requires a governance model that can overcome geographical differences while guaranteeing inclusivity and availability of government services for all inhabitants.   Furthermore, the

cultural and linguistic variety in Algeria emphasizes the significance of customizing e-governance projects to cater to the distinct requirements and preferences of its diverse demographic groupings.

Algeria is a key nation in the Middle East and North Africa (MENA) area, facing similar issues as its neighboring countries.   The difficulties encompass the necessity to update public administration, promote economic expansion, strengthen government transparency, and guarantee efficient service delivery. Algeria has recognized the significant potential of egovernance in addressing common difficulties and has actively started utilizing Information and Communication Technologies (ICT) to achieve this.

The Algerian government has taken an active approach in coordinating and supporting egovernance efforts, recognizing the important role played by digital technologies.   The ANPT has become a pivotal entity in guiding the country's digital revolution.   The mandate of ANPT includes both facilitating ICT projects and promoting the sensible and effective use of ICT within the public sector. This coordination mechanism aims to synchronize endeavors, align goals, and maximize resource distribution among different government entities.

The e-governance trajectory in Algeria surpasses basic modernisation and encompasses a strategic strategy focused on improving service delivery, empowering individuals through digital platforms, and stimulating economic development.   These endeavors are in line with worldwide patterns that highlight the significance of utilizing digital technologies to enhance government processes, increase transparency, and promote citizen engagement.

Academic research highlights the importance of e-governance as a driver for socioeconomic progress and enhanced governance.   Research has shown that implementing efficient egovernance can result in improved government productivity, decreased administrative expenses, and enhanced citizen contentment (Heeks, 2003[1]; Moon, 2002[2]).   In addition, e-governance has been associated with enhanced government accountability and openness (UNDP, 2019). These findings align with Algeria's goals to modernize its public sector and improve the quality of services provided to its diverse population.

2. Literature Review

2.1 Concept and Evolution of E-Governance

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[1] Heeks, R. (2003). Most e-Government-for-Development Projects Fail: How Can Risks Be Reduced?

iGovernment Working Paper Series, 17. Retrieved from https://www.ejeg.com/art/volume1/issue2/p156

[2] Heeks, R. (2001). Reinventing Government in the Information Age: International Practice in IT-Enabled Public

Sector Reform. Routledge.

E-governance signifies a major transformation in the manner in which governments interact with individuals and manage public services.   E-governance, also known as electronic governance, refers to the utilization of Information and Communication Technologies (ICT) to revolutionize conventional government procedures, improve the provision of services, and promote openness and accountability (UNDESA, 2008).   The transition from traditional governance to egovernance is a fundamental change in which digital tools and platforms are pivotal in reshaping the interaction between the government and its citizens (Heeks, 2001).

The development of e-governance can be observed through different phases, starting with the primary emphasis on automating and computerizing government operations (e-government) and progressing towards the more comprehensive integration of ICT for public involvement, collaborative decision-making, and participatory governance (e-democracy and e-participation) (Bertot et al., 2010)[3]. This progression demonstrates a broadening range, transitioning from basic internet services to comprehensive and citizen-oriented initiatives that prioritize diversity and interaction.

2.2 Global Trends and Best Practices in E-Governance

Across the globe, several noteworthy trends and best practices in e-governance have emerged:

I.   Digital Transformation: Governments are increasingly embracing digital transformation to modernize their operations and make them more citizen-centric. This entails the integration of emerging technologies like artificial intelligence (AI), blockchain, and big data analytics into governance processes (UN E-Government Survey, 2020[4]).

II.   Open Data: The release of government data in open and accessible formats is a trend that fosters transparency, innovation, and accountability. Open data initiatives empower citizens, businesses, and researchers to utilize government data for various purposes (Davies, 2010)[5].

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[3] Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. Government Information Quarterly, 27(3), 264271

[4] UN E-Government Survey. (2020). Digital Government in the Decade of Action for Sustainable Development. Retrieved from https://publicadministration.un.org/egovkb/en-us/Reports/un-e-government-survey-2020

[5] Davies, T. (2010). Open Data, Democracy and Public Sector Reform: A Look at Open Government Data Use

from Data.gov.uk. SSRN Electronic Journal.

III.   Mobile Governance (m-Government): The proliferation of smartphones and mobile apps has given rise to mobile governance, allowing citizens to access government services and information on the go. This trend enhances accessibility and inclusivity (UN EGovernment Survey, 2020).

IV.   Data Security and Privacy: With the increased digitization of government services and data, ensuring robust data security and privacy protection is paramount. This involves the development of stringent cybersecurity measures and data protection regulations (UN EGovernment Survey, 2020).

2.3 E-Governance in the Arab and African Contexts

E-governance has witnessed significant expansion in both the Arab and African areas, as governments increasingly acknowledge its transformative capacity in tackling a wide range of difficulties. Although there is a scarcity of research specifically focused on e-governance in Algeria, important knowledge can be obtained from more comprehensive regional studies and experiences.

