

The Regulatory Authority of Post and Electronic Communications: A case study of The Electronic Communications Market in Algeria

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ABSTRACT

This study aims to identify the state of the electronic communications market in Algeria through the newly created tuning authority to frame and regulate this market according to the powers granted to it and through several mechanisms of intervention and at several levels, most notably the phone market and the Internet market, where the tasks of the authority were addressed regulating postal and electronic communications and its organizational structure, as well as systems for the exploitation of electronic communications ,It was also referred to within the stages of the research to the economic adjust and the various authorities of it, leading to a statistical presentation and analysis of the phone market and the Internet market, in addition to the share of each dealer in this market is without neglecting the consumer rights guaranteed by the applicable regulation and legislation.

The study concluded that the authority to adjust the post and electronic communications in Algeria contributed significantly to the regulation of the telephone and internet markets in various types of technology directly related to these two markets and achieving a set of positive economic performances, and the latter is considered an important market, despite reaching a state of market saturation, which was preceded by continuous growth.

1. Introduction

In view of the challenges posed by the rapid developments in media and communication technology, Algeria has been engaged since the beginning of the third millennium has set a new pattern for regulating the telecommunications sector, and this was embodied through the liberalization of the telecommunications market by ending the state of monopoly and moving towards gradual openness to competition, as this matter has become an extremely important priority for public authorities, since telecommunications services have a large economic domain and constitute an important means to accelerate and strengthen the internal and external balances of the country, and accordingly, Law number 2000-03 in August 2000 defines the general rules relating to postal and telecommunications, and aims to develop and deliver guaranteed quality services in objective and non-discriminatory conditions between dealers, and to achieve this, the legislator has provided in Algeria, and under the approach of non-direct state intervention, the telecommunications market is framed and its movement is managed, monitored and punished Whoever violates its rules shall have an administratively and financially independent body called the "Regulation Authority."

And because the aforementioned law clashed and some of the problems and imbalances in the administrative and organizational procedures left by the growing complexity of the market and permanent developments in the field of communications technology at a dizzying pace, and in order to introduce more among the improvements to this market, the public authorities directed the issuance of Law number 18-04 in May 2018 which sets forth general rules relating to postal and electronic communications which renewed the establishment of an independent regulatory authority mail and electronic communications, its mission is to ensure the regulation of the postal and electronic communications markets

by taking all necessary measures to promote or restore effective and legitimate competition in these markets, and to improve the quality of service for the benefit of people while ensuring their rights and possession of the means of access to electronic communication services, especially the mobile phone, the Internet and the technology of generations regardless of their marital status and geographical location, in addition to ensuring the digital sovereignty of countries, given that the electronic communications sector constitutes the base of the digital transition.

1.1. Research problematic:

Opening the door to competition to private and foreigners, following the liberalization of the electronic communications market, has led to the authority of an independent regulator that supervises this market to lay the foundations for competitive services that ensure legitimacy and fairness among dealers and the flow of investments, and is directly concerned with creating job opportunities, without neglecting the protection of the rights of participants, and in light of what is mentioned the above, the following question can be posed as a research problematic: To what extent did the postal and communications regulatory authority contribute in regulating the electronic communications market in Algeria?

To answer this question and become familiar with the topic, we formulated the following sub-questions:

- Does the state interfere in economic regulation?
- What are the mechanisms for the intervention of the postal and electronic communications regulatory authority in the electronic communications market?
- What are the indicators and statistics of the electronic communications market in Algeria?

2. Economic Regulatory Authorities

2.1. Economic regulation concept

Economic regulatory has not been given a unified and consistent definition by various researchers, whether in the economic field or in the field of economics, legal or even social, where Professor Bertrand de Marais sees that discipline from the perspective of public law is cannot be defined in legal terms, but also in political, social or political terms (Bertrand, 2004, p. 482). Therefore, it is understood from this definition the setting varies according to the field to be researched or studied.

