

THE E-GOVERNMENT DEVELOPMENT INDEX (EGDI) AS A TOOL FOR EVALUATING E-GOVERNMENT POLICY IN ALGERIA (2008-2022)



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Abstract: This article uses the E-Government development index (EGDI) as a key to evaluate Algeria's digital environment by analysing the data related to the Algerian E-Government Development Index (EGDI) from 2008 to 2022, which has been published by the United Nations since 2003 as a device for evaluating E-Government Policy.

Furthermore, this paper aims to identify the factors that affect the implementation of a successful E-Government Policy, and studies the relationship between challenges that face the Algerian E-Government and its ranking according to the UN reports.

Finally, the results achieved can be used as input a general framework that can help establish more effective E-Government Policies in Algeria.

Key words: Public Policy; Public Policy Evaluation; e-Government; EGDI; Algeria.

ملخص: يعتمد هذا المقال على مؤشر تنمية الحكومة الإلكترونية (EGDI) كمفتاح لتقييم البيئة الرقمية في الجزائر من خلال تحليل البيانات المتعلقة بمؤشر تنمية الحكومة الإلكترونية الجزائرية (EGDI) من عام 2008 إلى عام 2022، والذي تم نشره من قبل الأمم المتحدة منذ 2003 كأداة لتقييم سياسة الحكومة الإلكترونية.

علاوة على ذلك، تهدف هذه الورقة البحثية إلى تحديد العوامل التي تؤثر على تنفيذ سياسة الحكومة الإلكترونية الناجحة، ودراسة العلاقة بين التحديات التي تواجه الحكومة الإلكترونية وفقًا لتقارير الأمم المتحدة.

أخيرًا، يمكن استخدام النتائج المحققة كمدخلات لاقتراح إطار عام يمكن أن يساعد في وضع سياسات أكثر فاعلية للحكومة الإلكترونية في الجزائر.

الكلمات المفتاحية: السياسة العامة؛ تقييم السياسة العامة؛ الحكومة الإلكترونية؛ مؤشر تنمية الحكومة

الإلكترونية؛ الجزائر.

.Introduction:

At the end of the last century, the world witnessed a huge revolution in various fields of science and technology, with information and communication technology becoming the main driving force in measuring the extent of development and prosperity of countries.

Building on this, countries have sought to develop their digital environment to improve the ability of governments to serve their citizens, building on e-governance programs. Algeria has not deviated from this path and adopted in 2008 the "e-Algeria project" with the aim of digitizing the various sectors of the administration.

The importance of this article consists in the importance of the terms on which this study has focused specifically e-Government, the evaluation of public policies and the United Nations Electronic Governance Development Index (EGDI).

Furthermore, the study aims to identify the theoretical framework related to the evaluation of public policies, Electronic Governance Development Index (EGDI). The article also aims to address the e-Algeria project and the extent of Algeria's progress in its e-Governance performance based on the (EGDI) issued by the United Nations to measure the extent to which the e-Algeria program achieves its objectives.

Based on the above, the following issue can be raised:

How can the e-Government project in Algeria be evaluated over the period (2008-2022) according to the United Nations e-Government development index (EGDI)?

In order to answer this problem, the following questions were asked:

- What are the principles for evaluating public policies?
- What are the principles of e-Government?
- What is the content of the e-Government project in Algeria?
- What are the results of the e-Government development index for e-Government performance in Algeria over the period (2008-2022)?

In order to address the issue, we relied on the analytical descriptive approach by describing the process of analyzing public policy and e-Government, as well as analyzing data related to the United Nations e-Government development index over the period (2008-2022).

I. THEORETICAL BACKGROUND OF THE STUDY

The importance of this study appears through the terminology on which it is mainly based, since we have relied on two terms that can be considered as two independent disciplines in themselves. The evaluation of public policies is the one of the most important steps in the public policy cycle, if not the most important, then we will discuss a modern term in the field of political science, namely it is the e-Government resulting from the revolution of information and technology that the world witnessed at the end of the Twentieth century. In the same context, we will discover the e-Government development index (EGDI) adopted by the United Nations since 2003 as a tool for evaluating the digital performance of countries.

