

Digital transformation in Algeria according to the Arab Digital Economy Index

التحول الرقمي في الجزائر وفق مؤشر الاقتصاد الرقمي العربي

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Abstract:

This study aimed to clarify the reality of the Algerian experience in the field of digital transformation, as the descriptive approach was used to present the theoretical foundations, as well as the analytical approach by presenting and analyzing the most important statistics issued by the Arab Digital Economy Report for the year 2024.

we concluded that Algeria possesses a number of components that have allowed it in recent years to adopt important steps in the field of integrating digital technology into a number of sectors. However, it still faces a number of challenges, which requires the Algerian government to redouble its efforts and take serious policies, the most important of which are: strengthening the digital infrastructure and institutional frameworks, working to increase digital knowledge of the human resource, and enacting supporting legal legislation, as these elements are considered the basics of achieving fully successful digital integration and transformation.

Keywords: Digitalization ; Information Technology; Digital Economy; digital transformation ; Algeria.

JEL Classification Codes: L86, M15, O14, O33.

ملخص:

هدفت هذه الدراسة إلى توضيح واقع التجربة الجزائرية في مجال التحول الرقمي، حيث تم استخدام المنهج الوصفي لعرض الأسس النظرية

لموضوع البحث، وكذلك المنهج التحليلي من خلال عرض وتحليل أهم الإحصائيات الصادرة عن تقرير الاقتصاد الرقمي العربي لعام 2024.

وتوصلنا من خلال هذه الدراسة إلى أن الجزائر تملك عدد من المقومات سمحت لها في السنوات الأخيرة بتبني خطوات هامة في مجال دمج التكنولوجيا

الرقمية في عدد من القطاعات والعمليات. إلا أنها لا زالت تواجه عدد من التحديات في هذا الصدد، الأمر الذي يتطلب من الحكومة الجزائرية

مضاعفة الجهود، واتخاذ إجراءات وسياسات جادة من أهمها: تعزيز البنية التحتية الرقمية والأطر المؤسسية، العمل على زيادة المعرفة التكنولوجية

والرقمية للموارد البشري، سن التشريعات القانونية الداعمة، إذ تعتبر هذه العناصر من أساسيات تحقيق اندماج وتحول رقمي ناجح بشكل تام.

كلمات مفتاحية: الرقمنة ؛ تكنولوجيا المعلومات ؛ الاقتصاد الرقمي ؛ التحول الرقمي ؛ الجزائر.

تصنيفات JEL: L86 ، M15 ، O14 ، O33.

INTRODUCTION:

The modern economic world is witnessing radical and rapid developments and changes, with information and communication technologies being one of its most important features.

This has led to the transition from a traditional physical economy to a digital economy.

The growing interest in the digital economy at the international level results mainly from its distinguished role in promoting economic growth and contributing to the revival of most economic sectors and fields, including industry, trade, banking, education, administration, and the modernization of public facilities, as well as contributing to achieving sustainable development goals in general.

This new trend, which integrates digital technology into aspects of social and economic life, contributes to achieving efficiency and effectiveness in management practices and improving the performance of organizations.

Algeria, like other countries in the world in general, and Arab countries in particular, is seeking to shift towards digitization and digital electronic processing in most sectors and fields.

Through this research paper, we have attempted to analyze the reality of the Algerian experience in the field of digital transformation by studying and analyzing the Arab Digital Economy Index with its sub-dimensions, issued by the Arab Federation for the Digital Economy, which is considered a pivotal measurement tool that provides accurate data on the status and progress of digital transformation in the Arab region, including Algeria, to identify the strengths on the one hand and the challenges that face it. In our study, we used the results of the fourth edition of this indicator for the year 2024.

Study problem :

Accordingly, the problem of this research paper can revolve around the following question: What is the reality of digitization and information technology applications in Algeria?

Study hypotheses:

- Algeria has the main components for the transition towards a digital economy.
- There are actual efforts by the government to make the transition to a digital economy a success.

study objectives :

Through this research paper, we tried to achieve a number of goals, which are as follows:

- Addressing the theoretical foundations of the digital transformation.
- Knowing the most important pillars of this trend on the one hand, and the most important obstacles that prevent its achievement
- Identify the most important indicators used to assess a country's integration into the digital economy.
- An attempt to analyze the reality of the Algerian experience in the field of digital orientation, and to identify the difficulties and obstacles that prevent full and real integration into this type of economy.

The importance of the subject :

- The importance of this research paper stems from the fact that it addresses an important topic, "digital transformation," which is one of the topics that has a significant impact on contemporary economies characterized by rapid development and change, and of which

information and communication technologies and their techniques are among its most important features.

- Integrating digital technology into all aspects of organizations contributes to achieving fundamental changes in how they utilize resources, how they conduct their daily business, how they provide services to stakeholders, and enhancing government accountability, which ultimately benefits the organization, individuals, society, and the economic business environment.
- Moving towards this transformation has become necessary For institutions and governments in general, it has become one of the most important strategic options.

Study Methodology :

In this study, we relied on the descriptive approach by presenting the theoretical foundations of the research topic "Digital Transformation."

In addition to the analytical approach, by presenting and analyzing the Arab Digital Economy Index 2024 in its dimensions, in order to understand the reality of Algeria's digital transformation, the country's strengths in this field, and the challenges it faces.

