

Analysis of the development of the use of e-administration in the context of the embodiment of E-governance in Algeria (reading the indicators and stages achieved)

Barmaki Mohammed ^{1*}, Elabbadi Ahmed ²

¹ Algerian African economic integration Laboratory, University of Ahmed Draya – Adrar(Algeria),
moh.barmaki@univ-adrar.edu.dz,

² University of Ahmed Draya – Adrar(Algeria), ahm.elabbadi@univ-adrar.edu.dz,

Received on: 26/09/2024

Accepted on: 26/11/2024

Published on: 20/12/2024

Abstract :

This study aimed to clarify some concepts related to the subject of e-governance and to try to remove the ambiguity that exists among many people about the subjects of e-administration, e-government, and e-governance, then to study the reality of e-governance in Algeria by addressing the need to achieve e-administration comprehensively and move to e-government because they are considered the necessary basis for its operation or application, and this is by presenting the progress achieved in its various indicators according to international organizations and the stages of completing its maturity to know the level that has been reached and to address the most important prospects and challenges in order to embody electronic governance.

Key words : e-management; E-government, information and communication technology; E- governance, indicators of electronic service maturity.

JEL Classification Codes: O32, O33, O38

Introduction:

In recent years, the world has witnessed high technological and technological development that has been reflected in various areas of social, economic, political, administrative life...etc., and has made it necessary for all sectors and areas of life to keep pace with it and benefit from its various advantages and qualitative capabilities that have come to reduce the burden of manual work and save effort and time. Costs are what contributed to pushing the wheel of development and progress on more than one level, and with regard to the administrative aspect, he also benefited from this development and it was reflected in all his tasks and functions, making them more flexible, accurate and effective, in addition to transparency and speed of completion, which was previously a major obstacle and

* *Corresponding author.*

a factor of bureaucracy that Many researchers and thinkers have sought to fight and confront it, as we find that the intrusion of information and communication technology and its applications into administrative work has contributed greatly to eliminating the various obstacles and problems that were facing beneficiaries and users alike, and has made procedures, operations, and services easier, and this is what has become known as electronic administration, which This development did not stop there, but rather spread to include all areas of the state and government, as it became known as electronic government, in which the citizen began to bear a small burden in order to complete his transactions and procedures. This is what imposed on governments, organizations and bodies to make all beneficiaries of services or procedures become partners in decisions and developments, and to commit to transparency and fairness in transactions, and to be able to be accountable and accountable, and this is what is known as electronic governance. We will try, through the axes of this research, to touch on clarifying some of the concepts related to the subject of electronic governance and the terms of electronic administration and electronic government, which have overlap and similarity among them despite Each of them has its own meaning and extension of the other, and confusion often occurs between them. Then we will shed light on the reality of their application in Algeria and the extent of progress achieved in that, while highlighting the most important international indicators indicating this and mentioning some of the challenges that prevent achieving the desired goal.

Based on the above, the problem of this research focuses on the following:

-What is electronic governance and to what extent is it applied in Algeria?

To address this problem, we will try to answer the following questions:

- What is electronic governance? What are the most important terms intersecting with it?
- What are the most important differences between e-governance and the terms intersecting with it?
- What is the reality of its application in Algeria and what are the most important indicators that are monitored internationally?
- What are the prospects for its application and the most important challenges that prevent it?

We have divided this research into four sections. In the first section, we will discuss theoretical concepts about electronic governance and the most important terms interfering with it. In the second section, the extent of application of electronic governance in Algeria

and present the most important international indicators that prove this. In the third section, we will present the horizons and challenges of implementing it. Governance in Algeria.

1-The first section: theoretical concepts about electronic governance and the most important terms interfering with it.

First: E-management

1 -E-management is the system of businesses, activities and tasks that are implemented electronically and via networks, or it is known as the function of completing work using electronic means and systems. (Saad , 2020, p. 10)

2- Dispensing with paper transactions and replacing the electronic office with the widespread use of information technology, and transforming public services into office procedures and then processing them according to previously implemented sequential steps. (Alaa, 2008, p. 8)

It can be defined as the process of conducting various administrative operations electronically using computers and peripheral units in addition to software such as systems, applications and networks.