1. Public Policy Evaluation:

Three phases can be distinguished in the development of public policy evaluation, the first wave was during the 1960s and 1970s, the second began in the mid-1970s, and the third wave set in since the 1990s. (fischer, j.miller, & s.sidney, 2007, p. 396).

Policy evaluation aims to improve the quality of public policies, it applies evaluation principles and methods to examine the content, implementation, or impact of a policy.

• Public Policy Definition:

Public Policy evaluation is the activity through which we develop an understanding of the merit, worth, and utility of a policy. While there are a variety of different approaches to evaluation.

Furthermore, the evaluation consists in judging inputs according to values, their conversion into outputs, then outputs, and their impact on the environment, with the aim of re-informing public policies, and as far as possible back acting on them (lemieux, 2009, p. 150) .

Other, more complex, definitions have been offered: "Policy evaluation is the assessment of the overall effectiveness of a national program in meeting its objectives, or assessment of the relative effectiveness of two or more programs in meeting common objectives." (Assefa)

Some definitions tie evaluation to the stated "goals" of a program or policy. But since we do not always know what these "goals" really are, and because we know that some programs and policies pursue conflicting "goals," we will not limit our notion of policy evaluation to their achievement. Instead,

we will concern ourselves with all of the consequences of public policy, that is, with "policy impact." (htt)

The impact of a policy is all its effects on real, world conditions, including Public Policy: (Narain, 2018)

- Impact on the target situation or group;
- Impact on situations or groups other than the target (spillover effects);
- Impact on future as well as immediate conditions;
- Direct costs, in terms of resources devoted to the program;
- Indirect costs, including loss of opportunities to do other things.

Ideally, all the benefits and costs, both immediate and future, should be measured.

- **Measuring public policy:**

There are six criteria to measure the value of a program which are: *the effort made, the performance achieved, the adequacy of the performance, the efficiency and the result and the impact.* (Iemieux, 2009)

The public policy measuring includes the following four categories of standards for conducting an evaluation to help guide choices along the process:

- **Utility:** who wants the evaluation results and for what purpose?
- **Feasibility:** Are the evaluation procedures practical, given the time, resources, and expertise available?
- **Propriety:** is the evaluation being conducted in a fair and ethical way?
- **Accuracy:** approaches at each step accurate, given stakeholder needs and evaluation purpose?

It is important to understand how policy evaluation fits into the larger policy process. Understanding this context provides an increased understanding of why policy evaluation is critical to advancing the field of policy. Although there are many theories regarding the policy process and mechanisms of policy change, the policy change process is often conceptualized in several key stages (OCDE, 2020) .

Evaluation is an integral part of each step in the policy process. Although these steps are laid out in a row, in reality, the steps are circular in nature. The

three main types of evaluation, each focus on a different phase of the policy: (Step by Step – Evaluating Violence and Injury Prevention Policies)

- Policy content evaluation.
 - Policy implementation evaluation.
 - Policy impact evaluation.
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2. Definition of e-Government and related concepts:

Several scholars and organizations have defined e-Government in many ways in this part the researcher chose some of the most current ones, SHARMA and his allies defined E-Government as “a general term for web-based services from companies of provincial, state and federal governments. In e-government, the government uses information technology and especially the Internet to maintain government services, involve citizens, and provide government assistance. The interaction may be in the form of getting information, filings, or making payments and a host of other activities via the World Wide Web” (Aitoukaci, 2019). The World Bank has defined e-Government as referring to “the use by government agencies of information technologies [...] that can change relations with citizens, businesses, and other branches of government” (Aitoukaci, 2019)

In addition, e-Government is the collection of all electronic public administration services accessible to everybody in the country. It also means a modern and innovative country, in which quality, trust and consumer service are of vital importance. Public administration and authorities adopt technologies such as the Internet or mobile phone services to stay in touch with citizens and business units. They also use these technologies to carry out internal work processes. E-government has an impact on every citizen, business, and public authority. (michel, 2005)

The difference between government and the governance is essential to know governance lays the pressure on how decisions are made, while government accentuates how these decisions are carried out (Aitoukaci, 2019) The "pull" system changes to a "push" system, with information arising from the ground. In the model of e-governance, synergies between citizens and government are required.