Previous studies :

Table No 01 : Summary of previous studies

Author	Year	Title	Result
Niall Ferguson	2019	Mastering the Digital Transformation Process: Business Practices and Lessons Learned	The study found that, in addition to technology adoption, important factors for successful digital transformation are the ability of an organization to change and operational excellence in the integration of external digital services with internal IT support.
Yamaç Kaya, Faik Tunç Bozbura	2023	Digital Transformation : A Cognitive study for organization to shape their journeys	Findings showed that digital transformation is not only about digital technologies but also the transformation of business models and cultural change. And organizations may have to consider law regulations, hiring, management support, and customer experience more, to do a successful digital transformation
Charrak Mohamed Hocine . Fortas Fatiha .	2024	Digital Transformation In Algerian Enterprises: Reality And Challenges	The study concluded that despite the availability of digital infrastructure and investment in it, and despite the good adoption of information and communication technology by institutions, digital transformation is still in its early stages and is affected by challenges and obstacles represented by the lack of skills and digital culture, resistance to change, organizational culture, and financial constraints
Nasri Abdelkader	2025	Digital Management In The Era Of Digital Transformation In	The results indicate that the implementation of digital management has been delayed in Algeria, both in terms of the development plans for

		Algeria: A Legal Approach	institutions and the digital transformation strategies adopted by the government. This management approach cannot succeed without the participation of all stakeholders in the field. Furthermore, the increasing violations and breaches hindering the proper use of digital posed by the knowledge economy. technology in these institutions require the intervention of digital law to protect them and help them keep pace with the new demands.
Kouah Karima	2025	Digital Transformation And Its Impact On The Performance Of Banks In Algeria During The Period (2013-2023)	This research paper aimed to highlight the extent to which digital transformation contributes to increasing banks' performance, and It concluded that Algeria, headed by the Central Bank (Bank of Algeria), sought to adopt special strategies that include measures that allow for enhancing digital transformation in banks and raising their performance levels through legislation and amendments to laws, the latest of which is the Monetary and Banking Law 23/09, which seeks to establish electronic payment and electronic currency for the Bank of Algeria

Source: Author.

- Comment on previous studies :
 - There are a number of studies that have focused on the subject of digital transformation, including local and foreign studies, which have generally concluded that administrative support, digital infrastructure, organizational culture, financial requirements, and legal regulations are all essential elements necessary to achieve a successful digital transformation. also, There are a number of obstacles represented by a lack of skills, digital culture, resistance to change, and financial constraints. It was also concluded that digital transformation in Algeria is still in its early stages.
 - Our current study is consistent with most previous studies, and differs from them in terms of the limits and time period of the study, as in our current study we studied the reality of digital transformation in Algeria in all its sectors and fields, while some previous studies dropped this topic on the Algerian business environment , but limited it to specific economic institutions or a specific economic sector such as (the banking sector), this is on the one hand,
 - On the other hand, we relied in the analysis, unlike previous studies, on the Arab Digital Economy Index according to the 2024 report, with its dimensions (institutional dimension, infrastructure, innovation, technological readiness, e-government, market development and growth, and sustainable development), which allowed us to evaluate the reality of digital transformation in Algeria compared to a number of participating Arab countries.

1- Basics of digital transformation :

1-1 Definition :

- Digital transformation is the adoption of digital technology by a company to improve existing business models and create new ones. Technology in the digital field also goes beyond the idea of switching to software and hardware used in automation . This transformation requires a change in leadership, different thinking, encouraging innovation and new business models, integrating asset digitization and increasing the use of technology to improve the experience of an organization's employees, customers, suppliers and all stakeholders. (Vida. Korang, 2025, p. 300).
- Digital revolution in business has been defined as the process of deep and accelerated transformation of business activities, processes, competencies and models, through full and optimal use of available digital opportunities and technologies. (KUMAR, 2016, p. 03). Its implementation in the administrative field contributes to the transformation of electronic management, through the use of information and communications technology with the aim of improving operations and communication between users within the same department or even between different departments. (naoufal Lahlimi, 2023, p. 04)
- transformation primarily depends on leveraging the right digital technology at the right time on the right processes at the right cost. (Stephen JAndriole, 2018, p. 06)
- Digital transformation should begin with a problem statement, a clear opportunity, or an aspirational goal, For example, as mentioned previously, the latter may aim to improve customer experience, reduce friction, increase productivity, or raise profitability . (the enterprisers project, p. 03).
- From the above, digital transformation can be considered as the process of redesigning activities, businesses, procedures and services and transforming them into electronic digital processes through the use of information technology to achieve benefit from digital reality in all aspects of business.

1-2 Reasons for moving towards digital transformation :

Among the reasons that have forced organizations and administrations to move towards digital transformation are several positive aspects and points achieved by the latter, including the following:

- By embracing digital transformation, organisations can position themselves for long-term success in an increasingly digital world. It also allows them to better serve customers, improve operational efficiencies, drive innovation, seize new growth opportunities and to be AI-ready. (ML Team, 2023, p. 02)
- digital transformation is not equivalent to deploying digital technologies nor offering digital products. Digital transformation instead is about leveraging them to create more value, acquire new capabilities and revolutionize the business model. (AHMED SALEH, 2020, p. 04)
- Digital technology features allow people to have more active interactions with content, and also allow content to be widely disseminated to customers. Digital connectivity also overcomes physical barriers and It allows businesses to reach more people and build a

customer network based on interests rather than geographic location. (Mariam H. Ismail, 2017, p. 28).

- Digitally accelerated activities may excel, Through technological techniques it allows the present to be easily recorded and the past to be checked, indexed, reused, resold and remembered.
- Digital transactions give the ability to classify, encode and store information in a standardized digital form, providing the basis for efficient interaction and reducing transaction costs. (OECD, 2019, p. 27)
- Processing business and information in light of this trend is based on communication networks and modern technologies that increase operational efficiency and contribute to reducing costs (such as the costs of paper and ink used in printing to preserve and disseminate information between administrative levels
- Effective time management : as many procedures and transactions are processed very quickly based on information and communications technology techniques compared to the traditional method.

