

The digital economy in Algeria-opportunities and prospects- Economie numérique en Algérie - opportunités et perspectives-

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Abstract: Algeria treid to develop the information and communication technology through various actions, as to establish sectoral policy of the post and wired and wireless communications sice the beginning oft he year 2000. Creating a legal environment conducive to competition and improve access to telecommunications services, especially mobile phone service. In 2008, Algeria develops a real strategy clear and consistent to support the digital transformation in the Algerian economy. But the project e- Algeria was abandoned in the middle oft he road. Even today, the Algerian cannot, buy, sell, reserve through the internet. Experts explained this situation in the absence of political will to develop the digital economy in Algeria. But the collapse of oil prices has forced Algeria to diversify the economy on the basis of ICT and the knowledge economy.

Keywords: the digital economy in Algeria; project e-Algeria; the information and communication technology.

(JEL) Classification : O30 ,O33.

Résumé : L'Algérie s'est efforcée de développer les TIC par diverses mesures, notamment la mise en place d'une politique sectorielle des postes et télécommunications depuis le début de l'an 2000. Elle a créé un environnement juridique propice à la concurrence et à un meilleur accès aux services de télécommunication. En 2008, l'Algérie a élaboré une stratégie claire et cohérente pour soutenir la transformation numérique de l'économie Algérienne. Mais le projet e-Algérie a été abandonné au milieu de la route. Même aujourd'hui, les algériens ne peuvent pas, acheter, vendre, réserver via Internet. Les experts ont expliqué cette situation en l'absence de volonté politique de développer l'économie numérique en Algérie. Mais l'effondrement des prix du pétrole a contraint l'Algérie à diversifier son économie sur la base des TIC et de l'économie du savoir.

Mots-clés : économie numérique en Algérie ; projet e-Algérie ; technologie de l'information et de la communication.

(JEL) Classification : O30 ,O33.

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1. INTRODUCTION:

Algeria is collapsing relentlessly in the crisis, so the problem today is not how long it will be and how the crisis can be resolved, but how it will emerge from this crisis with the least damage and avoid falling into it again. In fact, the economy of Algeria, the largest country in Africa in terms of area, is a riei economy, with oil revenues accounting for 98% of exports and 60% of the state budget. So far, it has not been able to create a strong and diversified economy.

The collapse of oil prices made Algeria collide with the wall, a situation that could have been avoided if the Government took the necessary measures and took alerts from economists and various international economic bodies that predicted the collapse of oil prices. The Algerian Government strives to find appropriate solutions or, rather, the only remaining solution is to diversify the economy.

In a more interdependent and inclusive world economy, no economic reform can be taken away from the sight of the international community and without taking into account recent trends in the global economy.

The Davos forum (Davos), held on 21-23 January 2016, to draw up future plans; the future of humanity; the economy; the foundation; work... During these three days, all the inputs centred on the fourth industrial Revolution, which is the title of this meeting organized by the World Economic Forum.

After the steam engine, electricity and mechanization of industries, the fourth industrial Revolution came. Now the concept of Internet stuff, smart factory, information economy, biotechnology... This is the era of the digital economy.

Like all previous revolutions, the trend towards the digital economy takes place at the global level (industrialized countries or in the path of growth, a society where or portfolios, education, culture, sport... etc.), where it is not possible to escape this transformation of any country, society or any economic sector.

1.1. Research Problematic:

Through the foregoing, the question can be formulated:

what are the opportunities and prospects of the digital economy in Algeria?

Sub-Questions:

- 1.What are the government's strategies to create an environment conducive to the development of the digital economy?
- 2.What is the future of information technology, communication and digital

economy in Algeria?

Hypotheses:

-The digital economy is the economy based on modern design and advanced technology:

-Algeria suffers from many shortcomings in the field of technology, despite the availability of some infrastructures in this area.

1.2. Research Aims:

The objectives of the study are:

-Study of the new economy and its main features in the Algerian economy;

-Knowledge of the reality of the infrastructure of the digital economy in Algeria;

-Presenting the prospects of the new economy for Algeria.

To answer these questions, this paper has been divided into two axes, one on the status of digitization in the economy of Algeria and the second on the infrastructure in the use of information and communication technology in Algeria.

1.3. Research Importance:

The importance of this research paper is highlighted by highlighting the reality of the digital economy in Algeria and the extent to which it has contributed to the development of the Algerian economy.