Lastly, the researchers abstract the concept of e-Government in two central concepts e-Administration and e-Democracy; it means e-Administration and e-Democracy are components of the e-Government; in other words, the concept of

e-Government is broader than the concept e-Administration plus e-Administration is a device of e-Government.



The ITC represents an example of the advanced devices that serve to realize democracy and to improve contemporary public services as well as educational systems. Within a comprehensive legal framework, the government should, consequently, guarantee open, nondiscriminatory, and fair access to IT for all citizens that use or may use digital information. (IANCU)

Reinvented according to the European practices of IT society, public administration is brought closer to citizens, while democracy itself emerges from being a "government of, by and for the people," into one becoming "closer to people." Cheaper and more efficient than traditional methods of providing public services to both citizens and business environment, e-government supports competition within the digital market, develops the social leading structures and promotes both investments and public acquisitions in the IT domain. (IANCU)

It furthermore includes four principal receivers of the services furnished by the public agencies:

- Government to Citizens — G2C applications (permit renewal, benefits status, taxes)
- Government to Businesses — G2B applications (permits, payments, and filings)
- Government to Employees — G2E applications (personnel systems and intranets)
- Other agencies — G2G applications for reporting and fund transfer.

Although the concept of e-Government includes an electronic word, it is not a technical term but an administrative term that indicates a fundamental transformation in cultural, economic, social and marketing notions and the involvement of individuals and institutions with one another.

On the one hand, the concept of e-Government is broader than software, computers and the Internet, and other technologies. It is comprehensive management required in a qualitative transformation which is intended to study

the concepts of public administration and the content it provides. It is the formulation of a new fact in the light of relationships of mutuality between government institutions and the public beneficiaries of its services, at any time and place.

E-Government is constantly perceived as a means to improve public administration performance and services, as well as a means for better governance and access to political and social rights. (Aitoukaci, 2019)

More broadly, e-Government can be referred to as the use and application of ICTS in the public administration to streamline and integrate workflows and processes, to effectively manage data and information, enhance public service delivery, as well as to expand communication channels for the engagement and the empowerment of people. The opportunities offered by the digital development of recent years, whether through online services, big open data, social media, mobile applications or cloud computing, are expanding the way for the development of e-Government.

3. The Electronic Government Development Index (EGDI):

It is one of the United Nations indexes. In the beginning, we should know that the United Nations E-Government Development Database (UNe Gov DD) is a benchmarking instrument that presents a comparative evaluation of the e-Government development of UN Member States. It grants an interactive snapshot of every country's e-Government development from a regional and global prospect. (UN)

The UN e-Government Survey conclusions reveal that there are significant differences in the access and use of information technologies and these disparities are not expected to be eliminated shortly unless a concerted effort is taken at the national, regional and the international levels. (UN)

By presenting data that traces national and global e-Government development trends and lessons learned from good worldwide practices, the Survey, and the UN E-Government Development Database can support policymakers and practitioners in planning and implementing efficient e-Government strategies.

The United Nations (UN) developed a measure to evaluate the e-Government development, namely the E-government development index (EGDI), composed of three sub-indexes: Online services (also called "Web Measure Index" (WMI) in the UN's 2008 report, the Telecommunications Infrastructure Index (TCII) and the Human Capital Index (HCI). (hatsu, 2018)

The importance of the world e-Government ranking has increased significantly as it guides the countries to focus on their efforts. The

e-Government rankings are in a process of maturation in that direction, moving from purely measuring web sites to assessing use and government qualities.

The main aim of this paper is to evaluate Algeria's digital environment during the study period (2008-2022). This period is covered by the UN e-Government Surveys 2008, 2010, 2012, 2014, 2016, 2018, 2020 and 2022. The EGDI presents the state of e-Government development of the UN Member States.

II. THE ALGERIAN E-GOVERNMENT POLICY:

In order to evaluate the reality of e-Government in Algeria, through this axis, the e-Government project content will be identified, and then analyze the progress of Algeria's ranking according to the e-Government development index (EGDI).