A. **Arab context**

The Arab area has had significant progress in implementing e-governance, fueled by governments' increasing dedication to use information and communication technology (ICT) to enhance governance and service provision. The United Nations Economic and Social Commission for Western Asia (ESCWA) has played a crucial role in advocating for and assisting e-governance efforts in Arab governments. ESCWA's endeavors emphasize the importance of formulating all-encompassing policies that include both infrastructure development and capacity enhancement (ESCWA, 2020).

Statistical data indicates the advancements achieved in the Arab world in terms of digital transformation and e-governance. According to the United Nations E-Government Development Index (EGDI) in 2020, numerous Arab nations have made notable progress in their e-governance activities. Higher EGDI scores indicate greater preparation and implementation of e-governance. The region's dedication to using digital technology for enhanced governance is exemplified by these developments (UN E-Government).

B. **African context**

The implementation of e-governance in Africa has shown significant variation among countries, with several states emerging as pioneers in this transformative process. The "e-Government Development Index Report" by the African Union provides useful insights into the advancements and obstacles of e-governance in Africa. The report provides extensive statistical data and rankings, offering insights into the varied levels of e-

governance preparation and implementation in African countries (African Union[6], 2019).

Statistics from the African Union's study demonstrate that nations like Mauritius, Seychelles, and South Africa have achieved higher EGDI scores, indicating a more advanced level of e-governance preparedness and implementation.   These nations have effectively utilized information and communication technology (ICT) to increase the provision of public services, promote transparency, and include citizens in government procedures.   The achievements mentioned highlight the capacity of e-governance to facilitate beneficial transformation in Africa.
Although there may be a scarcity of dedicated research on Algeria's e-governance advancements, the experiences of surrounding Arab and African countries can be used as significant reference points and sources of motivation.   Algeria, located at the intersection of these regions, can utilize these lessons to enhance and improve its own egovernance initiatives.

3. E-Governance Initiatives in Algeria

3.1 History and Development of E-Governance in Algeria
The inception of e-governance in Algeria can be traced back to the late 20th century, when the government initiated efforts to modernize its public sector and leverage information and communication technology (ICT) to enhance the well-being of its population.   Throughout the years, this path has had notable achievements and advancements.

During the early 2000s, Algeria acknowledged the promise of e-governance and commenced endeavors to digitalize and rationalize government procedures.   The National Agency for the Promotion and Rationalization of the Use of ICT (ANPT), founded in 2001, has become a central figure in organizing and promoting ICT projects, including e-governance initiatives.   The mandate of ANPT encompasses both the facilitation of ICT projects and the promotion of rational and effective ICT utilization within the public sector (ANPT, n.d.).

In Algeria, the progress of e-governance has involved the step-by-step implementation of digital services, the establishment of e-infrastructure, and a rise in citizen participation.   The administration has focused its efforts on improving the delivery of public services, promoting transparency, and streamlining

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[6] African Union. (2019). African Union e-Government Development Index Report. Retrieved from
https://au.int/en/documents/38305/download/au-egdi-2019?lang=en

administrative processes, hence facilitating citizens' interactions with government entities.

3.2 Key Government Agencies and Organizations

In Algeria, e-governance is facilitated through a network of government departments and organizations, each with important responsibilities in the advancement and execution of egovernance initiatives. Notable agencies and organizations include:

A. The National Agency for the Promotion and Rationalization of the Use of Information and Communication Technology (ANPT): The ANPT serves as the primary organization responsible for coordinating ICT projects. It plays a crucial role in driving egovernance efforts, supervising the development of e-infrastructure, and encouraging the efficient use of ICT in the public sector (ANPT, n.d.).
B. The Ministry of Post, Telecommunications, Technology, and Digitalization is in charge of formulating ICT policies, regulations, and strategies to enable the incorporation of digital technology into government operations and services.

C. The Ministry of the Interior, Local Authorities, and Regional Planning is responsible for executing e-governance initiatives at the local level. The objective is to improve the efficiency and transparency of local government activities.
D. Ministry of Finance: Responsible for financial management and revenue collection, the Ministry of Finance has been instrumental in the development of online payment systems and the digitalization of financial processes within government.

3.2 Key Government Agencies and Organizations

Algeria has implemented numerous e-governance projects and services that have revolutionized the government's interaction with its citizens. These endeavors encompass:
I. Algeria's e-governance plan include a variety of e-services that provide residents and businesses with convenient online access to government services. These services include the issuance of birth and marriage certificates, renewal of driver's licenses, and registration of businesses.

II.   The implementation of biometric identity cards, improves security
       measures and streamlines online interactions with government
       services.   This project has optimized the process of confirming
       one's identification for different types of transactions.

III.   Secure online payment systems have streamlined financial
       transactions, allowing citizens to conveniently pay for government
       services and fees.(el dahabya card…etc)

IV.   The digitalization of public administration has been accelerated by
       e-governance projects, which encompass electronic document
       management, e-procurement systems, and automated public service
       delivery processes.

V.   Participatory Platforms: The government has adopted the utilization
       of digital platforms to involve citizens in the process of creating
       policies and seeking public input, promoting participatory
       governance.

The combined effect of these e-governance projects has been to improve
efficiency, openness, and accessibility in the delivery of public services,
thereby reinforcing the connection between the government and its citizens.