2. The status of digitization in the Algerian economy:

2.1 Definition of the digital economy:

New information and communication technologies (*NTIC*), the new economy, the knowledge economy, the digital economy, all of these designations describe the digital economy and vary from one country to another. In Algeria, the naming used is the TIC of information and communications technology or NTIC.

Since the digital economy is not determined by a specific economic sector, there is no specific definition of the term. In fact, the digital economy is of a global nature, affecting all sector activities. It can be defined as "the continuous interaction, integration and coordination of information technology and communications, on the one hand, and the national, sectoral and international economy, on the other hand, in order to achieve transparency, immediacy and productivity of all economic indicators supporting all economic and commercial decisions and Finance in the country during a period, it plays a strategic role in increasing the rates of economic growth and reforming the economic, commercial

and financial mechanisms, and in particular, information and communication technologies such as the International Network of Information (the Internet) are transforming and Changing the patterns of economic performance in Money, business, trade and investment from the traditional form to the immediate form to achieve the improvement of competitive positions by the time element, i.e. competition in time. The digital economy is helping to further integrate the economy of the state into the global economy, increase global trade opportunities and access to global markets and market sectors that have been difficult to reach in the past and improve the digital economy of relations between suppliers, exporters, competitors and Dealers, investors, banks, insurance companies, manufacturers, producers, government agencies, customs, taxation, international institutions, etc (*Farid 2007, P 25*)

The digital economy is the label used to refer to the Internet-based economy or the web economy, which is an economy that deals with digital or numerical information, digital customers, digital companies, digital technology and digital products (*Najem 2004, P88*), The digital economy is the asset in new, innovative sectors, where it has made other sectors dependent on it (*17De*). The digital economy can be classified according to its impact into three sectors, the TIC product sector, which represents its pulsating heart; a dense digital sector such as e-commerce E-commerce, whose presence is associated with the advent of digitization, and, finally, the users sector where digitization encourages their development.

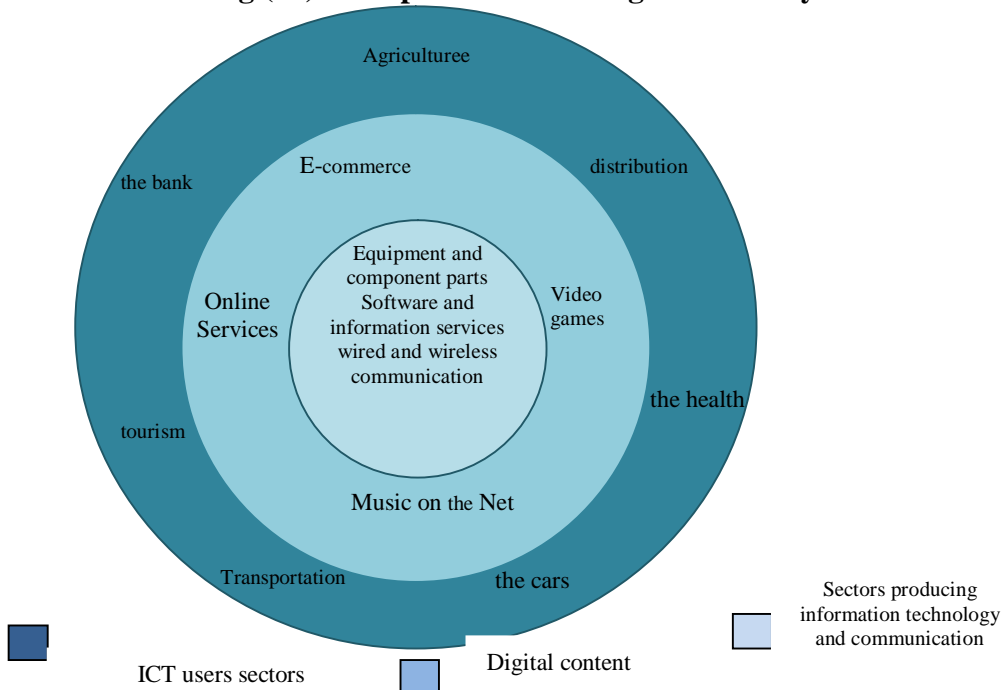
Awareness of the importance of the diffusion of information and communication technology in the growth of the economy in Algeria began at the beginning of 2000, with the adoption of Law No. 2000-03 of 05/08/2000 specifying the general rules concerning postal and telecommunications, this law came to separate the interests of mail and transportation Wired and wireless that was a march by a single public institution. This restructuring was very useful, especially for the telecommunications sector, where the mobile market was opened to competition. Unfortunately, these reforms have not been supported by real, clear and coherent strategies to strengthen the information society and the digital economy.