1-3 Stages of the digital transformation process :

-Digital transformation is a step beyond digitization, as it involves the shift to new ways of working based on digital communications and data technologies, which can significantly improve productivity and efficiency. (Hashem, 2024, p. 4164) . The latter is considered a managed adaptation of companies in light of the progress of digitization in order to ensure sustainable value creation. (Henner Gimpel, 2015, p. 05)

-To transform into a digital business, two tools need to be used: (Nissar, 2022, p. 05)

- converting information from analogue to digital, or automation of business processes through information and communication technologies.
- use of digital technologies to change a business model and provide new revenues and value-producing opportunities.

The most important stages it goes through can be identified as follows: (Stephen JAndriole, 2018, pp. 8-14)

- Step 1: Model and Simulate : that digital transformation requires some verifiable knowledge about the business rules, processes and models companies want to transform. This obviously requires domain expertise and the ability to model, simulate, test and transform impactful changes
- Step 2: Identify High-Leverage Opportunities : Companies must identify points of influence on their business models and operations. It should do this by collecting data on the costs and benefits of existing processes and models, and through what-if simulations of alternative improvements.
- Step 3: Prioritize Transformation Targets : companies should prioritize transformation projects. This step is complicated because it's the first one to address resource

constraints. Some opportunities will not be pursued. Others will be placed on hold. The result of the exercise will be a short list of transformation targets.

- ✓ Steps 1, 2 and 3 are about framing and anticipated leverage.
- Step 4: Identify Digital Opportunities : This step begins with the identification of emerging operational and strategic digital technologies and the roles they might play in the transformation process. At this stage, current and projected technological capabilities are simulated, and priority transformational functions are also indicated.
- Find Courageous Leaders : The search for courageous leaders could easily have been the first step in the digital transformation process. It's possible to argue that without courageous leadership, it makes no sense to take any action at all.

1-4 Digital transformation requirements :

Digital transformation puts enormous pressure on companies to become more digital. By incorporating digital technologies, companies can generate value for their customers in fully new ways. However, digital transformation remains inherently risky and business model transformation is time-consuming and costly. Managers need to be aware of several pitfalls such as changing organizational structure, culture, and leadership. (Bas Baalmans, 2021, p. 11)

Digital transformation requires a number of components to achieve it, including the following:

- administrative requirements : It is necessary to build a clear digital strategy that expresses the vision, mission and goals of institutional transformation. Through active top-down communication by managers, all employees are mobilized to actively participate in the organization's digital transformation, creating an organizational climate for the organization that is open to digital transformation and willing to learn digital expertise, and forming a good corporate culture that facilitates the generation of digital transformation. (Xiaoli Ji, 2022, p. 24). This on the one hand, and on the other hand The organization's operational framework s management must be flexible to accommodate change (Alshammari, 2023, p. 67).
- it is necessary to create an organizational climate, as digital transformation strategies require horizontal organizational coordination, as a flat organizational structure is an important factor for organizations to implement digital transformation in the new business environment. It facilitates the reduction of communication barriers between organizational levels, and improves the efficiency of business processes. At the same time, a flat organizational structure also creates structural comfort, possibilities for organizational learning, and an open and inclusive corporate culture. Therefore, organizational factors play a crucial role in the digital transformation of organizations. (Xiaoli Ji, 2022, p. 24)
- Material and technical requirements : There need to be changes in the underlying technological infrastructure including tele communications, cloud, cybersecurity, data analytics and the like. (HEEKSI, 2023, p. 08)

-Information technology is one of the most important factors for companies to achieve digital transformation. However, we note that IT infrastructure in itself is not sufficient to gain a competitive advantage because it is very easy to imitate by other organizations; the ability to

use IT infrastructure in a specific context is key to creating value for the organization. IT infrastructure and IT management capabilities integrate with each other and together contribute to IT value creation in value chain activities. (Xiaoli Ji, 2022, p. 24)

- digital transformation is prone to being associated with paradigm-shifting technologies such as artificial intelligence, machine learning, or big data, all of which require significant up-front investments in time, money, and staff before any significant benefits can be realized. (Ted Saarikko, 2020, p. 835)
- Building human capabilities and talents : Developing talent and skills across the organization is essential and one of the most important factors for success in digital change
 - And One key to enhancing the digital capabilities of the workforce is to redefine the roles and responsibilities of individuals to align with the transformation goals, which may help clarify the roles and capabilities that the organization needs. In addition to engaging the specific roles of integrators and technology innovation managers, who work to bridge potential gaps between traditional and digital parts of the business. (Martin, 2018, p. 06) . therefore competent leaders will employ the right talents and skills in the case of shortage. They also work to spread a culture of cooperation and knowledge exchange by highly skilled employees, to expand the scope of internal teams that lack the necessary skills. (Sire, 2024)
- Digital Security : Organizations are particularly vulnerable during the digital transformation of on-premises servers to the cloud or desktop to mobile. Therefore, identity protocols should be implemented as part of data system coding and protective encryption between the organization and its customers' users. This would reduce the amount of sensitive information that is becoming increasingly vulnerable to digital risks. (Alshammari, 2023, p. 69)
- Policy Support : It has been shown that government support is an important factor for the success of digital transformation of enterprises. As policy makers, governments can support the digital transformation agenda of SMEs by developing and strengthening supportive policies and programs. (Xiaoli Ji, 2022, p. 25)

2 Evaluating Algeria's reality according to the Arab Digital Economy Index :

2-1 An overview of the Arab Digital Economy Index :

- This indicator is considered one of the key performance indicators of the National Digital Transformation Strategy and Executive Plan (2021-2025)
- It is also considered one of the most important initiatives of the Arab Vision for the Digital Economy. It is a tool designed to depict the digital and economic situation in Arab countries, with the aim of providing key insights and recommendations to policymakers in the Arab region to achieve sustainable economic and digital growth goals, improve productivity, and grow the labor and business markets.