Secondly: E-government and e-governance

There is a large overlap in some studies regarding the definitions related of e-government and e-governance, where thinkers differed according to their points of view, and many of them did not separate them from each other despite the discrepancy between the two terms and their differences from each other, and others separated them, which we will discuss. Here are some definitions and we mention the most important differences between them:

1 - Concepts about E-Government:

-Definition of e-government: According to the United Nations Global E-Government Readiness Report, e-government mainly includes government websites, in order to build “an inclusive, people-centered information society, and make the potential of information and communication technologies accessible to all”, in order to achieve development and meet the new challenges of the information society. (Ajay Kr,Sharma, 2009, p. 1)

-According to the Organization for Economic Cooperation and Development, The term e-government refers to the government’s use of information technology with all its tools and means, in addition to modern communications, and its application to all government tasks and functions. (AICTDGSLAC, 2015)

-E-Government: The term is derived from the English abbreviation (Electronic and Government), and it refers to the public sector's use of information and communications technology to improve the provision of services and information to users through the integration of various systems within themselves between services from government to government, citizens, and companies. (Harvard Business Glossary , 2022)

2 -Concepts about E-governance: Through the term it becomes clear to us that it is formed as two words, namely governance and electronic:

As the Organization for Economic Cooperation and Development (OECD) defines it as: "a set of relationships among those in charge of managing the company, the board of directors, shareholders, and other shareholders." (Al-Iham, 2020, p. 33)

According to the Harvard website, the term governance refers to the rules, systems and mechanisms in place to manage and direct a company. Corporate governance enables management to face the various difficulties and challenges it faces more effectively, and ensures that it balances the interests of stakeholders, employees, suppliers, and customers. (Harvard Business Glossary , 2022)

-As for the term electronic, it means the various techniques, modern technologies, devices, media and communication tools used in the process of processing data and information between various users and stakeholders, whether physically or remotely.

***Definition of E-governance:**

-E-governance: It is the use of technology that helps in governance and requires its management (Sa'ad, 2021, p. 33)

According to the Academy of Information and Communications Technology for Development, government sector leaders in Arab countries must exercise governance through electronic means to achieve efficiency, speed, and transparency in the process of communicating information to the public and to other government agencies, and in order for the government to carry out its administrative tasks. (AICTDGLAC, 2015)

-E-governance is the use of information and communications technology by the government, civil society, and political organizations by involving stakeholders in dialogue and feedback to encourage them to increase their participation in the process of managing these organizations (Tahir Mohammed Abboud, 2019, p. 16)

The European Council for E-Governance defined it as: the use of electronic technologies in the following three areas:

- The relationship between authority and civil society.
- The authority performs its functions in all stages of the democratic process (electronic democracy).
- Providing public services (electronic services) (AICTDGSLAC, 2015, p. 57).

***The difference between e-governance and e-government:** According to the Harvard Business School website, the governance of companies associated with the private sector differs from the governance associated with the public sector (Harvard Business Glossary , 2022) Therefore, we find there is a lack of clarity and overlap in terminology among various researchers, Among the most important differences, we mention the following:

1- The difference between governance and government:

Table 01 :The difference between government related matters and governance related matters

the government	The Governance
the government	- Judgment
superstructure	- Function
Decisions	- Processes
the rules	- Objectives
Roles	- the performance
Implementation	- Coordination

Source: Prepared by the researcher based on (Ajay Kr,Sharma, 2009, p. 2)

2-The difference between e-governance and e-government:

-Table 02: The difference between e-governance matters and e-government matters.

The electronic government	Electronic governance
-Providing electronic services	- Electronic consultation
-Electronic workflow	- Electronic control
-Electronic voting	- Electronic participation
-Electronic productivity	- Electronic performance

Source: Prepared by the researcher based on the following sources (Ajay Kr,Sharma, 2009, p. 2)

***Basic components of electronic governance:** (Ahmed Diaa El-Din and Tariq Tohme, 2018)

- Electronic transparency:
- Electronic accountability.
- Electronic participation.
- Electronic audit.

Factors for the success of electronic governance: We can summarize them as follows (AICTDGSLAC, 2015):

- Electronic administration (administration-e).
- The E-government.
- Electronic services E-services.
- Electronic participation (participation-e).

***Auxiliary components of electronic governance:**

- Policy and legislative environment.
- Access to information and communications technology.
- Access to the Internet.

***The importance of electronic governance:**

- Exploiting technological and technological development to enhance the application of governance values represented in transparency, accountability, participation, combating corruption, etc.