Most of the definitions and theoretical concepts say that economic control is an attempt to reorganize market tools and mechanisms disrupted due to the existence of monopoly by reconsidering the duality of the state and the market, especially with the presence of external factors affecting it in addition to the problems of public services or what is known as sectors with a natural monopoly (Haroun, 2017, p. 75).

The Algerian legislator, through Law No. 08-12 of June 25, 2008, amending and supplementing Ordinance No 03-03 of July 19, 2003 relating to the competition and according to the text of Article 20, paragraph E, defined the settings as: "every measure of whatever nature, issued by any public authority, aims in particular to support and guarantee the balance of market forces, freedom of competition, lifting of restrictions that could impede entry and its flexible functioning, as well as allowing the optimal economic distribution of the market's resources among its various agents, in accordance with the provisions of this order" (08-12, 2008, p. 11)..

2.2. Definition of economic regulatory authorities

Independent administrative bodies or an independent public body, which assumes a new administrative function, aiming to set standards economic and judicial within the framework of the policies pursued by the executive authority to search for a general balance between effectiveness economic and implementation of the state's general policies (Susan E, 2005, p. 04).

The transformation of the regulatory authorities into an economic nature does not mean that they abandon the administrative tasks, it is the nucleus of management in modern systems, but it exercises these tasks from a new perspective, as the intervention by the regulatory authorities it is according to the two main directions, the first relates to the pursuit of achieving the conditions of perfect competition in the market as a whole, and entrusting these mission to the Competition Council, which is a newly created body in all countries that have liberalized their economies. As for the second case, it is in it Sectoral regulation affects the sectors that are considered a natural monopoly of the state, and the economic regulatory authorities work on them, regulating entry and exit conditions, setting fees, prices, and terms of using networks (Haroun, 2017, p. 73).

On this basis, the economic regulatory authority is that system through which the state is not completely withdrawn, it is not directly involved in economic life, it is a new formula imposed by the repercussions of globalization and the opening of markets. Therefore, the presence of the state in the market aims to regulate it, codifying the rules of the game, controlling competition and protecting market mechanisms to keep it functional

2.3. The emergence of economic regulatory authorities

The economic regulatory authorities were established in Algeria to frame the state's withdrawal from the direct management of the economic sectors starting in the nineties, the Supreme Council of information is considered the first regulating authority in Algeria, followed by the establishment of many authorities in this regard (Halima, 2019, p. 245).

The Commission for the Reform of State Functions and Structures created by Presidential Decree No. 2000-372 of November 2000, it stated in its report in 2001 that the most important measures to be taken by the state for the optimal transition the market economy and integration into the global economy are represented in:

- Defining a general framework for the state's intervention in the field of market regulation and promotion and competition control.
- Determining the modalities of organizing and running public utilities and infrastructure in accordance with the rules of effectiveness and efficiency.
- The framing of the economic system by means of monetary and financial regulators.

Through these recommendations, it is concluded that the economic regulatory authorities are means of regulating, promoting and controlling markets competition by either creating new regulatory authorities or strengthening existing ones, and these authorities are also considered a means of framing regulating the general economic system.

2.4. Statistics of economic regulatory authorities in Algeria

The public authorities were created in Algeria with the aim of non-interference of the state in economic and social life even the political, and we mention in particular what is related to the economic exactness as follows:

- The Monetary and Credit Council and the Banking Committee under Law No. 90-10 of April 1990 relating to credit and cash.
- The Committee for Regulating and Supervising Stock Exchange Operations under Legislative Decree No. 93-10 of May 1993 relating to the stock exchange.
- The Competition Council for Regulating Commercial Activities under Ordinance No. 95-06 of January 1995 relating to the Competition Council, amended and supplemented.
- Gas and Electricity Control Committee under Law No. 02-01 of February 2002, relating to electricity and distribution of gas through the channels.
- Transport control committee according to the Finance Law for the year 2003.
- The authority to regulate the market for tobacco and tobacco products by virtue of Executive Decree No. 04-331 of October 2005 including the activities of manufacturing, producing and importing tobacco materials.
- The Water Control Authority under Article 25 of Law No. 05-12 of August 2005, related to water.
- The National Authority for the Prevention and Combating of Corruption in accordance with Law No. 06-01 of February 2006 relating to preventing and combating corruption.
- The authority to regulatory hydrocarbons under Law No. 20-25 of April 01, 2020 related to hydrocarbons.
- The Electronic Certification Authority by Law No. 15-04 of February 2015 setting the general rules related to electronic signature and ratification.
- The Postal and Telecommunication Regulatory Authority (Previously) under Law No. 2000-03 of August 2000 specified for the general rules relating to postal and telecommunications, replaced by a controlling authority post and electronic communications according to Law No. 18-04 that defines the general rules for postal and communications electronic.