Digital transformation in Algeria according to the Arab Digital Economy Index

- The Arab Federation for the Digital Economy AFDE issued the fourth edition of the Arab Digital Economy Index for the year 2024, and it was previously issued for the years 2018, 2020, and 2022.
- The index consists of 5 strategic dimensions and 9 main pillars, including 48 sub-indicators.
- The index score is designed to be between 0 and 100, with 100 representing the best performance and 0 the lowest performance (Arab Digital Economy Index, page 3)

2-2 Algeria's ranking according to the Arab Digital Economy Index :

As for Algeria's performance level according to the Arab Digital Economy Index for the 2018, 2020, 2022, and 2024 cycles, the results were as follows:

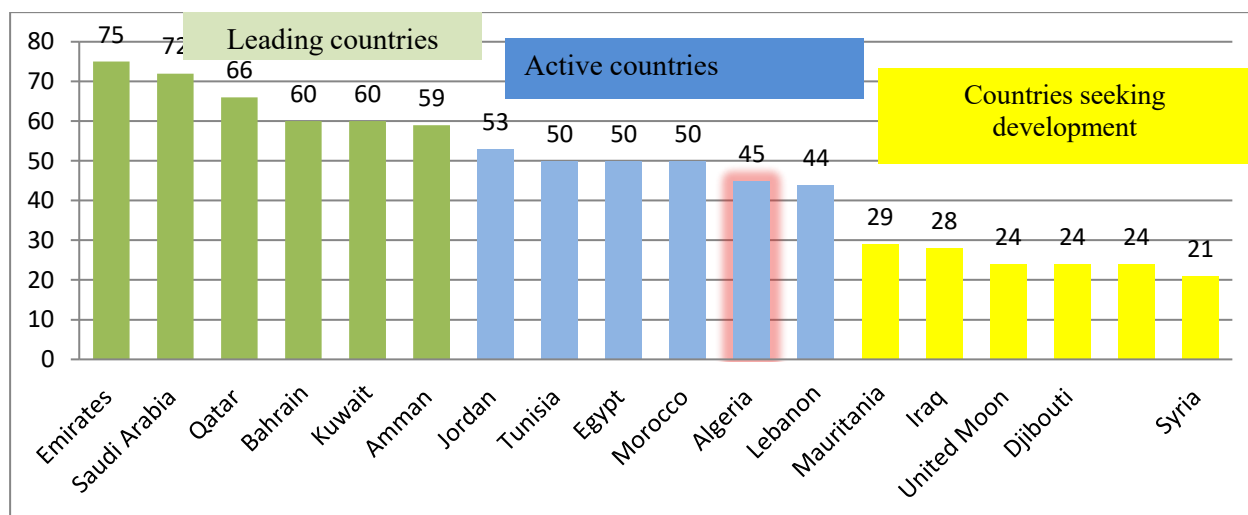
Table No : 02 Algeria's ranking by the Arab Digital Economy Index

Algeria	2018		2020		2022		2024	
	index value	Ranking	index value	Ranking	index value	Ranking	index value	Ranking
	41.4	12	36.46	12	46.5	12	45	11

Source: Prepared by author based on the results of the Arab Digital Economic Index 2024, pp. 86-87.

And, as for Algeria's ranking according to the dimensions of this indicator compared to the performance of Arab countries, the results according to the 2024 report were as follows:

Figure 01 : showing the performance of Arab countries according to leader and follower groups



Source: Prepared by author based on the results of the Arab Digital Economic Index 2024 , p 83.

- The results showed that the Gulf countries continued to lead, with results ranging from 59 points for Oman to 75 points for the UAE, compared to an average of 83 points for Singapore

and 73 points for Malaysia as benchmark countries. This group of countries is considered «leaders in digital growth, according to the indicator under study.

-The second group, as countries active in digital transformation, includes Jordan, Morocco, Tunisia, Egypt, Algeria, and Lebanon .All of these countries achieved results above 44 points for Lebanon and below 53 points for Jordan.

-Then came the third group, which are countries seeking development, and their points were between 17 and 29 according to the scale of this indicator.

- Algeria's participation in the digital economy, as reflected in the Arab Digital Economy Index, shows a foundational phase with remarkable potential for expansion and improvement, with a total score of 45 points.
- This indicates that the digital environment in Algeria is in the process of improvement and development in line with its strategic objectives, and increasing the adoption of technology in various sectors.

3- Analysis of Algeria's reality according to the dimensions and sub-indicators of the Arab Digital Economy Index 2024

As for the country's performance according to the strategic dimensions distributed over the basic axes and pillars, they can be summarized in the following table :

Table No : 02 Shows Algeria's ranking according to the sub-indices of the Arab Digital Economy Index

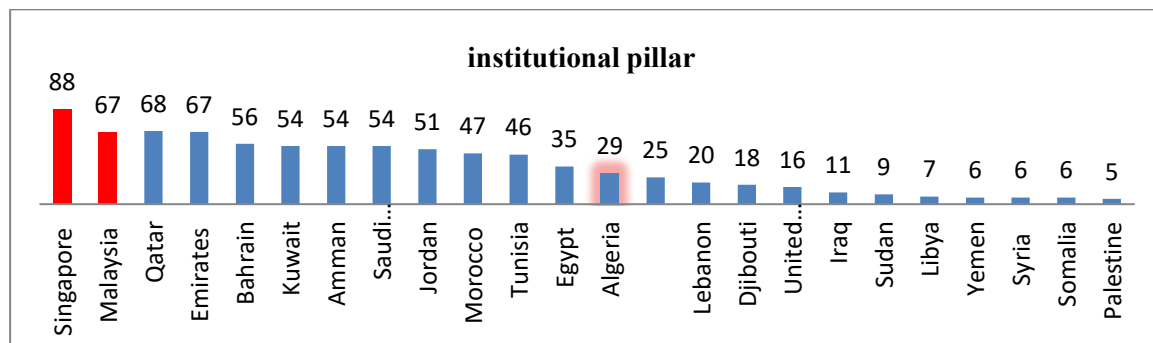
Pillars	Value	International ranking	Arrange the pillars according to priority
institutional dimension	28.7	11	06
Infrastructure	51.05	08	04
Innovation	7.4	12	09
labour force	27.39	12	07
technological readiness	60.4	12	02
e-government	56.1	11	03
evolution of the market	33	12	05
Financial market growth	19.5	11	08
Economic impact and sustainable development	72.15	08	01

Source: Prepared by author based on the results of the Arab Digital Economic Index 2024, p321-324.