2.2. Digital Economy structure

The digital economy consists of a set of electronic institutions that intertwine with each other through the internal information network and other Dolbah.

E-mail and Internet sites are the broad basis for achieving economic interlinking institutions to implement e-commerce, i.e. exchanging goods, services and money online or transferring funds between sellers, buyers and banks using plastic funds (cards Credit and debit) via online e-mail and other electronic tools. The digital economy also includes the marketing of many wholesale or retail banking products through electronic distribution channels, the so-called electronic banks, which quickly achieves transactions and continuous renewal. E-shareholding companies in the digital economy design Web sites online to introduce the company, its activity, plan, financial centers, markets and export targets to achieve immediate contact with global markets. The companies also use videoconferencing and TV conferences for the same purposes (*Farid 2007, P31*)

. Fig.(01): Components of the digital economy



Source : <http://www.bsi-economics.org/546-economie-numeroique-definition-impacts>

2.3 Project e-Algeria:

Following the World Summit on the Information Society held in Tunis in 2005, where a plan of action was adopted with measures to connect information and communication technology and combat the digital divide in the world, the Algerian Government has launched several programs in this regard, and among this famous program is your family in 2006, which His goal was to provide at least six million Algerian families with a computer by 2010. This is through a bank loan with no interest rate for every family that wants to benefit from this program. This program B failed where in two years the number of borrowers reached only 25000. The reasons for this failure are due to the bank obstacles for the loan and the absence of the creative element of value added.

The first step for the Algerian Government to adopt a genuine national policy for the digital economy was in 2008. The ministry in charge of Information and communication technology (*ICT*) has taken the initiative to hold a number of meetings between the various stakeholders in the period between June and December 2008. 6 months were necessary to prepare the project e-Algeria 2013 (*Project e-Algeria s.d.*). The program was co-developed by academics, researchers, economists, associations, Algerian and international experts.

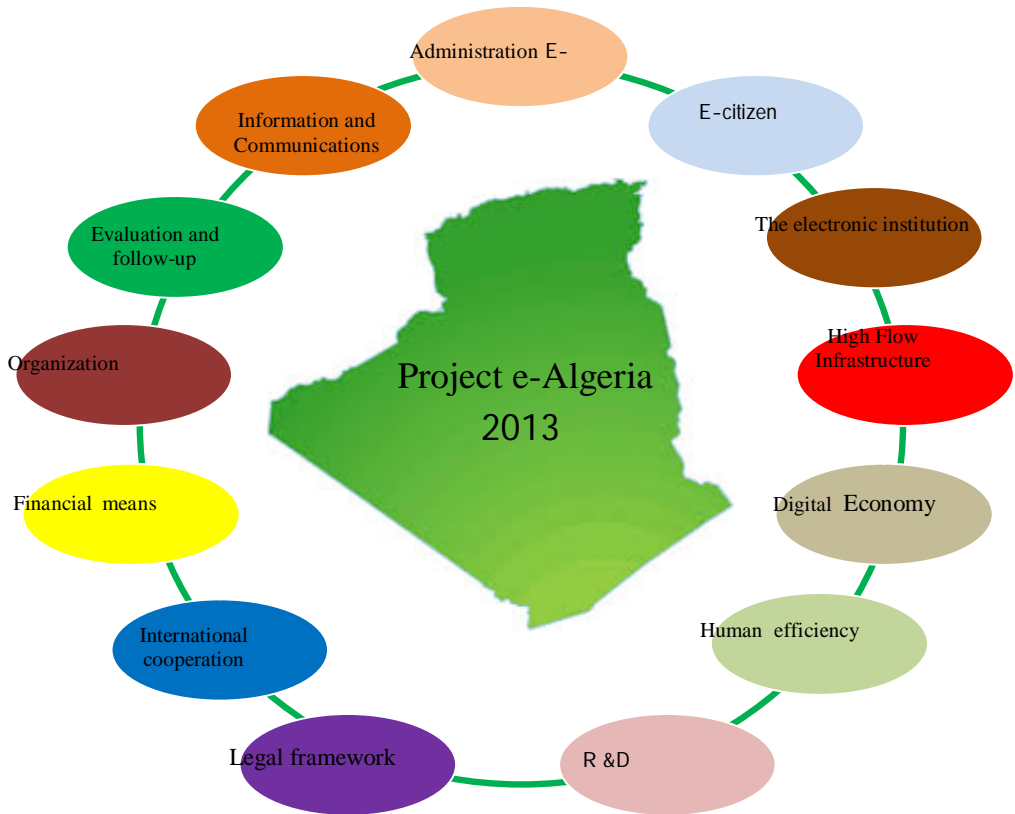
A. Actions of the project e-Algeria 2013:

The program spans over 5 years, between 2009 and 2013, and revolves around thirteen main axes with more than a thousand works Figure 02 represents these axes as follows (*Project e-Algeria s.d.*):

- The first axes: accelerating the use of information and communication technology in the public administration ;
- The second axes: accelerating the use of information and communication technology in institutions;
- The third axes: develop incentive mechanisms for citizens ' access to equipment and networks of information and communication technology;
- The fourth axes: advancing development in the economy;
- The fifth axes: Build the infrastructure for wired and wireless connections at a higher speed ;
- The sixth axes: Human skills development;

- The seventh axes: Promoting development and innovation research;
- The eighth axes: modernization of the national legal framework;
- The ninth axes: information and communication;
- The tenth axes: Development of international cooperation;
- The eleventh axes: the mechanisms of evaluation and monitoring;
- The twelve axes: Regulatory measures,
- The 13th axes: financial resources and planning.

Fig.(02): 13 Axes of the Algeria e-Project



Source : <http://www.bsi-economics.org/546-economie-numerique-definition-impacts9>

Since the actions of the project e-Algeria are comprehensive and reach almost all sectors and ministries, the participants in the preparation of this program suggested the establishment of the so-called electronic committee, an entity independent of the Ministry of Post and Information and communication technology, directly with the Prime Minister to guide the work of this Project.

This program was supposed to end in 2013, its preparers set at the end of each procedure taking into account the complexity of some procedures for the remainder.

In fact this project knew a catastrophic failure. Experts who participated in the preparation of Mr. Ali Keedan and Mr. Younis (two Algerian experts in the field of information and communication technology) talk about a completion rate not exceeding 30% until 2015 (*17De1*).

The reasons for this failure are manifold, including bureaucracy and resistance to change, especially at the level of public administration. But the main reason, according to many observers, is the lack of participation by the State and the absence of genuine political will to develop the digital economy.

2.4 .The status of the digital economy in Algeria:

Several actions have been adopted in recent years, especially at the level of e-government and infrastructure with the launch of 3g and 4g service. We will try to highlight the achievements of the proposed actions in the Algeria e-project 2013 in relation to the e-governance axis .

Officials in the economic, information and communications technology sector, in particular, organized several meetings and salons around the media technology industry and digitization, which brings together all the Algerian professionals in the field. These salons are often under the patronage of the Ministry of Post, Information technology and communications. Can be mentioned:

- The Siftech: The International Salon for the technological future (*International Exhibition of the Technological Future s.d.*).
- Med-it EL Djazair: It is the international salon on information technology. (International Exhibition on Information Technologies s.d.)
- ALGERIA 2.0: It is a forum for information technology professionals to connect and network. (*The crossroads of ICT and web professionals s.d.*)

- Cluster numérique: In November 2015, 32 operators in the field of information and communication technology (*ICT*) have spent with the National Agency for the Advancement of technological hangars ANPT, an agreement to create the first cluster for the development of the digital economy in Algeria (*16Ja*).

A. Encouraging the entrepreneurship in the field of information and communication technology:

The Algerian Government has placed at the disposal of the young contractors several funding and assistance programs to encourage them to embody their innovative ideas. Thousands of Algerian have raised the challenge and have completed their own projects in an unfavourable investment environment. In real, despite the bureaucracy and lack of solid infrastructures. Algeria is luring these young people to financing solutions such as L'ENSEJ, the National Agency for Youth Employment Support (National Youth Employment Support Agency s.d.), and L'ANGEM, the National Agency for the Management of micro-credit (*National Agency for Micro-Credit Management s.d.*).