In addition, you see (Sa'ad, 2021, p. 34):

- Changing the traditional image of government, which is characterized by routine, difficult procedures, and lack of clarity, which causes a deterioration in the relationship between citizens and business sectors on the one hand, and between government agencies on the other hand.

- Strengthening the role of citizens in participating in the process of oversight, accountability and decision-making
- Reducing the cost of government procedures.
- Transparency in procedures
- Contributing to the economic growth process.
- Improve the quality of services provided.
- Responding to rapid environmental changes.

In addition to (Diao Al-Din, Taama, 2018)

- Improving the efficiency, effectiveness and transparency of interactions within departments and between departments within the government
- Display all information related to the operations and services provided and enable the possibility of auditing this information in a more transparent and accountable manner

3-Third: The relationship between e-administration and e-government and e-governance:

E-governance is considered one of the basic pillars or steps to reach or achieve electronic governance, and this goes through the embodiment of electronic government at the general level, as electronic governance cannot be achieved in light of the weakness of the technological and technical resources and infrastructure that help to accomplish the various related tasks and the absence or coverage of government and governance services electronically. Among the priorities for implementing e-government based on the generalization of e-governance, most researchers have argued that e-governance should come in the third stage after e-administration and then e-government because it depends on them for its basic structure.

*Also, the government is the sub-group that operates with authority and official obligations, but governance is not limited to the government only, but also affects and participates in private institutions, associations of institutions, non-governmental institutions, and their associations, often in cooperation with government bodies.

-E-government also focused on the aspects that facilitate the process of linking the government (the authority and its various bodies) with each other, the citizen, the private sector, and the employee..

-While electronic governance has added other key elements to this, namely effectiveness, efficiency, economics, and transparency in the use of resources, it stipulates that all services that can be converted into electronic services, not just some selected services, must be provided in the best ways. (Al-Iham, 2020, p. 335)

-Electronic governance is considered one of the basic pillars or steps to reach or achieve electronic governance, and this goes through the embodiment of the right.

2-The second section: The reality of applying E-governance in Algeria and presenting the most important international indicators

*** The development of using the administration and electronic government in Algeria:**

Algeria sought to improve various services related to several institutions, such as education, higher education, the judiciary, communications, social security...etc, by committing to accelerating and embodying the digitization of all sectors. What helped in this was the presence of a strong political will and desire to push for this, represented by the commitment of the President The Republic, To achieve digital transformation, improve communication, and generalize the use of information and communication technologies at the level of all departments and agencies, especially in public service departments, and improve governance of the economic sector, This is what prompted it to form the High Prefecture for Digitization, It is a public institution with a special character under the supervision of the Presidency of the Republic and enjoys legal personality and financial independence, In order to ensure the implementation and follow-up of the national digitization strategy.

- Providing access to information and communication technology in Algeria:

Algeria sought to provide a communications and Internet network using several wired, wireless, mobile, and satellite technologies to various regions of the country, including border and remote areas, in order to enable its citizens to benefit from these services, break isolation, and achieve development requirements, as Law 18-04, dated 24 Shaaban of the year, was

introduced. 1439, corresponding to May 10, 2018, which determines the general rules related to mail and electronic communications, provisions for creating a climate conducive to entrepreneurship, improving the conditions for access to the electronic communications market and generalizing and improving the quality of service for the benefit of all citizens without exception.

According to a report on the development of telecommunications services indicators issued by the Ministry of Post and Telecommunications for the year 2023, the number of fixed-line telephone subscriptions in Algeria witnessed positive growth in recent years, as this number reached more in the first semester of 2023 Who? 5.9 million subscriptions, an increase of 6.42% compared to 2022, and 24% compared to 2020. In the first half of 2023, the saturation rate for fixed-line phones was estimated at 60.76% (number of subscriptions/total connection capacity). The phone penetration rate also reached The fixed rate for each family is 67% during the first six months of 2023. The mobile network for the second and third generations (GSM) and 3G covers almost the entire population, while the fourth generation network (4G) covers more than 85% of the population by the end of the year. 2022 and recorded density Since 2017, there has been a certain stability in the mobile phone market. This is due to the saturation of the mobile phone market, which reached about 105.07% in 2023. It was also known that during the first six months of 2023, the number of fixed Internet subscriptions increased by 3,866 89 new subscriptions compared to 2022 That is, by 8.28%, reaching about 5,095,712 subscribers, and the mobile Internet density reached 96.97% of individuals. An increasing migration of subscriptions from third generation technology to fourth generation mobile technology has also been recorded. (DSSF, 2023)

- According to the 2022 e-Government Survey report issued by the United Nations Department of Economic and Social Affairs, which is issued every two years, which classifies countries into four categories: very high, high, medium and low.