2.5. Economic regulator objectives (Zahafi & Gueddal, 2020, pp. 262-263)

The Economic Regulatory Authority aims to:

- Liberalizing some activities of the public utility by moving from complete monopoly to competition, taking into account the provision of a minimum amount of the public service, so that competition does not distort the content

of the tasks of the public utility, that is why economic regulatory is known as the middle path between a command economy and absolute freedom.

- Stabilizing market balances and fixing its shortcomings, reducing costs from the market's deficit and its costs fix it.
- Directing public funds towards major jobs (health, education and training).
- Improving and modernizing the system.

3. The Regulatory Authority of post and electronic communications in Algeria

3.1. Introducing regulatory authority of post and electronic communications in Algeria

It is an independent institution with legal personality and financial autonomy, established by Law No18-04 of May 2018 sets the general rules for postal and electronic communications, of which electronic communications are part of its power to promote the growth of the sector through various activities.

It is consulted by the Minister in charge of Posts and Electronic Communications to prepare each draft text relating to the postal sector and electronic communications, especially the preparation of regulatory texts and books of conditions. It also expresses its opinion on the issues the postal and electronic communications services, not to mention that the comprehensive service is authorized by law to formulate all recommendation to the competent authority before granting, suspending, withdrawing or renewing licenses, Where the regulatory authority is also responsible by preparing the procedure for selecting candidates for the exploitation of electronic communications licenses, and by submitting their contribution to the preparation of representation. It has also been engaged in international negotiations in the field of postal and electronic communications, since May 2021, in Algeria Presiding over the Arab Network for Communications and Information Technology Regulatory Authorities, in addition to holding the permanent secretariat of the same arabic network (L'Autorité de Régulation de la Poste et des Communications Electroniques, 2017).

3.2. Mission of the authority of post and electronic communications

In accordance with the provisions of Law No. 18-04 specifying the general rules related to postal and electronic communications, the tasks of the authority to adjust about the following (04-18, 2018, p. 10) :

- Ensuring the existence of effective and fair competition in postal markets and electronic communications by taking all necessary measures to promote or restore competition in these markets.
- Ensuring the establishment, in respect of the right of ownership, of the sharing of electronic communications infrastructures;
- Developind and updating the frequency situation that assigns to operators and to send it regularly to the national frequencies agency.
- Preparing a national numbering plan, examine number requests and assign them to operators.
- Approving reference offers for interconnection and access to electronic communications networks.
- Approving postal and electronic communications equipment in accordance with the specifications and standards established by regulation.
- Settling on disputes between operators when it comes to interconnection, access, infrastructure sharing and national roaming.
- Settlement of disputes between operators and subscribers.
- collecting from the operators all the information necessary for the accomplishment of the missions assigned to it.
- Cooperating, in the framework of its missions, with other authorities or organisms, both national and foreign, having the same purpose.
- Preparing and publishing regularly reports and statistics for the public on postal and electronic communications.
- Ensuring respect by operators of post and electronic communications, legal and regulatory provisions relating in particular to post, electronic communications and cyber security.

- Ensuring the protection of the rights of subscribers to electronic communications services and postal users.
- Establishing a procedure that defines how subscribers' complaints are to be handled.
- publishing any information useful for the protection of subscribers' rights and to organize awareness campaigns for their benefit.
- Participation in the Algerian representation in international organizations competent in the fields of postal and electronic communications.