1. The content of e-Algeria program:

The Algerian action planned to establish the E-Government in 2008 along with it is organized around thirteen great axes. For each axis, a portfolio was developed, followed by a definition of specific and critical (essential) objectives listed to achieve by the year 2013. In this section, the research will present the axes briefly based on the e-commission report. (ECOMMISSION, 2008)

- **The first axis is the acceleration of the use of ICTs in public administration:**

This axis is devoted to the involvement of the ICTs, the enhancement of their use in public administration to make essential transformations in its work by use of its organizational modes. These transformations will help the public administration rethink its organization and operating modes with what serves the citizen appropriately, including the outline of its various services. In this context, specific sub-objectives and occasionally mutual (...) were set for each ministry or department of the government. They concern the following aspects:

- The accomplishment of networks and systems at both intranet and LANs levels.
- The establishment of a spreading information system.
- The deployment of industry-specific applications.
- Improving human skills and knowledge.
- The development of online services for citizens, businesses, employees, and other government departments.

- **The second axis is the acceleration of the use of ICTs in businesses:**

The use of ICTs has become necessary to increase the performance of business competitiveness and to benefit from the opportunities offered by a more extensive and highly dynamic market. Hence, a primary goal has been defined, namely the integration of ICTs in the economy and support of the appropriation of ICTs by businesses. That induces the following three specific sub-objectives:

- Supporting the ownership of ICTs by small and medium-sized businesses.
- Developing applications for the improvement of business performance.
- Developing and expanding the equipment of services online by businesses.

- **The third axis is the development of mechanisms and encouragement measures for citizens' access to equipment and ICTs networks:**

The process of generalizing access to the Internet, which is the primary objective, has three specific sub-objectives:

- Revive OUSRATIC, a project that aims to provide each family with a personal computer through the provision of individual microcomputers, broadband lines, providing training on and making available specific content that suits each segment of the population.
- Significantly increase the number of public community spaces: cybercafés, technoparks, science houses, culture houses, etc.
- Extend universal access to internet services.

- **The fourth axis boosting the development of the digital economy:**

The digital economy is based on three major components: software, services, and equipment. A little encouragement may lead to boosting the entrepreneurship and the production of local content, which is a driver domain of innovation. The main objective assigned to this axis is the creation of the appropriate conditions for the intensive development of the ICTs industry. This important goal can be divided into four specific sub-objectives:

- Continue the national government-business dialogue initiated for the development process of the e-strategy Algeria.

- Provide all conditions to enhance the national scientific and technical abilities when it comes to the production of programs and providing services and equipment.
- Direct economic activities in information and communication technology towards exportation.
- **The fifth axis is to enable the telecommunications infrastructure in high and very high speed:**

Broadband and high-speed telecommunication networks should be able to provide the requirements across the country, at high quality and security standards.

The main objective assigned to this axis is to make broadband and high-speed telecommunication infrastructure with high and very high-speed, secure, and provide a high quality of services.

This principal objective has four specific sub-objectives:

- Upgrade the national telecommunication infrastructure.
- Network security.
- Quality of Services in networks.
- Effective management of the domain name ". dz".
- **The sixth axis is the improvement of human skills:**

Strengthening infrastructure and widespread access to ICTs must be accompanied by substantial measures for training and development of human skills to generalize the use of ICTs and ensure ownership at all levels. For the purpose of achieving this grand objective, two specific sub-objectives are targeted:

- Integrating high education and the professional training domains with the information and communication technology field.
- Training information and communication technology for all social slices.
- **The seventh axis is the reinforcement of research development and innovation:**

The knowledge-based economy requires good interaction between the research development and the financial(economic) world. It is indeed the innovation that guarantees the development of valuable products and services in the field of ICTs. With this, the main objective of this axis is the development of

valuable products and services in the ICT domain, through the intensification and innovation of research development activities.

- To achieve this goal, the following sub-objectives are targeted:
- The organization, programming, and the enhancement of the research results.
- The ability to forward technology and knowledge.
- **The eighth axis is starting up a national legal frame:**

The study of the Algerian legislation tells that the existing law does not cover the issues aroused by the use of ICTs. Because of that, it is necessary to start up a legal frame suitable for international practice and the needs of the information society. Thus the main objective is to make up a trustful environment suitable to the electronic governance by defining a legal frame and suitable regulations.

- **The ninth axis is information and communication:**

The main objective behind this axis is to demonstrate the importance of ICTs in the enhancement of the quality of life of citizens and contribution in the development of the socio-economy of the country. For the same purpose, the following sub-objective was defined:

Elaborating and realizing a communication plan in the Algerian information society. Creating an associative fabric that will work as a continuation of governmental efforts.