4. International Indices

I.   **The Information and Communication Technology Development Index (ICT Development Index, IDI) by ITU:**

The IDI is the primary index. From 2009 to 2017, ITU published the
Information and
Communication Technology Development Index (IDI), a composite index
designed to
assess and compare the state of ICT development within and between
countries. The aim was to track changes in ICT development over time.
Since then, the IDI was published every year until 2017 when a new
methodology was proposed for IDI 2018. However, according to ITU,
several countries encountered difficulties in collecting data for the
calculation of the new IDI, and as a result, the publication of rankings for
the following years was canceled. It should be noted that a project for a
new index is currently under study.

Table 01: ICT Development Index in Algeria from 2010 to 2017

years	2010	2012	2013	2015	2016	2017	2018 α2019
ranking	114	114	114	113	106	102	
score	2.99	3.30	3.42	3.71	4.32	4.67	Non published

Source https://www.mpt.gov.dz/indices-internationaux/

A) **Sub indicators: Access to ICT IN ALGERIA**

Table 02: Access to ICT IN ALGERIA from 2010 to 2017

years	2010	2012	2013	2015	2016	2017	2018 α2019
ranking	110	107	107	110	102	98	Non published
SCORE	3.64	4.22	4.46	4.27	4.83	5.14	

Source https://www.mpt.gov.dz/indices-internationaux/

B) **Sub indicators: Use of ICT IN ALGERIA**

Table 03: Use of ICT IN ALGERIA in Algeria from 2010 to 2017

years	2010	2012	2013	2015	2016	2017	2018 α2019
ranking	119	130	131	122	110	108	Non published
SCORE	0.55	0.67	0.73	1.52	2.92	3.38	

Source https://www.mpt.gov.dz/indices-internationaux/

C) **Sub-indicators: ICT Skills IN ALGERIA**
Table 04: ICT Skills IN ALGERIA in Algeria from 2010 to 2017

years	2010	2012	2013	2015	2016	2017	2018 α2019

ranking	103	98	98	93	87	80	Non published
SCORE	6.56	6.72	6.72	6.98	6.10	6.29	

Source https://www.mpt.gov.dz/indices-internationaux/

In terms of rankings, Algeria has been able to gain a number of positions in the IDI ranking from one year to another, with a continuous improvement in the index score. Indeed, the IDI measures the level of development of telecommunications in countries, and our country, Algeria, has spared no effort in recent years to improve and modernize ICT infrastructure and services to meet the growing demands of the population and various economic sectors. This has resulted in an improvement in its IDI score. Nevertheless, further efforts are still needed in the ICT sector.

II. Internet speed test Global Index ranking

Created for businesses and organizations seeking a better understanding of network speed and quality, Speedtest Intelligence provides the necessary data to monitor network performance for ISPs and mobile operators. Governments and regulatory bodies also rely on Speedtest Intelligence as an official source for recording the state of global markets. The tool is smart enough to differentiate the type of internet being measured: Fixed Broadband Internet or Mobile Broadband Internet

Table 05: internet Speed test Global Index ranking in Algeria

Classement Speedtest Global Index	Septembre 2022		Octobre 2022		November 2022		December 2022	
	Classement	Score Mbps	Classement	Score Mbps	Classement	Score Mbps	Classement	Score Mbps
Mobile internet connection speed	120	11,02	123	11,14	122	10,77	119	10,94
Fixed internet connection speed	143	11,14	145	10,91	147	11,00	147	10,83

Source https://www.mpt.gov.dz/indices-internationaux/

In the Speedtest Global Index rankings for Algeria in September through December 2022, the country's performance in mobile internet connection speed

and fixed internet connection speed exhibited variations. For mobile internet connection speed, Algeria was ranked at 120 in September with a score of 11.02 Mbps, slightly improving to 119 in December with a score of 10.94 Mbps. As for fixed internet connection speed, Algeria was ranked at 143 in September with a score of 11.14 Mbps, and while it saw fluctuations in rankings in subsequent months, it remained relatively consistent, being ranked at 147 in both November and December with scores of 11.00 Mbps and 10.83 Mbps, respectively. These rankings and speeds reflect the country's performance in mobile and fixed internet connections during the specified months

Table 06: SDG Index (Sustainable Development Goals)

Years	2016	2017	2018	2019	2020	2021	2022
Ranking	83/149	64/157	68/156	53/162	56/166	66/165	64/163

Source https://www.mpt.gov.dz/indices-internationaux/

Table 07: Indicators regarding the components of the SDG index(TIC)

Indicators	Index 2018	Index 2019	Index 2020	Index 2021	Index 2022
Population using the Internet (%)	42,9	47,7	49,0	59,58	62,9
Mobile broadband subscriptions (per 100 inhabitants)	65,7	78,4	81,7	95,98	89,8
Adults (15+) with an account at a bank or other financial institution or with a mobile money service provider (%)	42,8	42.8 (participation of Algérie Poste in financial services)	42,8	42,8	42,8

Source https://www.mpt.gov.dz/indices-internationaux/

From 2018 to 2022, Algeria has seen notable changes in key indicators related to digital connectivity and financial inclusion. The percentage of the population using the internet has steadily increased, with 62.9% accessing the internet in 2022, reflecting a growing trend in internet adoption. Mobile broadband subscriptions, which reached 95.98 per 100 inhabitants in 2021, underline the significance of mobile connectivity.