3-1 Analyzing Algeria's performance according to the first pillar « institutions » :

- The first pillar (institutions) represents both the political environment, which is measured through the sub-indicators of political stability and government effectiveness, as well as the regulatory environment, which is embodied through the quality of regulation, the rule of law, the fight against corruption, and technology governance within the country.
- This pillar ensures an enabling environment for business and innovation and also ensures that the benefits of technological progress are broad and sustainable. (khouri, 2024, p. 140)

Figure number 02 : Shows Algeria's ranking according to the institutional pillar



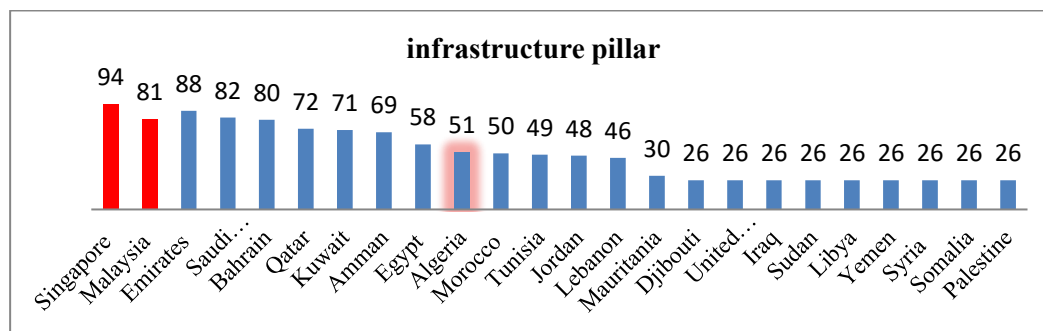
Source: Prepared by author based on the results of the Arab Digital Economic Index 2024, p143.

- According to the previous results, Algeria ranked eighth among the participating Arab countries according to this pillar with a score of 28.7, with an average estimate if compared to the highest percentage, estimated at 68, which went to the State of Qatar.
- There is also a discrepancy between the value of Algeria's performance and the record average (Malaysia and Singapore) of 78 points, with a difference of 49 points
- This gap is considered a motivation and challenge for Algeria to seek to strengthen institutional frameworks further, by maintaining economic and political stability and promoting reforms that ensure the achievement of more efficient, transparent and accountable institutions in order to achieve an efficient digital economy

3-2 Analyzing Algeria's performance according to the second pillar «Infrastructure» :

This pillar includes: access to information and communications technology, ease of use, technological inclusion, as well as electronic participation, in addition to the economic and social gap between members of society regarding the use of digital payments, and the efficiency of logistics systems, as all of these elements are necessary to achieve digital progress. (khouri, 2024, p. 146)

Figure no 03 : Algeria's ranking according to the Infrastructure pillar



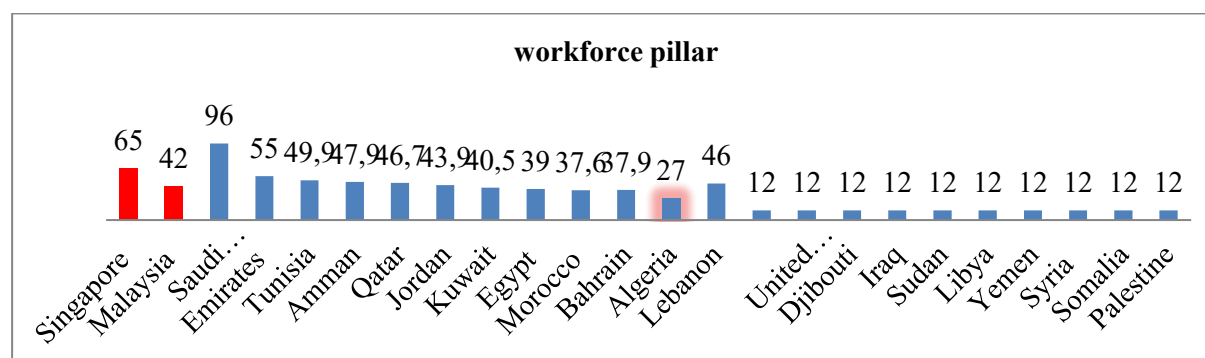
Source: Prepared by author based on the results of the Arab Digital Economic Index 2024, p150.

According to previous results, the index value for Algeria was 51, ranking 08th compared to the mentioned countries, which is a relatively good coefficient that reflects Algeria's efforts in recent years to adopt a number of reforms and policies in order to develop the infrastructure, which does not negate the need to continue these efforts to achieve further improvements in the field of enhancing digitization in various sectors.

3-3 Analyzing Algeria's performance according to the third pillar «workforce»:

This dimension includes evaluating both employment in terms of its excellence and knowledge density, the extent of its mastery of information and communications technology skills, the extent of its ability to be creative and adapt, in addition to the percentage of gross domestic product allocated to education.