- **The tenth axis is the valorization of international cooperation:**

The international cooperation with other countries in the field of ICTs can be characterized by the important number of projects, particularly with the European Union in the frame of MEDA II. The major objective of international cooperation is to develop and upgrade the Algerian technology and knowledge as well as to emit and give out the country's image. This objective has two sub-objectives:

- Actively participate in the international initiative and dialog.
- Make strategic alliances to improve and promote technology and knowledge.

- **The eleventh axis is providing mechanisms of evaluation:**

The main objective of this axis is the definition of a notification, tracking, and evaluation system that allows measuring the impact of ICTs on the economic and social development form aside, and to continually (constantly)

evaluate the state of the plan e-Algeria 2013 from another. This objective can be achieved by attaining two sub-objectives:

- The elaboration of the conceptual framework of a quality indication system.
- The elaboration of a list of appropriate indicators.

• **The twelfth axis is organizational measures:**

The prime objective of this axis is the creation of a coherent intuitional organization based on three levels: the direction, coordination among sectors, and execution. This organization will guarantee an effective execution of the ambitious plan e-Algeria 2013. In this context, some specific objectives will be destined:

- Empowering coordination at the national level and among sectors.
- Intensifying the intervention skills at the sector level and the specialized institutional level.

• **The thirteenth axis is financiers, and planning means:**

The elaboration of the strategy e-Algeria 2013 requests significant financial resources, so it is necessary to use them wisely. An important budget of the strategy e-Algeria 2013 is elaborated every year based on the level of progress of the plan, providing this budget will continue until the end of the year 2013.

2. The Algerian Electronic Government Development Index (EGDI)

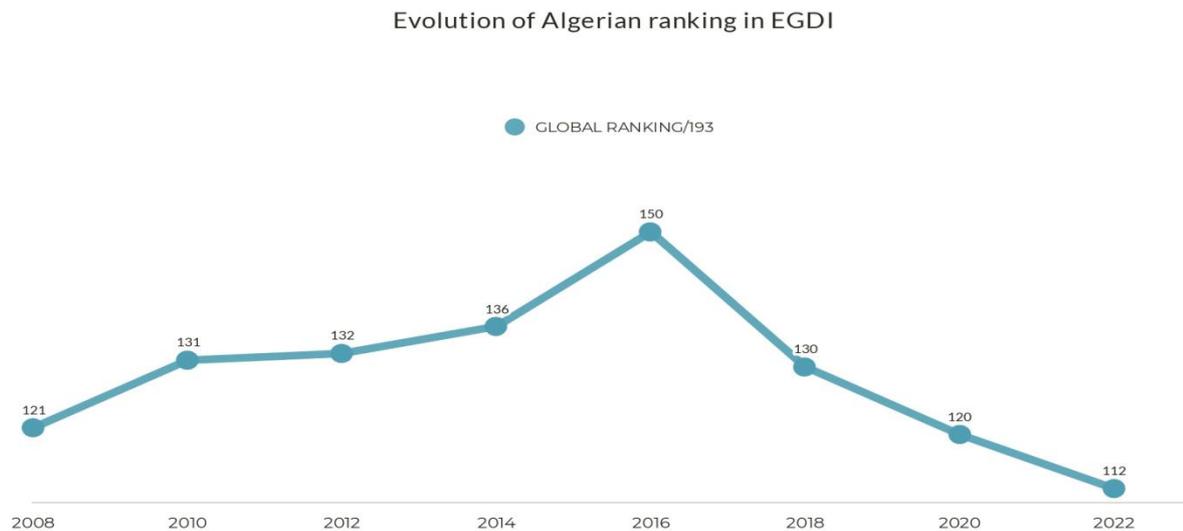
In the table below, the researcher tried to follow up on the development of these indicators in Algeria, through the reports published during the years (2008, 2012, 2014, 2016, 2018, 2020 and 2022), which was the period of our research.