1- E-Government Development Index (EGDI): The values of the general index, which range from 0 to 1, were for the e-Government Development EGDI, which includes three dimensions: the online services index, the communications infrastructure index, and the human capital index. Algeria's value was 0.5611 above the average in High category, ranked

112 after it was ranked 120 in 2020 out of a total of 193 countries included in the survey. As for Africa, Algeria came in ninth place.

2- Electronic Participation Index (EPI): As for this index and its components, its value for Algeria was a low 0.2273 and it ranked 148, even though it has advanced 35 places since the year 2020.

Among the most important indicators discussed in the report of the Economic and Social Commission for Western Asia, we mention the following: (ESCWA, 2024)

-Table 03: The total value of the index between 2022 and 2023

Index	2022	2023
The total value of the index in percentage	19	37
Number of resident services	36	50
Number of resident institutions	13	36

Source: (ESCWA, 2024, p. 2)

-Table 04: Evaluated services are distributed according to sector

Service	Number of services
Transportation/traffic/police	3
Trade and industry	4
Joint government departments	4
Education 6	6
Health	5
Interior	6
Municipal Affairs	1
Work	3
Social affairs	4
Finance	2
Facilities	5
Immigration	1

Justice	4
Tourism	2
Total	50

Source: (ESCWA, 2024, p. 3).

-Table 05: The three main pillars that recorded a comparison:

Index	2022	2023
Service availability and development	22.15	41.16
Use of the service and user satisfaction with it	13.12	23.45
Reaching the audience	22.64	53.47

Source: (ESCWA, 2024, p. 3).

-Table 06: Key performance indicators for service availability and development

Index	2022	2023
The level of development of services on the electronic portal	34.59	49.12
Provides customization feature in web pages available to users	20.00	65.00
Level of development of mobile services	17.35	31.85
Level of availability of mobile services	23.32	33.67
Availability of applications on mobile platforms	7.61	10.13
Availability of languages on electronic portals	27.82	44.92
Providing a means to collect user opinions through electronic portals	21.56	30.76
Language availability on mobile applications	24.98	39.72
Providing a means to collect user opinions via mobile phone	5.80	8.71
Provides features for people with disabilities via mobile phones	0	3.23
Providing features for people with disabilities through electronic portals	0	3.23
Interoperability between channels	3.20	15.42
Security level on channels	39	70.50
Level of availability of open data 39 71.11	39	71.11
Open data submission format 27.00 44.44	27	44.44

Source: (ESCWA, 2024, p. 4).

-Table 07 : Key performance indicators for using the service and customer satisfaction with it

Index 2022 2023	2022	2023
Level of use through the electronic portal	20.11	40.62
Mobile usage level	0.16	3.79
Total usage in institutions through electronic portals	43.75	82.8
Total usage in mobile organizations	18.75	27.01
User satisfaction level through the electronic portal	13.88	10.95
Mobile user satisfaction level	3.73	14.52

Source: (ESCWA, 2024, p. 4).

-Table 8. Key performance indicators for reaching the audience

Index	2022	2023
Percentage of new services attached to marketing campaigns out of services assessed in the index	14.64	15.22
Percentage of new services attached to marketing campaigns for all services at the institutional level	26.77	60.95
Availability of communication and support tools for individuals	27.00	78.00

Source: (ESCWA, 2024, p. 5).

Through this Tables, we see that there is noticeable progress and improvement in most indicators, which indicates the effort made to digitize all services and make them available to all individuals and bodies. This is embodied in Algeria's endeavor to try to achieve access to the Internet for all by taking several initiatives and steps that have greatly contributed to making communication available to all. Groups of society in order to reduce access costs, which witnessed a significant decline in both fixed and mobile Internet compared to the speed of flow and the volume of data, in addition to the financial aid and grants that were enacted for the unemployed, people with limited income, and women staying at home, which contributed to reducing the digital gap between the classes of society and gave support to these sectors. Categories to catch up with information and communication technology and benefit from its potential and the possibility of investing in it easily, not to mention the previous initiatives of providing computers of all kinds through installments through a computer project in every home.