3.3. Organisation of the regulatory authority of post and electronic communications

In order to achieve the tasks entrusted to it by law and in an effective manner, the aforementioned Law No. 18-04 supported the postal regulatory authority and electronic communications to two bodies defined by Article 19 of the same law as follows:

- ✓ The Council, in its capacity as a deliberating body .
- ✓ The General Directorate, in its capacity as a governing body.

In this regard, the capacity of a member of the board of the regulatory authority and the general manager of the regulatory authority are incompatible with any professional activity or any other public position, as well as with any direct or indirect ownership of interests in an enterprise belonging to the postal sectors, electronic communications, audio-visual and automated media (04-18, 2018, p. 11)..

3.3.1. The Council

The Council of the Regulatory Authority is composed of seven (07) members, including the president, appointed by the President of the Republic on the proposal of the First Minister, the members, including the president, are chosen according to their technical, legal and economic competencies for a three-year term (3) years(12), renewable once, and in the event of a vacancy in the position of one of the members, it shall be replaced by following the same forms (04-18, 2018, p. 11).

The head of the regulatory authority board is the main issuer, and he can also grant a full or partial delegation of this authority to the General manager in the capacity of secondary disbursement order accordingly, the duties of the Regulatory Authority Council are as follows:

The council has all the necessary powers and authorities to carry out the tasks entrusted to the regulatory authority, and the deliberations of the council are correct in the presence of five (5) of its members, at least, and on this occasion he shall also (04-18, 2018, p. 11):

- He shall take his decisions by a simple majority of the votes of the members present, and in the event of an equality of votes, the vote of the Chairman shall be available.
- Preparing the internal system of the council in the official bulletin of the regulatory authority during the two months (2) following the entry of Law No04-18 the aforementioned comes into force, which specifies in particular the rules of its work and the rights and duties of its members and the general manager.

3.3.2. The General Directorate

The General Directorate is run by a Director General, appointed by the President of the Republic, who has all the powers to run the controlling authority and ensuring its work within the applicable legislative and regulatory framework in the exercise of the following tasks:

- To ensure the follow-up of the implementation of the decisions and deliberations of the Council of the Regulatory Authority.
- Participate, with an advisory voice, in the meetings of the Council and assume its technical secretariat.
- Acting in the name of the controlling authority and representing it before the judiciary and in all actions of civil life.
- Concluding public deals and signing contracts, agreements and deals of the regulatory authority.

3.4. Regulatory Authority Resources

Referring to Article 28, first paragraph of the same law, it states: “The resources of the regulatory authority include the following: Rewards in return for services, royalties, expenses related to granting and operating numbers, expenses related to the approval of equipment Postal and electronic communications, a percentage of the product of the financial

consideration due under the title of licensing, permit and general licensing. The year stipulated in Articles 34, 123 and 131 of this law, respectively, and specified in accordance with the Finance Law.

It is noted from the content of the two articles mentioned above, that the legislator granted the authority to control the post and electronic communications independence. However, due to exceptional circumstances, when needed, the additional and necessary appropriations are credited to the regulatory authority to enable it to perform its duties in the general budget of the state in accordance with the procedures in force.

3.5. Exploitation of electronic communications Algeria

In order for the regulatory authority to achieve its tasks in the best way, the legislator empowered the executive authority and after consulting the authority to regulatory the post and electronic communications, the authority to issue decisions to exploit various services in the same market, these decisions take the form of a license, a general license or a simple permit.

3.5.1. The licence system

It is a license issued by the administration to practice a regulated activity. It also means the license as a technique that is widely used in the administrative law as a license, and the administration is solely concerned with granting it in return for a fee, in order to exploit an activity that falls within the regulated activities (Mimoun, Ghallab, & Rizeigat, 2018, p. 260).