In addition to these devices dedicated to all types of projects, there is a special fund established under the recommendations of the Algeria e-Program, which is the Fautdic fund for the ownership of applications and the development of information and communication technology, this fund, under the authority of the Ministry of Post and Information and communications technology. Directed to the total or partial financing of projects initiated by any legal person of public or private law (management, association, especially small and medium-sized enterprises), with a promotional nature for the use and development of information and communication technology. It is also intended for enterprises under the activity, the nature of projects financed by this Fund for: (htt1)

- Acquisition of automated information and programming equipment;
 - acquisition of network equipment;
 - Investing and contributing to the upgrading of information and communication technology institutions;
 - Development of the Web site and development of the service line;
 - Development and operation of the portal for access to services;
 - Technical support and expertise;
-

- Content localization;
- Development of educational content and media;
- Software development work methods;
- Methods of developing multimedia content and the number of courses.

Poor communication did not improve the utilization of this fund, while the start-up amount was estimated at 5 billion dinars (43 million euros). The rate of exploitation did not exceed 10% (*17De1*).

B. The digital transformation of companies is accompanied by:

State aid is not limited to financing solutions, but goes beyond that in accompanying institutions to the successful digital transformation of their activities. Ministry of Industrial Development and investment promotion through the National Agency for the development of small and medium enterprises (ANDPEM) has developed a scheme entitled PNMAN-PME The National Plan for upgrading small and medium enterprises (*16Ja1*).

This program touches all the services of the Organization, from financial management, commercial development, investment, quality and information and communication technology. The latter is prepared with the support program for small and medium enterprises and small and medium industries (*17De2*). and the identification of information and communication technology funded by Algeria and the European Union.

The Guide to Information Technology and communication, prepared by the National Agency for the development of small and medium enterprises, revolves around four main axes: (*ICT, national SME upgrading program, 2013 edition s.d.*)

- The first axes: industrial application.
- Second axes: management tools.
- The third axes: information systems infrastructures.
- Fourth axes: Internet.

In 2012, an official in the Ministry of Post and Information technology and communication, spoke about the integration rate of TIC at the level of the Algerian small and medium enterprises by 33% (*16Ja2*). But according to Google's North Africa official. Only 15% of Algerian institutions are connected to the Internet in 2013 and only 9% have an email, and no one has a list of electronic products (*16Ja3*).

C. Digitization in Algerian legislation:

Among the objectives of the Algeria e-project, we find it mandatory to modernize the national legal framework by taking into account the changes that have been made in the dissemination of digital in Algerian society. We will try to take stock of all Algerian laws related to media and communication technology, Internet, e-commerce...

- Law No. 2000-03 of 05/08/2000 sets out the general rules relating to postal and telecommunications. (*Law No.2000-03, 2000, P3*)

- Law No. 09-04 of 05/08/2009, which contains special rules for the prevention and prevention of offences related to information and communication technologies. (*09-04 2009, P5*)

- Law 15-04, dated 01/02/2016, sets out the general rules on electronic signature and ratification. (*15-04 2016, P6*)

Law specialists assert that the digital revolution in Algeria is first lawful before it is technical. In fact, Algeria knows a legal vacuum in the field of information and communication technology.

3. Infrastructure in the use of information and communication technology in Algeria

3.1. Information and communication technology structures in Algeria:

In October 2015, Algeria experienced a major Internet crash for more than a week, causing Algeria to break out of the rest of the world due to the rupture of the cable, which was giving an 80 percent flow in the Internet, and this underscored the weakness of the network infrastructure.

The World Economic Forum ranked Algeria at 120 out of 143 countries in its 2015 annual report on automated media technologies, and despite its progress of 9 grades compared to the annual report for 2014, however, the slow pace has not allowed Algeria to emerge from the weak circle of The field of information and communication technology.

A. Weak infrastructure:

Like Algeria, Kaplan is connected to Europe, the first link between Annaba and Marseille with a capacity of 450 Gigg, which is the most important in the flow, and the second connects Algiers to the Italian city of Palma and its capacity is not

more than 80 GB.

In 2015, Algeria had an agreement with the French Alcatel to create a cable linking the city of Oran with the Spanish city of Valencia with a capacity of 100GB (*16Ja4*).

Algeria's communications have prepared a new blueprint for the modernization of the Internet in the urban environment through the universal use of fibre-optic connectivity, compensating for the use of old, costly, low-quality and cost-effective copper cables.