-The most important electronic portals and applications in Algeria

1-Government portal for public services.

2-The university's electronic portal.

3-The electronic portal of the central pharmacy for hospitals.

4- Hadj electronic portal.

5- Electronic portal for applicants for voluntary membership in the national retirement system for members of the national community abroad.

7-The electronic portal for public procurement.

8-The electronic portal for complaints records and exchange with ministerial sectors.

9-An electronic portal for the transportation sector

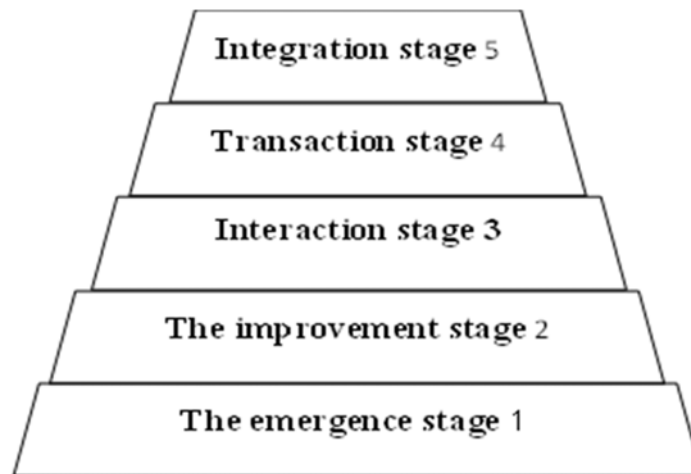
10-Algerian Law Portal.

11-Digital services portal for declaring and paying taxes and fees remotely.

*** E-government maturity in Algeria:** In view of international reports, Especially the annual report issued by the Regulatory Authority for Post and Electronic Communications for the year 2023, the annual report issued by the Directorate of Statistics, Studies and Foresight of the **MPT** for the year 2023, and the reports of the Electronic and Mobile Services Maturity Index issued by the Economic and Social Commission for Western Asia related to Arab countries., we find that the political will was reflected positively in the development of indicators from the year 2020 until the year 2023. We also noticed the emergence of several applications, portals and electronic platforms that include many tasks related to several ministries such as the Ministry of Interior, Justice, Education and Higher Education...etc.

***Stages of e-government maturity**

Figure1: Stages of e-government maturity



Source: Prepared by researchers based on (AICTDGSLAC, 2015).

1- The emergence stage: In this stage, there is an official presence of the government in a group of sites isolated from each other, through which some limited information is published that rarely changes.

2- The improvement stage: In this stage, the number of websites increases, their information is constantly updated, and the content is of a dynamic nature.

3- Interaction stage: In this stage, users can obtain electronic forms via e-mail with government employees and officials, interact via websites, book appointments, and send requests to the government.

4- Transaction stage: In this stage, the user can pay the transaction cost electronically and complete all transactions of a financial nature electronically.

5- Integration stage: In this stage, electronic services are integrated across government agencies in a way that equals the boundaries between government agencies, and the user can request and obtain services electronically without the need to follow up with each ministry separately. Source: (AICTDGSLAC, 2015).

Through the previous e-government maturity stages, and in view of the data represented in the applications and electronic portals of the various ministries and agencies, and the progress

achieved by Algeria, it is now in the penultimate stage, which is the transaction stage, after which it moves to the final stage, which is the integration stage.

3-The third section: presents the prospects and challenges of implementing governance in Algeria:

1- Prospects for implementing governance in Algeria:

In accordance with Commitment No. 25 of the President of the Republic, which stipulates improving and expanding interconnection and generalizing the use of information and communication technologies in all areas, especially in public service administrations, and improving governance of the economic sector, the elements of the national strategy for digital transformation have been developed in consultation with public institutions and administrations, research and training institutions, experts, various economic operators, digital actors and start-ups, in order to strengthen the ecosystem for promoting the economy and digital citizenship, while adopting a comprehensive, collective and unified effort.

It also stressed the necessity of establishing an enabling environment for digital transformation, developing electronic governance and accelerating the digitization of administration, creating an appropriate ecosystem for developing the digital economy and promoting digital citizenship, Among the most important areas around which the strategy's elements centered are the following: (Ministry of Communication website, 2022).