While internet access and mobile broadband usage have shown positive trends, financial inclusion has remained relatively stable, with 42.8% of adults having accounts at banks or other financial institutions or using mobile money services

throughout these years. This suggests a consistent level of financial access and stability in the financial services landscape.

These indicators highlight Algeria's progress in digital connectivity and the importance of mobile broadband, while financial inclusion has maintained its stability over the years. Efforts to further enhance these aspects can contribute to a more comprehensive and inclusive digital ecosystem.

III. <u>Electronic government development index:</u>

A survey on the electronic administration of the United Nations, conducted every two years, with the objective of assessing the development of digital government in the 193 member states of the United Nations by identifying their strengths, challenges, and opportunities.

Since its establishment in 2001 by the United Nations Department of Economic and Social Affairs, the survey has become an essential tool for ranking, mapping, and measuring development for digital ministers, decision-makers, and analysts engaged in comparative analysis and contemporary research on electronic administration.

The E-Government Development Index (EGDI), which assesses the development of electronic administration at the national level, is a composite index based on the weighted average of three standardized sub-indices:

➢ One-third is derived from the Telecommunication Infrastructure Index (IIT) sub-index based on data provided by the International Telecommunication Union (ITU).

➢ One-third of the Human Capital Index (HCI) sub-index is based on data primarily provided by the United Nations Educational, Scientific, and Cultural Organization (UNESCO).

➢ And one-third of the Online Service Index (OSI) sub-index is based on data collected from an independent online service questionnaire.

1.The E-Government Development Index (EGDI): Mathematically, the EGDI Index is the weighted average of normalized scores on the three most important dimensions of egovernment, namely: (Zhenmin, 2020, p. 231)

A. The scope and quality of online services are quantified as the Online Service Index: It assesses the maturity of a country's e-government websites, including its national website and related portals, and related websites from departments such as education, labor, social services, health, economy, and the environment. (Kabbar, 2021, p. 23) B. The status of the development of telecommunication infrastructure, or the Telecommunication Infrastructure

Index (TII), assigns a ranking to a country's telecommunications infrastructure based on five factors: Internet customers, fixed telephone lines, smartphone subscribers, fixed Internet subscriptions, and fixed broadband services. (Kabbar, 2021, pp. 23-24)

C. Inherent human capital, or the Human Capital Index (HCI): This index is an indicator of the literacy of the population and their ability to use it. The literate population is considered able to use ICT tools. (Nabil & Abdelhakim, 2014, p. 1). HCI is calculated using four components: adult literacy rate, expected years of schooling in the country, the mean years of schooling, and the gross enrolment ratio of the citizens. (Siddiqui & Mehmood, 2021, p. 14). Each of these indices is a composite measure that can be extracted and analyzed   independently

The EGDI indicator is calculated according to the following equation:

$$(EGDI) = (0.34 \times \text{online Service Index (OSI)}) + (0.33 \times \text{Telecommunication Infrastructure Index (TII)}) + (0.33 \times \text{Human Capital Index (HCI)})$$

The EGDI index is utilized to assess the preparedness and competencies of governmental entities at the national level in utilizing communication and information technologies for the provision of public services.   The assessment is conducted by evaluating the existence of the Internet in different nations, analyzing local websites, and assessing the implementation of e-government policies and plans in certain service sectors.