Table N°1: The evolution of Algerian EGDI and its sub index during the period (2008-2022)

Years	EGDI	OSI	HCI	TII	GLOBAL RANKING/193	Change
2008	0.3515	0,2241	0,7114	0,1230	121	2-
2010	0.3181	0,0984	0,7377	0,1248	131	10+
2012	0.3608	0,2549	0,6463	0,1812	132	1+
2014	0.3106	0,0787	0,6543	0,1988	136	4+
2016	0.2999	0,0652	0,6412	0,1934	150	14+
2018	0.4227	0,2153	0,6640	0,3889	130	20-
2020	0.5173	0.2765	0.6966	0.5787	120	10-
2022	0.5611	0.3743	0.6956	0.6133	112	8-

Sources: made by the researcher based on the united nation statistics

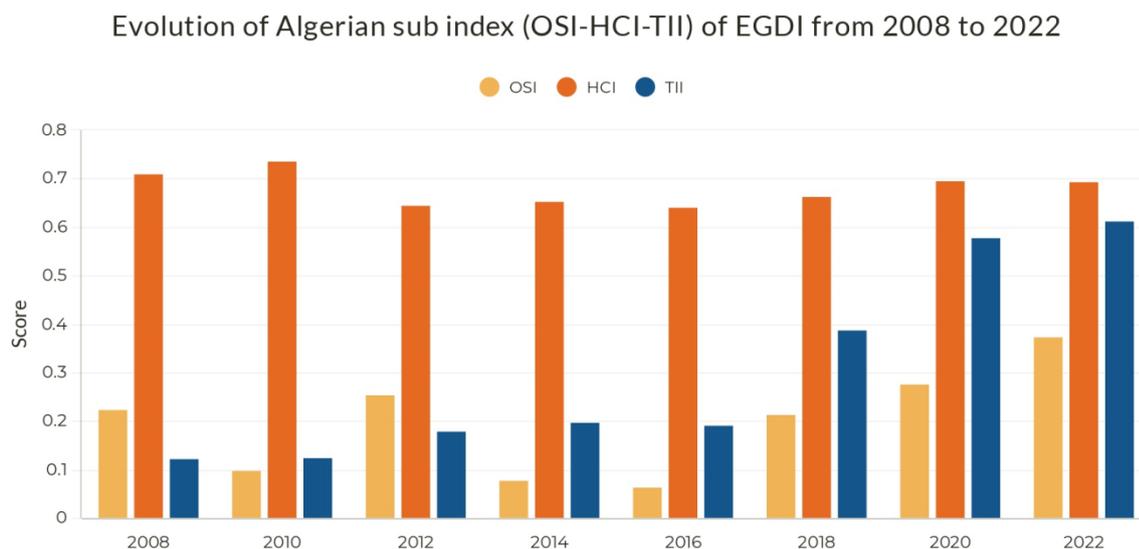
Figure N°1: The evolution of Algerian EGDI ranking



Sources: made by the researcher based on the united nation statistics

From the table above we notice that there had been a considerable evolution in the Algerian EGDI from 2008 to 2022, where it increased from 0.3515 to 0.4227 leading Algeria to improve its global ranking amongst 193 countries, jumping 18 positions from the 130 in 2018 to the 112 in 2022. Despite all that, it is still at the bottom of the global ranking.

Figure N°2: The evolution of Algerian sub index of EGDI during the period 2008-2022



Sources: made by the researcher based on the united nation statistics

Nevertheless, if we pay attention to the sub-index we notice that the HCI (Human Capital Index) was quite satisfying compared to the other index; it was 0.71140 in 2008 much better than the sub-regional average (0.69) and the regional average (0.59). However, the negative point is that the human capital index has weakened over the years, where it reached 0.6640 in 2018. That means that the stronger indicator in Algerian index government is not supported enough — that is why the government should invest more in improving the situation of the human capital.

The weakest index was the OSI (Online Service Index). Moreover, we notice from the table above that this index was not stable at all. From 2008 until 2022 it fluctuated and went through several ups and downs, where it dropped from 0.2241 in 2008 to 0.0984 in 2010, then jumped to 0.2549 in 2012; then dropped again in 2014 to reach 0.0787 then dropped more to 0.0652 in 2016. In 2018, we notice slight recovery compared to 2016, but still we did not catch up the score of 2008. 2020 (0.2765)...2022 (0.3743) In fact, this result was confusing.