Figure number 04 : Shows Algeria's ranking according to the workforce pillar



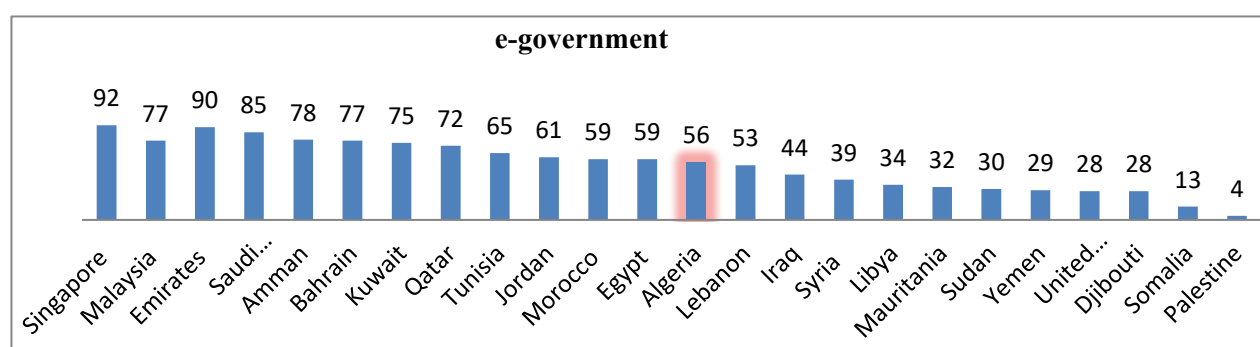
Source: Prepared by author based on the results of the Arab Digital Economic Index 2024, p150.

- The results showed that Algeria achieved a percentage estimated at 27 out of 100, where it ranked 12th, with a difference of 59 points compared to the largest value, which was for the UAE, estimated at 86, as well as a significant difference with the standard average of the reference countries, estimated at a difference of 59.5.
- This requires an urgent effort to improve the quality of education and training to develop technological and digital skills to build an efficient ecosystem for the digital economy.

3-4 Analyzing Algeria's performance according to the fourth pillar «e-government» :

This pillar is embodied in the extent to which government institutions harness information and communications technology to provide public services, by assessing the extent of development of electronic services provided via the Internet, the basic communications infrastructure, and the human capital component necessary to support digital government. (khouri, 2024, p. 160)

Figure number05 : Shows Algeria's ranking according to the e-government pillar



Source: Prepared by author based on the results of the Arab Digital Economic Index 2024, 164.

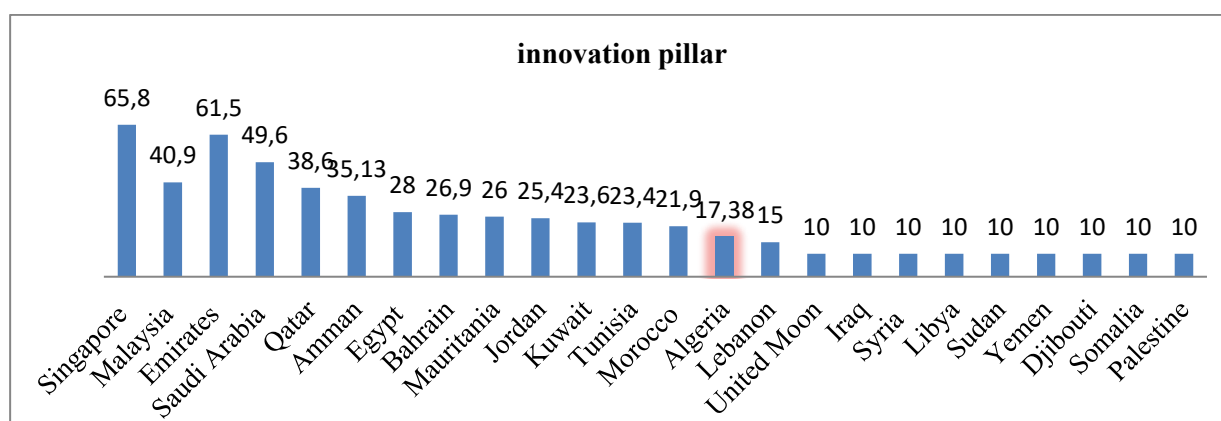
Digital transformation in Algeria according to the Arab Digital Economy Index

- Previous results showed Algeria ranked 11th with a value of 56 out of 100, which is higher than the average value. It reflects the country's efforts to enhance the use of digital technology in providing public services, but it remains a lower indicator compared to countries that have achieved a qualitative leap in this field, such as the UAE, which surpassed the performance of the reference country Malaysia in this pillar, achieving a percentage of 90 out of 100.
- This is also justified by the previously mentioned values related to the workforce and infrastructure that are directly related to this dimension.

3-5 Analyzing Algeria's performance according to the fifth pillar «innovation» :

This dimension measures the extent to which a country fosters an environment conducive to creativity and technological progress, by assessing indicators such as total spending on research, cooperation between universities and industry in the field of research and development, as well as the extent of the impact and uptake of knowledge.

Figure number 06 : Shows Algeria's ranking according to the innovation pillar



Source: Prepared by author based on the results of the Arab Digital Economic Index 2024, 170.