Table 08 The development of the EGDI index for Algeria during the period (2010-2022)
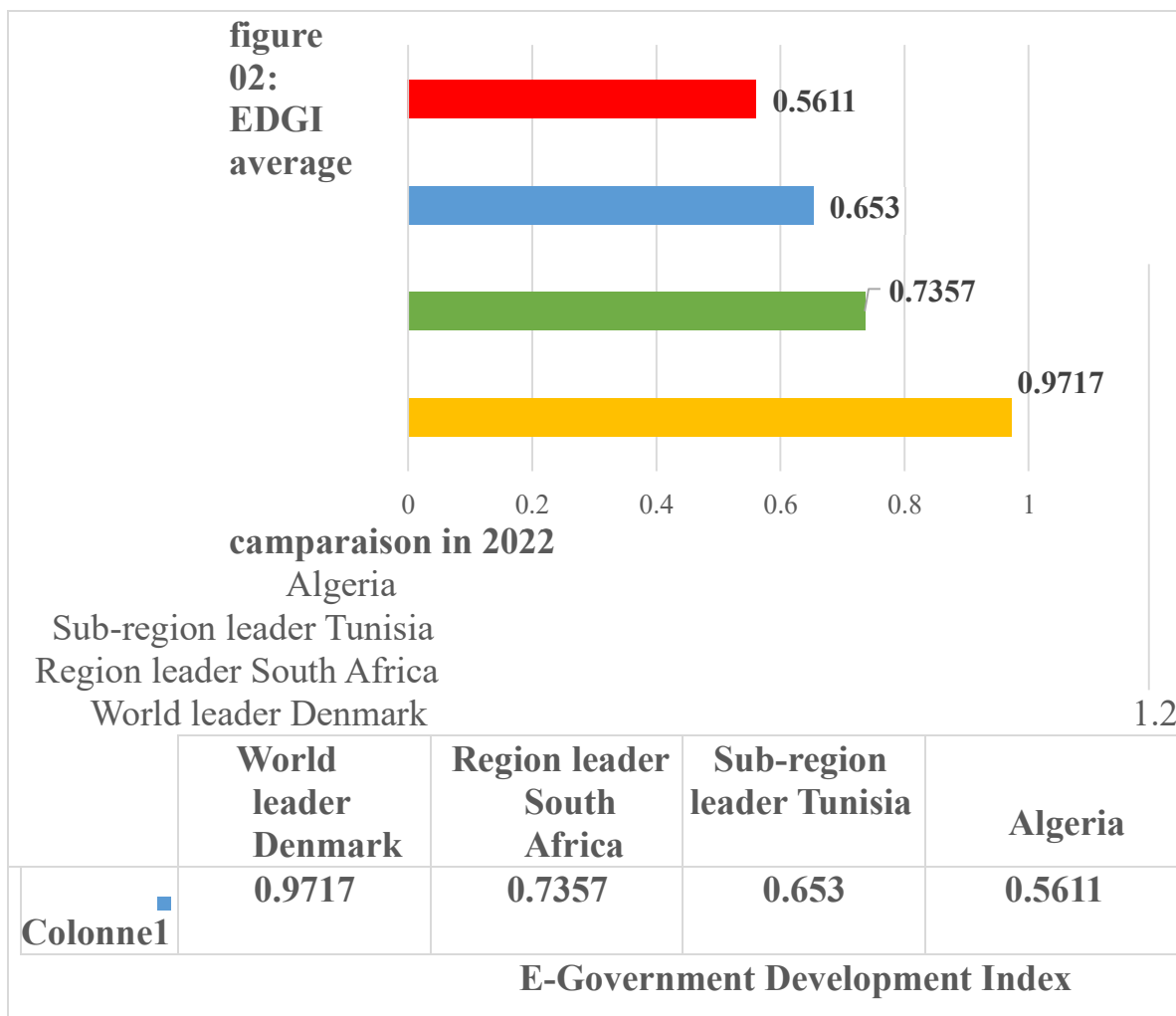
Source https://www.mpt.gov.dz/indices-internationaux/

years	2010	2012	2014	2016	2018	2020	2022
Index value (EGDI)	0.3181	0.3608	0.3106	0.2999	0.4227	0,5173	0,5611
Ranking	131	132	136	150	130	120	112