Currently, Algeria's fibre optic network spans more than 50,000 km, and Algeria's communications have fulfilled its promises to add 20,000 fiber optics (*17De3*), and despite all these efforts, some observers have been faulted for the lack of investment to cover all the national soil with fibre optics, They also believe that Algeria's contacts have been involved in projects that are not necessary, such as the fixed fourth generation services launched in 2015, as they had to remain in their competence to expand and cover the Internet through the national territory and consider that the alternative solution is to open the way for private investors and telephone dealers. , this reduces the burden on state expenditures on the one hand, and avoids the occurrence of malfunctions, as was the case in October 2015.

B. Weak Internet streaming rate:

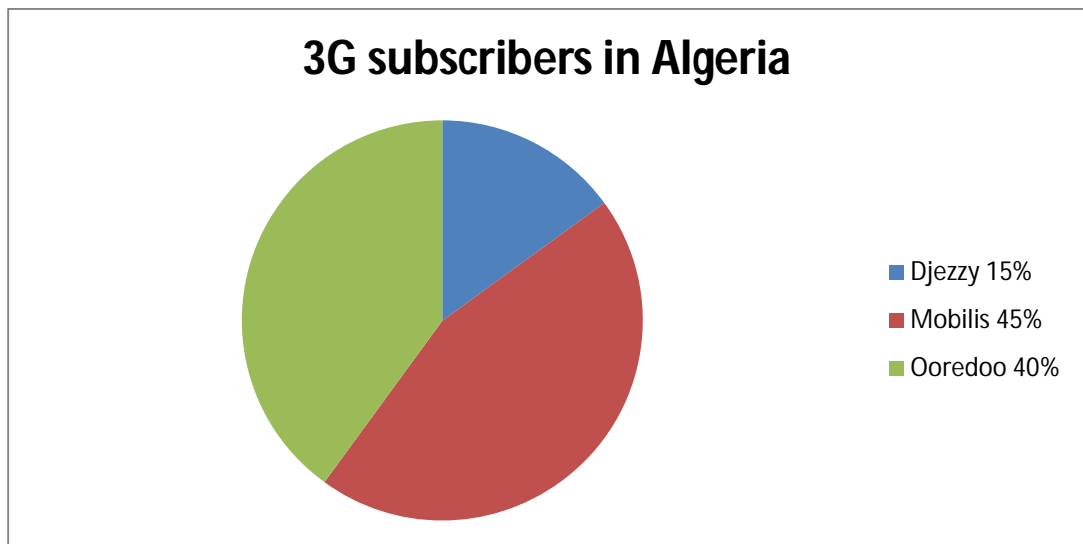
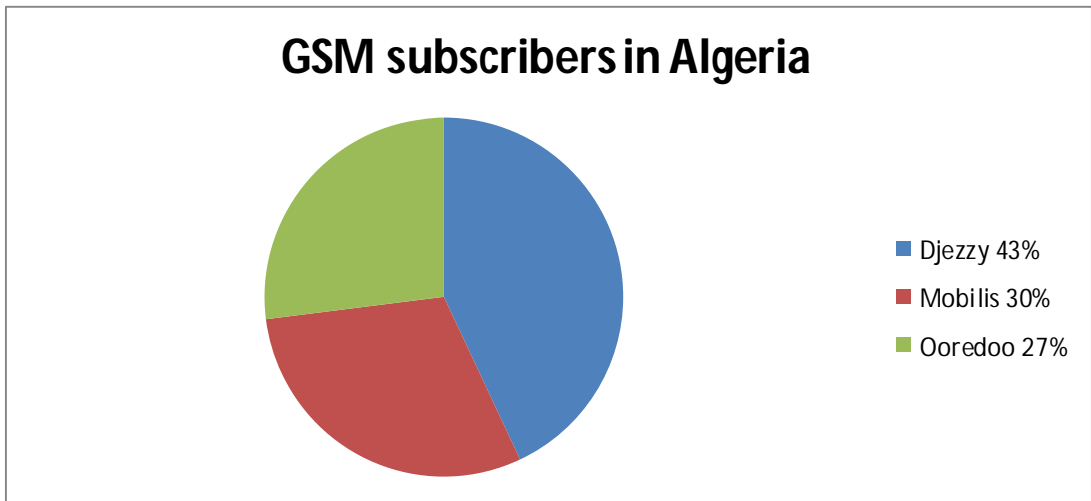
With reference to the report of the International Telecommunication Union (ITU) for 2015 (*16Ja5*), the flow of Internet flows in Algeria in late 2014 was estimated at 18, 1%, or 3 times higher than the same period in 2013. In May 2014, Algeria Telecom launched the 4th generation 4g LTE Internet, a year after more than 331000 subscribers were registered at the level of this new technology. (*16Ja6*)

Two years after the launch of the 3g service, the rate of Algerians connected to the Internet mobile phone reached 20.8% equivalent to 8.21 million according to the same report. In 30/08/2015, a year and a half after the launch of the third generation service, L'arte, announced the number of subscribers to the mobile service and the share of each customer (*16Ja6*).