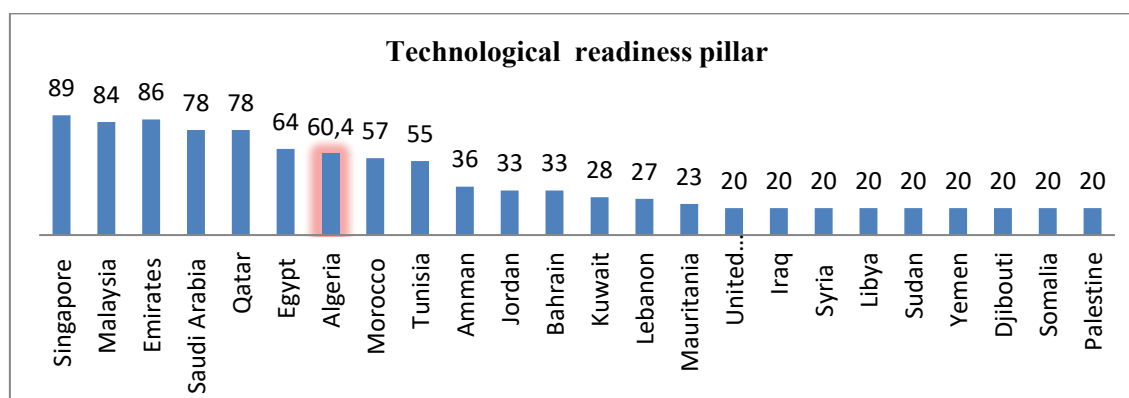
As for the reality of Algeria according to this indicator, it is very weak, estimated at 17.38, compared to the value of the index of the best country in this field, which was represented by the Kingdom of Saudi Arabia, with a value of 69.64, as well as with the value of the standard measure of reference countries estimated at 53.5, with a difference of 36.5

This requires the state to encourage more investment in research and development, and to support, especially emerging institutions, to adopt the spirit of creativity and innovation.

3-6 Analyzing Algeria's performance according to the sixth pillar «technological readiness» :

- This pillar represents the state's ability to adapt to rapid and evolving technical and technological development. This indicator can be measured by the country's dependence on and investment in emerging technologies, as well as the extent of adoption of artificial intelligence strategies related to the digital economy.

Figure number 07 : Shows Algeria's ranking according to the technological readiness pillar



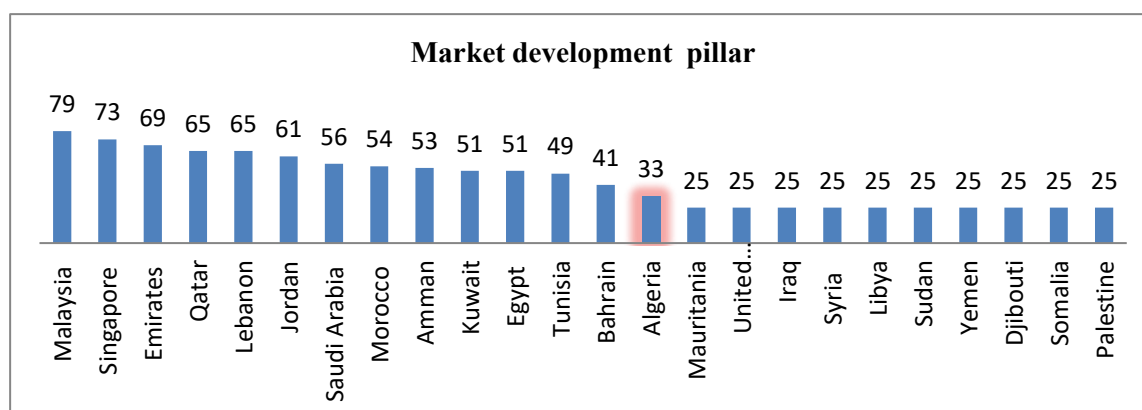
Source: Prepared by author based on the results of the Arab Digital Economic Index 2024, 176.

- For this sub-index, Algeria ranked 12th with a value of 60.4, which is an acceptable percentage that reflects the efforts made by the country in this regard.

3-7 Analyzing Algeria's performance according to the seventh pillar «Market development»

This pillar reflects the maturity and development of financial and credit services, which are essential to fostering business environments conducive to innovation and economic development.

figure number 08 : Shows Algeria's ranking according to the Market development pillar



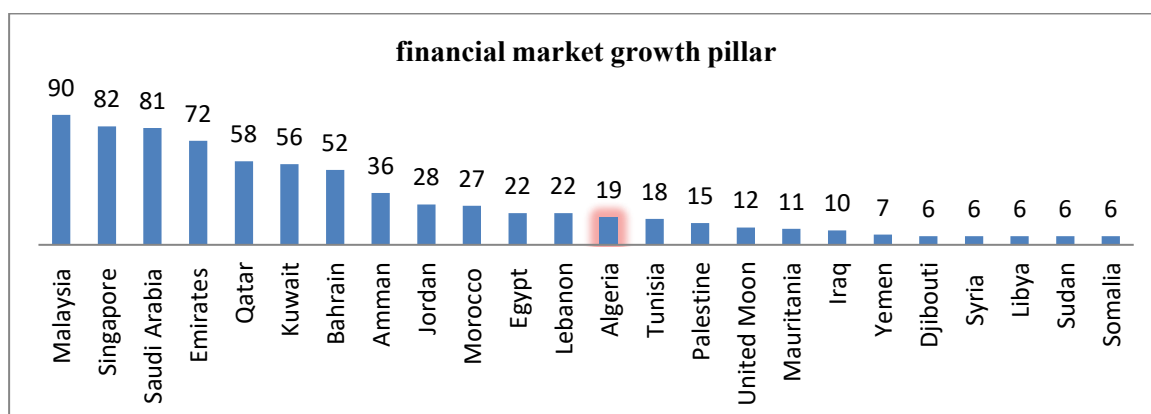
Source: Prepared by author based on the results of the Arab Digital Economic Index 2024, 182.

- Algeria ranks 12th among Arab countries, with a moderate and somewhat acceptable percentage, which reflects an development in the financial services provided .
- However, further efforts must be intensified to achieve financial inclusion, especially when this value is compared with the average benchmark value for reference countries.