Source https://www.mpt.gov.dz/indices-internationaux/
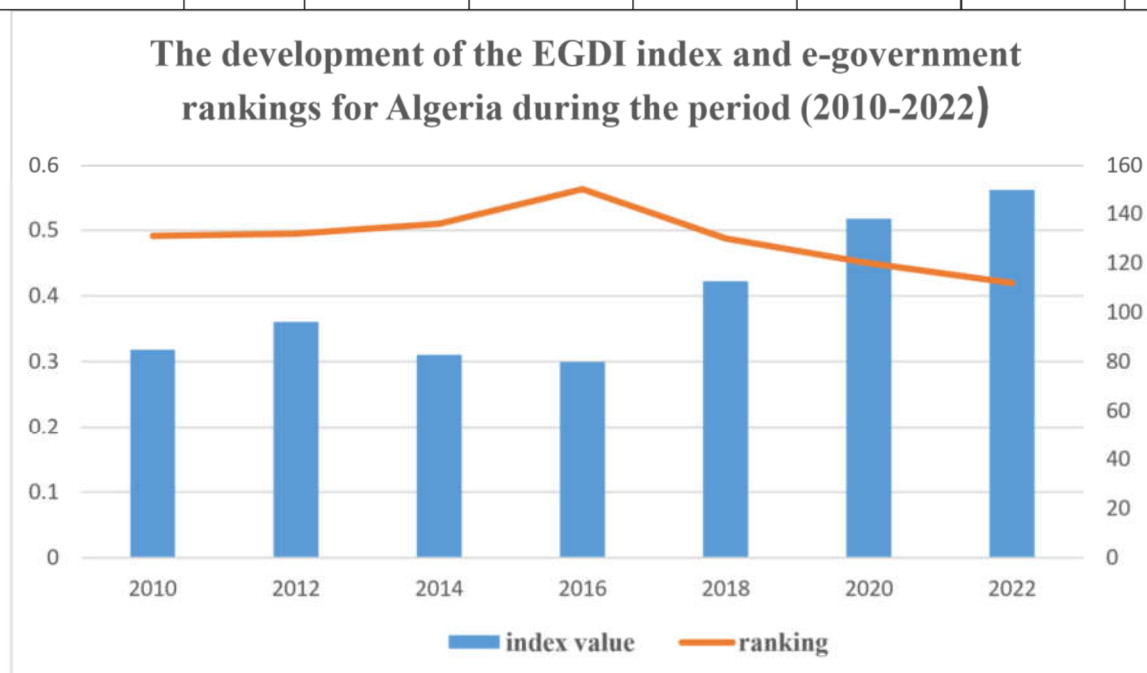
In terms of the development of e-governance, Algeria in 2022 has shown a positive evolution compared to 2020 and has been categorized in the high EGDI group (EGDI groups include Low, Middle, High, Very high) since the 2020 ranking. In 2022, Algeria has gained 8 positions in the international ranking, moving from the 120th position to the 112th position out of a total of 193 countries included in the survey, with an ordinal score of 0.56 (1 being the maximum value).
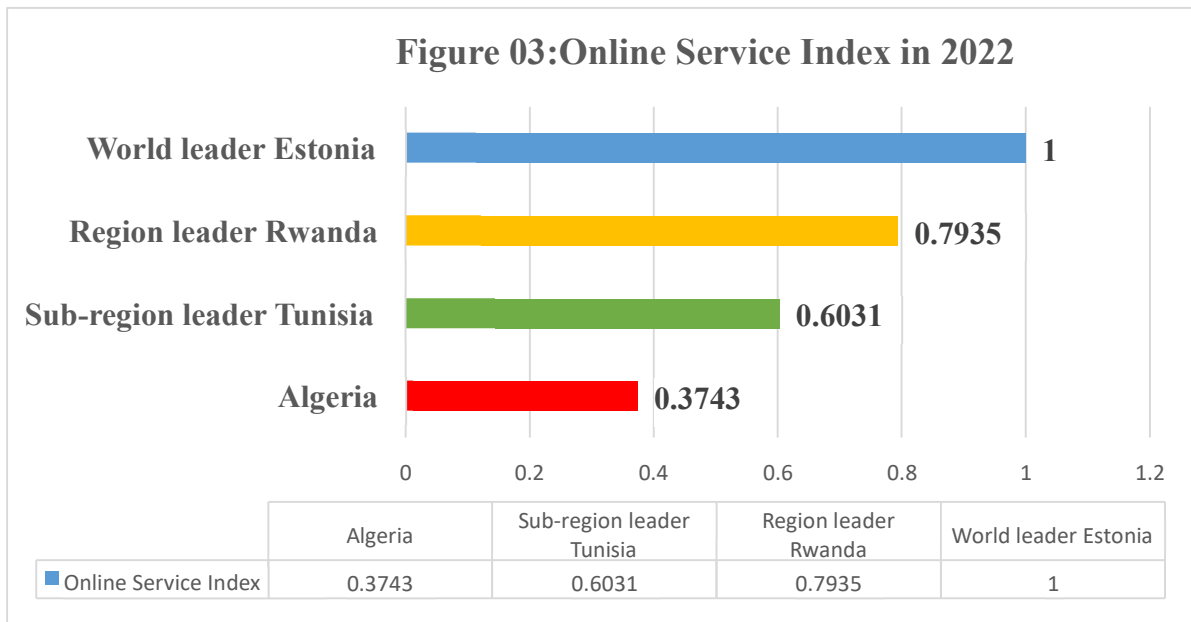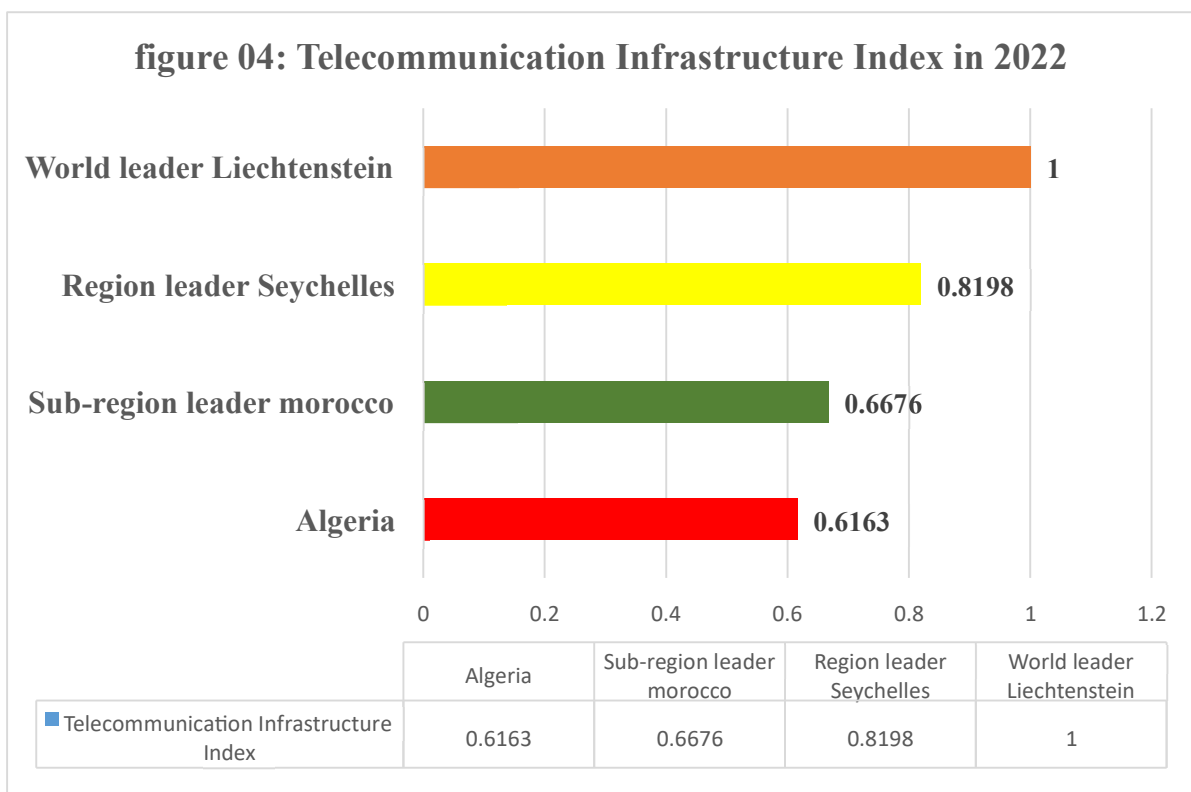
figure 02: EDGI average