For the third generation, in 8.51 million subscribers. Mobilis and Ooredoo share and limit more than 85% of subscribers (44.85% and 40.41%, respectively), compared to 14.74%.

At the GSM level, Djazzy ranks first in the market, with 18.612 million subscribers, i.e. 42.99%, followed by Mobilis with 13.022 million subscribers (29.97%) Finally, Ooredoo has 11.663 million subscribers, or 26.93%.

Fig.(03). The shares of the mobile market dealers



Source: Prepared by researchers

3.2. Use of information and communication technology in Algeria:

Here we will highlight two sectors, the first in the midst of transformation, e-governance or e-government, and the second one concerns e-commerce, which has difficulty in starting.

a. E-government in Algeria:

E-government is to take advantage of the opportunities provided by information and communication technology to improve the performance of public services at all levels (htt2).

For years, Algeria has embarked on a broad programme of modernization of the public service and the building of an electronic administration, which has opened several workshops to reach the end of 2016 target, as the interior Minister recently stated :(htt2)

- The registration of all civil status records and the establishment of the National Automated Registry of civil cases;
- The establishment of a biometric passport as well as the national electronic biometric Identification card;
- the possibility of requesting administrative documents to be authenticated across the line;
- Creating a portal for citizens to assemble all public services across the line. (www)

We note that the services provided across the line are centralized in one location, while regional or state sites do not provide any cross-line service except for downloading some files at best. Also there is no city or municipality that has official site and not even major cities such as Algeria, Oran or Constantine.

b. E-commerce in Algeria:

E-commerce mainly involves business transactions over the Internet and based on different types of devices (computers, electronic panel, smartphones... etc.) but also that that has been done via special applications (phone apps) that are still using Internet protocols. Through this definition it is clear that there is no e-commerce without the Internet.

In fact, e-commerce did not take into account the Algerian legislation. Sites in Algeria in the law are considered a parallel trade. The absence of legislation protecting the rights of sellers, buyers and brokers is one of the reasons behind Algeria's delay in the development of e-commerce. But the main reason remains the absence of electronic payment in Algeria .

In fact, e-commerce can be said to be beginning in Algeria, despite the legal vacuum and technical problems, the future of e-commerce in Algeria is promising. An ecosystem created around the industry, cross-line marketing agencies... etc

4. CONCLUSION :

After we discussed the situation of the digital economy in Algeria, we note that despite the efforts exerted by the state to create an environment conducive to the development of information technology and communication in the Algerian economy, the digital economy is unable to start, as the contribution of information technology and communication in the gross domestic product is negligible.

These observations lead us to ask questions about this delay in the digital economy in Algeria, due to the absence of a comprehensive strategy, clear and integrated, which frame all procedures and coordinate between different projects. We also note that the various ministries are not progressing as quickly as the measures taken.

The Algerian state can not promote its projects. Many of the measures and strategies have gone unnoticed. However, although the business climate is not attractive to the thinkers, young Algerians raise the challenge and invest in various sectors of the digital economy, trying to create a stimulating ecosystem for the development of information and communication technology in Algeria, putting the government in the face of the fait accompli and pushing it to shoulder its responsibilities in this area.

The government must reconsider its strategies if they really want to shift to the digital economy. The first step could be to integrate the Ministry of Post and Information Technology and communication with the Ministry of Economy. A

measure that can give a good impression to economic partners about the will of the state to invest in digital.

In order to activate the digital economy in Algeria, there are a number of suggestions and recommendations:

- Adopting the policy of technology education and the use of information technology among the members of the society, through training programs and education in professional and administrative institutions, with the need to adopt modern technologies in education at the level of educational institutions, institutes and universities;
- Encouraging research and innovation in the field of information technology and technology by providing appropriate financial conditions and the appropriate working environment;
- Attracting foreign capital and allocating domestic investments in the ICT sector;
- enact legal legislation to protect users of information technology and preserve the rights of consumers and sellers in the electronic trading environment;
- Encouraging the adoption of electronic commerce by small and medium enterprises.

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