The last index we are going to analyze from the table above is the TII (Telecommunication Infrastructure Index). It is a fragile result, but at least it was, to some extent, stable not like the OSI. Also, we notice that the Algerian TII was 0.1230 in 2008 and it has improved over the years until it reached 0.3889 in 2018. In 2018. Also, we notice an increase of the index compared with the regional average (0.2) and sub-regional average (0.32). What we can understand from analyzing this index in 2010 is that the Algerian index (TII) was 0.1248, which is a little too far from the world average (0.24) and a little bit less than the sub-regional average (0.13) but much better than the regional average (0.06).....2020-2022

Conclusion:

This study evaluated the reality of the application of the e-Governance project in Algeria through the analysis of the United Nations e-Government development index (EGDI) during the period (2008-2022), while Algeria adopted the e-Government project in 2008 (Electronic Algeria 2008-2013), which was a consistent and comprehensive project, it aims to realize the information society in Algeria, as well as to bring the administration closer to the citizen by providing electronic public services.

Despite the progress and improvement of the e-Government development index (EGDI) in Algeria in recent years, as seen in the change in the ranking of Algeria from a medium score to a high score, we have noticed that the infrastructure sub-index and the electronic services are still feeble compared to

other indicators, we conclude that Algeria is still encounters difficulties in embodying the e-Algeria project in reality.

From the above, this study led to a number of results, the most important of which are:

- Algeria, like the rest of the world, has striven to embody the e-Government agenda despite the challenges it faces, especially those related to infrastructure.
- We have seen an improvement in the e-Government development index (EGDI) in Algeria from 2008 to 2022, and the reason for this is due to the effort of the Algerian government in recent years on improving the level of digital environment in Algeria.
- The level of e-Government applied in Algeria is still at the first generation, and there is still a long way to go to achieve a highly efficient digital environment.
- The e-Government project in Algeria has achieved many results, but it has not achieved the objectives set under the e-Algeria program, since many of the objectives to be achieved in 2013 have not yet been achieved. .

This study resulted in the following recommendations and proposals:

- Develop a well-defined strategy that is characterized by effectiveness and efficiency in addition to a global vision of the future of the e-Government program in order to remedy the imbalances that the application of the e-Algeria program on (2008-2013) has experienced.
- The government should provide more efficient e-services.
- The government should make available the high speed Internet in all regions of the country.
- The government should invest more in infrastructure related to information and communication technologies (ICTS).

Bibliographie

- (n.d.). Retrieved from <https://ctb.ku.edu/en/table-of-contents/evaluate/evaluation/framework-for-evaluation/main>
- Aitoukaci, A. (2019). the impact of e-administration in promoting local public service in algeria:case study bouira prefecture. 9. Pekin, CHINE.
- Assefa, m. (n.d.). Public Policy Making and Analysis.
- ECOMMISSION, R. (2008). *e-Algerie*.
- *handbook of public policy analysis:theory,politics and methods*2007crc presse
- hatsu, s. (2018). A FRAMEWORK FOR BENCHMARKING E-GOVERNANCE PROJECTS IN DEVELOPING countries. south africa.
- IANCU, A. (n.d.). *e-administration as a way of increasing the managerial capacity in the public sector*. Retrieved 03 02, 2023, from unpan1.un.org/intradoc/groups/public/documents/.../unpan009207.pdf
- *l'etude des politiques publiques "les acteurs et leurs pouvoir"*2009les presse de l'université laval
- michel, H. (2005). *e-Administration,e- Government,e-Governance, and the learning city A typology of Citizenship management using ICTs*. Retrieved 02 10, 2023, from http://www.researchgate.net/publication/228693642_e-Administration_e-Government_e-governance_anf_the_Learning_City_A_Citizenship_management_using_ICTs
- Narain, V. (2018). *A View from the South*. cambridge: Cambridge University Press.
- OCDE. (2020). *How Can Governments leverage policy evaluation to improve evidence informed policy making?* OCDE.
- Step by Step – Evaluating Violence and Injury Prevention Policies. (n.d.). *Brief 1: Overview of Policy Evaluation* . National Center for Injury Prevention and Control.
- UN. (n.d.). <https://publicadministration.un.org/egovkb/en-us/About/Overview/-E-Government-Development-Index>.