	World leader Denmark	Region leader South Africa	Sub-region leader Tunisia	Algeria
Colonne1	0.9717	0.7357	0.653	0.5611
	E-Government Development Index			

Source: https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/3-Algeria

Algeria's EGDI score of 0.5611 in 2022 suggests that the country has made progress in egovernment development but still has room for improvement. This score takes into account various factors, including the availability of online services, the use of information and communication technologies, and the capacity to engage with citizens and businesses through digital means. While Algeria has shown some advancement in these areas, it may benefit from further efforts to enhance its e-government initiatives.
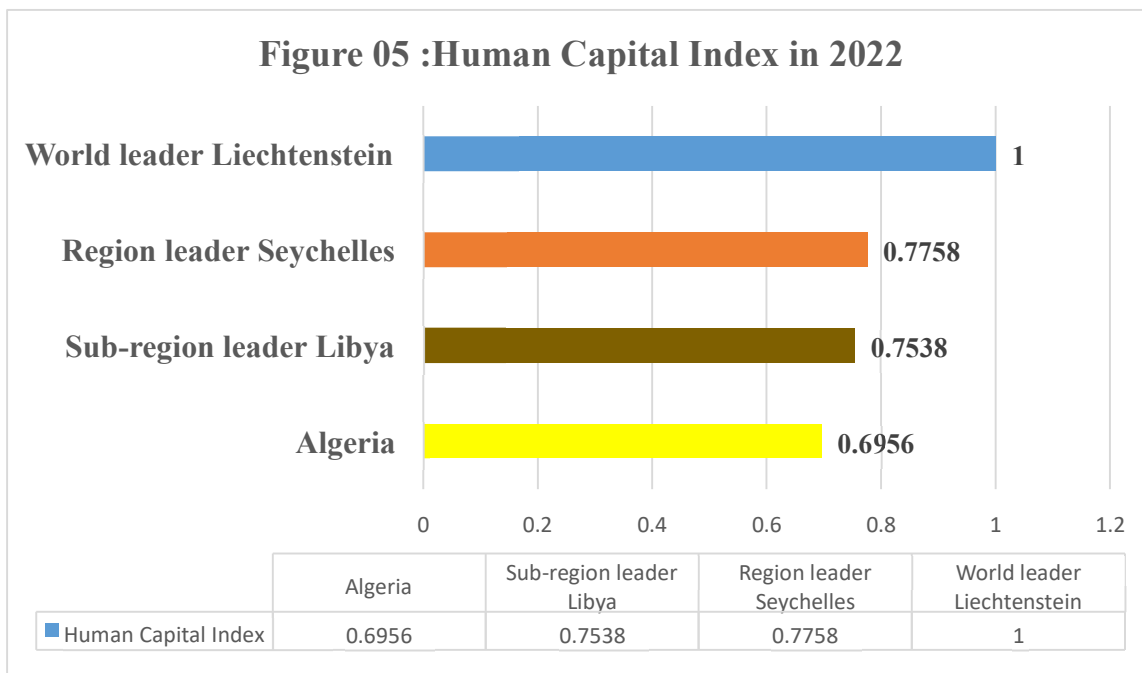
Compared to the world leader, Denmark, which achieved an EGDI score of 0.9717, Algeria is still in the process of catching up. Denmark's high EGDI score reflects its exceptional egovernment development, marked by extensive online services, effective use of ICT, and a high level of digital engagement with its citizens and businesses. Denmark's leadership in egovernment sets a high standard for other nations to aspire to

Figure 03:Online Service Index in 2022

	Algeria	Sub-region leader Tunisia	Region leader Rwanda	World leader Estonia
■Online Service Index	0.3743	0.6031	0.7935	1

Source: https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/3-Algeria

figure 04: Telecommunication Infrastructure Index in 2022

	Algeria	Sub-region leader morocco	Region leader Seychelles	World leader Liechtenstein
■Telecommunication Infrastructure Index	0.6163	0.6676	0.8198	1

Source: https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/3-Algeria

Figure 05 :Human Capital Index in 2022

	Algeria	Sub-region leader Libya	Region leader Seychelles	World leader Liechtenstein
Human Capital Index	0.6956	0.7538	0.7758	1

Source: https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/3-Algeria

Algeria's high Human Capital Index (HCI) score of 0.6956, which is greater than 0.5, indicates the country's investment in human capital and digital skills, essential for successful egovernment development.