- 1- Government data center project
- 2- Establishing electronic certification bodies
- 3- Developing the international telecommunications network
- 4- Security bets related to digitization
- 5- The digital ecosystem in Algeria
- 6- Vigilance cell to combat technological dependency
- 7- Amending and improving the basic laws related to some technical aspects in public administration, especially the users charged with digitization.

-Challenges of implementing electronic governance in Algeria:

From the above, it is clear to us that despite the noticeable improvement and progress in indicators for Algeria, there is still great work ahead of it on several levels, especially on the political, administrative and organizational side, Although the communications infrastructure index is somewhat high compared to other indicators, this is what international and national assessments have proven. mentioned previously, which confirmed that the availability of Internet service and the availability of infrastructure for communications networks is embodied to a large extent at the national level, which requires directing energies towards other dimensions except the technical dimension, and this represents a major challenge in achieving or embodying e-government leading to e-governance, and one of the most important dimensions that It poses a challenge to achieve this. We mention the following: (Mohammed ben Aishoush, 2021).

-The political dimension: This dimension includes the necessity of:

There must be a strong political will to push towards its implementation.

-The lack of the necessary steps and procedures for this, with a specific timetable that is followed up periodically, identifying obstacles, difficulties, and mistakes, and trying to address them as soon as possible.

- Lack of the necessary powers for the competent authority to follow up and supervise its implementation in order to intervene, evaluate and hold it accountable.

-The absence of administrative support for training and progress in the processes of reform, integration, and eliminating bureaucracy.

The social dimension: This dimension includes the following:

-Weak educational and cultural level of segments of society.

-Humility in information culture and electronic interaction.

- The availability of qualified human resources to lead and implement digital transformation.

-Limited income and unemployment level within society.

-The economic dimension: This dimension includes the following:

- Modest investment infrastructure.
- Double budget.
- Weakness of the private sector.

4-Conclusion:

Algeria seeks to embody electronic governance at the level of its various bodies and institutions. This is through the existence of a serious political will represented in the creation of the Supreme Council for Digitization, in order to ensure its embodiment. Several capabilities and means have been harnessed to this end through putting the digital transformation strategy into effect and periodically following up on it in Council discussions. Ministers to monitor the progress made and neutralize the problems and difficulties that it may face. There has been significant progress, confirmed by the various numbers and indicators mentioned in the international and local report that were touched upon. This proves that Algeria is moving in the right direction, even though there are challenges and difficulties that must be overcome, addressed, and experiences benefited from. And the global experiences of countries for developed countries in this field to reach advanced ranks globally by developing plans and frameworks to do so, To achieve this, we propose a set of recommendations that can contribute to achieving the desired goal.

Recommendations:

The most important recommendations that can be presented for the good and proper embodiment of e-governance through the following steps are as follows:

1-Setting a strategic plan to embody e-governance: The existence of a strategic plan to embody e-governance requires the following:

- Defining the competent authority to lead and follow up on the supervision of the embodiment of e-governance and support it and provide it with all the necessary powers to intervention, evaluation and accountability.
- The necessity of having an accurate and comprehensive plan for all the steps and procedures necessary to embody e-governance.
- The presence of a specific schedule that is followed up periodically and identifying obstacles, difficulties and errors and trying to address them as soon as possible.
- The necessity of enacting laws and legislation that guarantee security, privacy and confidentiality of information and confront various phenomena of piracy and confidentiality

of information, and determining the legal and regulatory frameworks for this and for various electronic transactions.

- defining the entities of charge for ensuring digital and information security and disseminating them in society.

2- Generalizing the use of e-administration and e-government: To achieve this, the following must be done:

- Providing and developing a technical infrastructure for the use of information and communications technology and covering various fields.
- Providing administrative support by training and convincing various levels of management on the need to direct efforts towards achieving it and benefiting from its positives and progress in reform and integration processes in order to eliminate bureaucracy.
- Forming and training specialized human resources in the field of media and communication technology.

3- Providing services electronically and benefiting from them through electronic interaction between different users: To achieve this, the following must be done:

- Cooperation between all parties from the public and private sectors in order to achieve this goal and direct efforts towards it.
- Spreading information awareness and electronic interaction.
- Organizing neighborhood seminars and conferences to spread information culture and the benefits of using media and communication technology.