3-8 Analyzing Algeria's performance according to the eighth pillar «Financial market growth»

This pillar reflects the extent to which countries have succeeded in integrating financial inclusion and fintech into their economic frameworks.

figure number 09 : Shows Algeria's ranking according to the Financial market growth pillar



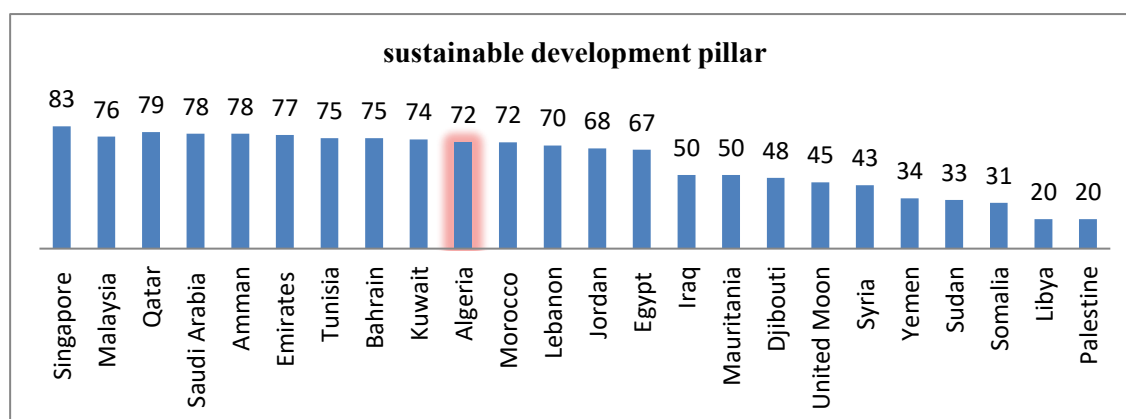
Source: Prepared by author based on the results of the Arab Digital Economic Index 2024, 188.

-The value of this indicator for Algeria reached 19.46, which is a very weak percentage compared to the value of the standard indicator estimated at 86, as well as the values of countries that have achieved remarkable steps in this regard, such as Saudi Arabia and the Emirates. Despite the qualitative leap achieved by the country in this field, government efforts must be intensified to improve this pillar.

3-9 Analyzing Algeria's performance according to the ninth pillar «sustainable development» :

The Sustainable Development Pillar is a measure of how effectively countries are employing technological progress to advance towards the United Nations Sustainable Development Goals, and this includes a wide range of goals.

figure number10 : Shows Algeria's ranking according to the sustainable development pillar



Source: Prepared by author based on the results of the Arab Digital Economic Index 2024, 194.

- Algeria ranked 08th according to this pillar, and the value of this indicator was high, estimated at 72, which is a value close to the highest value for this dimension, as well as the value of reference countries such as Singapore and Malaysia
- This reflects the efforts made by the state in this field, as it has achieved high values, especially with regard to poverty eradication, where the percentage of this sub-index reached 97.67 out of 100, followed by the goal of achieving good health, well-being and quality education, followed by the rest of the goals of this pillar at a medium rate. (Values taken from the Arab Digital Economy Index 2024 report, p324).

4 Discuss the results of the study :

- By analyzing Algeria's situation according to the Arab Digital Economy Index and its dimensions, the country's position in adopting the first steps towards digital transformation as part of the country's development plan becomes clear.
 - Algeria was ranked 11th out of 22 participating Arab countries in the second group of countries active in digital transformation.
 - Algeria ranked well in the Arab world in terms of the Sustainable Development Index, Technological Readiness, and E-Government, as well as the Infrastructure Index, as the values of these indicators exceeded 50 out of 100, which are values equal to or greater than the average of this standard. This reflects Algeria's distinction in a number of components and strengths, especially in the field of political stability, and the government's effectiveness in adopting strategies that support strengthening the infrastructure to expand the provision of broad electronic services, and moving towards digitization in most government sectors.
 - It was ranked in the back ranks according to the market development and growth index, the institutional dimension, the workforce, and the innovation index, respectively, which explains the country's urgent need to adopt a number of policies and reforms in order to achieve significant improvements in the innovation ecosystems, work to produce a skilled workforce in the technological field by increasing digital knowledge through improving levels of education and training. While ensuring the safety and security of digital operations to enhance citizen confidence in dealing with electronic and digital operations,
 - All of these elements form the basis that ensures the country's ability to adapt to economic and digital developments, and ensures that the benefits of technological progress are broad and sustainable.
- ✓ Through the above, we confirm the validity of the study hypotheses, Accordingly, it can be said that Algeria has some basic components for moving towards digital transformation, and has taken actual measures to integrate the digital aspect into a number of sectors. However, we point out, as we presented in the previous results, that Algeria still needs to strengthen further efforts to achieve this trend completely.

Conclusion:

From the above, it was concluded that moving towards a digital economy has become an inevitable necessity in light of the current economic conditions and rapid technological developments.

In this regard, we noted that Algeria, represented by its governmental side and its institutions, is striving to adopt the digital economy and work to digitize most sectors and processes to benefit from the outcomes of this digital transformation, especially since Algeria possesses a number of components that allow it to adopt this approach.

However, despite these efforts, their ranking according to the Digital Index of the Arab Economy indicates that they are still lagging behind on the Arab level, as they ranked 11th out of 22 Arab countries classified according to this index and have not yet joined the countries classified as leaders of digital transformation.

All this indicates the existence of a number of challenges and obstacles that the country suffers from, which were mentioned in the previous analysis, which requires Algeria to increase investment in this aspect through a number of procedures and measures that can be summarized as recommendations for research, which are as follows:

- Intensifying government efforts in the field of developing information and communication technology, and improving infrastructure to enhance the mechanisms of the digital economy.
- Working to produce a skilled workforce in the technological field, by improving levels of education and training.
- Working to enact laws and legislation that facilitate access to the world of digitization and digital electronic transactions within a specific regulatory framework.
- Working to achieve information security to enhance citizen confidence in dealing with electronic and digital operations .
- Benefiting from the experiences of successful countries in the field of digital transformation, including the reference countries Malaysia and Singapore.

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