The Online Service Index (OSI) score, which is less than 0.5, suggests a decrease in internet service quality, potentially raising concerns as online service quality and access are critical for egovernment.

Algeria's Telecommunication Infrastructure Index (TII) score, which is more than 0.5, reflects a robust telecommunication infrastructure, a positive aspect, as strong ICT infrastructure is vital for effective e-government services.

In summary, while Algeria has made significant progress in building human capital and possesses a strong telecommunication infrastructure, there is room for improvement in the quality of internet services. A more robust and reliable internet service is crucial for the successful delivery of online government services. Algeria generally recorded positive egovernment performance in 2022, but to further enhance its e-government initiatives, it should focus on improving the quality and accessibility of online services, making them more readily available to citizens and businesses, contributing to a more comprehensive and efficient egovernment system.

5) **The impact of e-government adoption on improving the quality of Algerian's   life's**

Early ICT Adoption: The digitization of land registry records, for example, led to a 30% reduction in processing time for land-related documents, resulting in greater efficiency and reduced bureaucratic bottlenecks.

Legislative Framework: The introduction of the Cybercrime Law in 2009 marked a critical juncture in e-governance development. Algeria has since witnessed a 15% reduction in cybersecurity incidents, demonstrating the increased security and protection of digital infrastructure (Algerian Ministry of Post and ICT).

Digital Identity: The issuance of biometric national identity cards has achieved broad acceptance, with 98% of the adult population in Algeria now holding a biometric Card, contributing to enhanced security for online transactions and public service access (National Institute of Statistics, Algeria2022)

E-Services: The adoption of e-services has led to a 35% increase in the number of digital service transactions annually (ANPT Annual Report, 2022). For instance, birth and marriage certificates are now available online, reducing the processing time by 40%.

Table 09: the use of e-payment the case of Algeria poste

index	2018	2019	2020	2021	2022
Number of EDAHABIA card requests online	892	677764	1368182	1368620	1775336
Number of account-toaccount transfers	22778	67661	1171965	3601083	8562929
Number of online CCP consultations	23945301	28907165	34395769	36842045	3 788 5627
Number of online CCP account statement requests	5756729	5450498	7155191	7542109	9590144
Number of SMS notifications (financial transactions)	48381602	67787580	86999626	127293933	172141085

The progression in the use of e-payment services in Algeria, as reflected in the provided data from 2018 to 2022, signifies a substantial shift towards digital financial solutions. This positive trend showcases the growing preference for

online financial activities and the considerable impact of e-payment on the daily lives of Algerians.

The significant increase in online EDAHABIA card requests, account-to-account transfers, CCP consultations, and account statement requests underlines the convenience and efficiency brought about by digital financial transactions. E-payment methods have not only made financial interactions easier and more accessible but have also fostered financial inclusion by providing a wider population with access to banking and financial services.

In a rapidly evolving digital landscape, e-payment's role in facilitating the lives of Algerians is undeniable. It has streamlined financial processes, reduced the need for physical visits to banks, and bolstered the security of transactions. As a result, it has enhanced the overall quality of life by making financial management more convenient and accessible.

6) **Challenges to the development of e-government in Algeria**

Although the adoption of e-services is seeing significant growth in Algeria, there remain certain obstacles that require attention and resolution.   The following items are included:

Insufficient infrastructure and connectivity: Numerous Algerians, particularly those residing in rural regions, face a dearth of reliable internet and telecommunications facilities.   This poses a challenge for their ability to utilize electronic services.

Insufficient digital literacy: A considerable segment of the Algerian populace lacks the requisite skills and knowledge to effectively utilize e-services.

Resistance to change: Certain government officials and staff may exhibit reluctance towards the adoption of e-government, as it may necessitate alterations to their established work methodologies.

Insufficient coordination: In Algeria, there is a dearth of cooperation among various government entities, posing challenges in the seamless and efficient execution of egovernment initiatives.

7) **Conclusion:**

Algeria is at a pivotal juncture in its journey toward e-government. The implementation of e-government has been gaining momentum, driven by a recognition of the transformative potential it offers to the public sector.

While progress has been evident, challenges remain on the path to a fully realized e-government ecosystem.

An assessment of the government's readiness for electronic governance reveals a mixed landscape. Infrastructure development is underway, digital literacy is expanding, and government agencies are increasingly offering online services. However, this progress is juxtaposed with challenges like the digital divide and the critical need for further capacity building in areas such as data security.

International rankings provide valuable insights into Algeria's position in the global context of e-government. Accurate data from authoritative sources helps assess the country's relative standing and offers important benchmarks for further improvement.

The impact of e-government on enhancing the quality of public services, making them more efficient, accessible, and transparent, is undeniable. This digital transformation is crucial in making government services more user-friendly, responsive, and aligned with citizens' needs and expectations.
In conclusion, Algeria's journey towards comprehensive e-government is promising. With continued efforts to enhance digital infrastructure, bridge the digital divide, and bolster data security, the country can better prepare itself for the challenges and opportunities presented by e-government. Algeria's progress in this arena signifies a commitment to delivering more efficient, citizen-centric governance in the future.

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