4- Applying the components of electronic governance: which should mainly include electronic transparency, electronic participation, electronic accountability and electronic auditing through the following:

- Ensuring electronic participation by all stakeholders in the change process and making decisions related to their responsibilities and activities.
- Intensifying media courses and awareness campaigns to remove ambiguity about the confidentiality and security of information and privacy.
- defining the entity responsible for electronic auditing and providing it with various necessary systems and means.
- Ensuring the transparency and veracity of information circulated electronically by enabling it to be monitored and evaluated by all stakeholders.
- Achieving the possibility of applying electronic accountability and identifying the hands of commandment for each action through tasks clarity and responsibilities and ensuring that it is not overlapping.

5-Bibliography List:

1. Dr. Saad Ghaleb Yassin (2020), E-Government, Dar Al-Yazouri for Publishing and Distribution.
2. Alaa Abdul Razzaq Al-Salmi (2008), E-Governance, Amman, Dar Wael for Publishing and Distribution.
3. Richard.L.Daft (2022) ,Management, Booston USA, CENGAGE-LEARNING INC.
4. RICKY W.GRIFFIN(2022) , Management, BOOSTON USA: CENGAGE-LEARNING INC.
5. Basi Al-Iham (2020), Culture as a Key to the Success of E-Governance, Al-Manhal Economic Journal, 03(02), 331-342.
6. Taj Al-Din Bashir (2022), E-Government in Algeria, Algeria: Algerian Gathering of Digital Activists GAAN.
7. Dr. Reem Muhammad Ali Al-Rabghi (March, 2022), Digital Government in Light of Digital Transformation Programs and Achieving the 2030 Targets, The International Arab Journal of Information Technology and Data, 39.
8. Salah Al-Din Ahmed Diaa Al-Din, Attia Tariq Taama (2018), E-Governance and Its Role in the Success of Organizational Change Strategies - A Field Study in the Diwan of Anbar Governorate. Cihan University-Erbil Scientific Journal, 173.
9. Tahir Mohammed Abboud, Darwish Raghad Saleh (2019), Readiness to implement e-governance - a case study in the General Directorate of Electricity Distribution in the South, A periodical journal issued by the College of Administration and Economics, University of Basra, 11(22).
10. Farija Ramzi Baha El-Din (2019), E-administration and the method of management by objectives, Algerian Journal of Legal and Political Sciences, 56(01), 139-170.
11. H. J. Scholl (2021) ,The Digital Government Reference Library (DGRL) and its potential formative impact on Digital Government Research (DGR). Government Information Quarterly 101613 ,(4)38 .
12. SINGH Ajay Kr ,SHARMA Vandna(2009) , E-GOVERNANCE and E-GOVERNMENT: a study of some initiatives, international journal of E-business and E-government studies(1).
13. Mohammed bin Aishoush, Abdullah Hamou(2021). The environment of electronic governance in Algeria: opportunities and challenges, Journal of Intellectual Excellence for Social and Human Sciences, 21-30.
14. Mohammed Boudali, Musa Bushnab (2016), Digitization of administration as a method for improving public service in Algeria - Tax administration as a model. Journal of Tax Studies, 5(2).
15. Muqaddam Sa'ad(2021). Requirements for activating e-governance in modern administrative organizations, concepts and application mechanisms, Journal of Intellectual Excellence for Social and Human Sciences, 31-42.
16. Directorate of Statistics, Studies and Foresight (2023). Report on the development of indicators of telecommunications services for the first half 2, Algeria: Algerian Ministry of Post and Telecommunications.

17. Economic and Social Commission for Western Asia (2024). E-services and mobile maturity index 2023, Beirut, Lebanon, United Nations publications issued by ESCWA, United Nations House, Riad El Solh Square.
18. Ministry of Communication website (2022)
, <https://www.ministerecommunication.gov.dz/ar/node/10494>, consulted on 01/04/2024.
19. Academy of Information and Communication Technology for Development for Government Sector Leaders in Arab Countries (2015),
<https://archive.unescwa.org/ar/our-work/technology-development/aigle>, consulted on 14/05/2024.
20. <https://archive.unescwa.org/sites/www.unescwa.org/files/uploads/m3s1.pdf>, consulted on 07/04/2024,
21. World Bank (2020) , <https://www.worldbank.org/en/to-pic/ict/brief/e-government> , consulted on 12/06/2024,
22. Harvard Business Glossary 03/03/2022), <https://hbrarabic.com> consulted on 01/03/2024.