With regard to the license to exploit electronic communications, the second chapter of Law No. 18-04 mentioned earlier stipulates that it is granted to every natural or legal person to whom the auction is awarded following the announcement of the competition with his commitment to respect the conditions specified in the conditions book, for a specified period, and received in return for payment of a sum of money. It is granted in a personal capacity and the rights arising from it may not be waived except after the approval of the granting body to prepare a new license to be granted in favor of the assignee.

3.5.2. General licensing system

the license in its broad sense means the permission granted by the administrative or judicial authority to a person, to carry out a certain legal act, which this person cannot normally do alone, either because of his incapacity, or because of the limits of his normal powers or powers, or in the narrow sense It is an act whereby an administrative authority allows a beneficiary to practice an activity or enjoy the rights to exercise it (Mimoun, Ghallab, & Rizeigat, 2018, p. 260).

3.5.3. Simple permit system

The simple permit system is considered the least coercive system compared to the licensing system and the licensing system, because the matter is related to a mere formality that obliges the customer to do, and there is no obstacle that opposes his desire. Management is restricted, especially if the declarant meets the required formal requirements; therefore, the administration does not have an effective authority, but rather its role is negative, and its right to inform about the intention to carry out a specific activity before commencing it is embodied (Salima, 2004, p. 98).

As for the regulatory authority, and according to the aforementioned chapter of the same law 18-04, every natural or legal person who wants to exploit an electronic communication service subject to the simple permit system is required to deposit his desire for commercial exploitation of this service, with the regulatory authority, in return for paying the fees specified by the regulation Within two (2) months from the date of receipt of the permit.

3.6. Consumer rights in the electronic communications market (L'Autorité de Régulation de la Poste et des Communications Electroniques, 2017)

Similar to what various laws sought to secure consumer rights in the presence of electronic markets, the regulatory authority has set out to devote a number of rights in the electronic communications market:

3.6.1. Right to complain

The subscriber must file a complaint with his customer, in the event that the latter's response to the subscriber's complaint is not satisfactory or if he did not get an answer from his part, the subscriber can go to the postal and electronic communications regulatory authority.

3.6.2. Right to receive information

The customer must give accurate information about the offers he seeks to launch, and inform his subscribers about the changes that have occurred about the offers, before placing them on the market, in addition to informing his subscribers by publishing his definitions and the general conditions for service offers, and he is also obligated to inform the subscriber about his prices and the changes related to the new prices and their entry into force. Implementation and it is prohibited to prejudice the material and moral interests of the consumer.

3.6.3. *Right to respect for private life*

- *Protection of Nominal Information:* The customer must take the necessary measures to ensure the protection and confidentiality of the nominal information he obtains and processes, while respecting the applicable legal and regulatory provisions.
- *Secrecy of calls:* The customer must take the measures that would ensure the confidentiality of calls and information held by his customers, and not allows any arrangements to be made for the purpose of intercepting electronic communications and exchanges without prior permission from the judicial authority in accordance with the applicable legislation.
- *Protection of Children and Vulnerable people:* The customer is obligated to develop technological and organizational solutions in particular, to present them to his customers and to upgrade the service that allows them to protect their children or vulnerable people under their guardianship, by restricting access to unwanted destinations or content.

3.6.4. *The right of quality services*

In order to ensure the continuity of the service, the customer cannot stop the provision of services without prior authorization from the regulatory authority, except in the case of a legally determined force majeure, in respect of continuity.

The customer must guarantee the service life 24 hours on 24 hours and 7 days on 7 days. The average cumulative period of incapacity for the entire network should not exceed 24 hours per year outside of force majeure cases.

4. **Economic Communication Market Analysis in Algeria**

Article 10 of Law No. 18-04 in its paragraph 31 stipulates that the customer is “Any natural or legal person who exploits the electronic communication network open to the public and/or provides the public with an electronic communication service.

As for the electronic communications market, the same article mentioned above in its paragraph 19 defined it as “a part of the market that contains all products and/or services that are relatively interchangeable or exchangeable by the consumer, due to competition between dealers or by the supplier due to Characteristics, price and usual use of the products”.

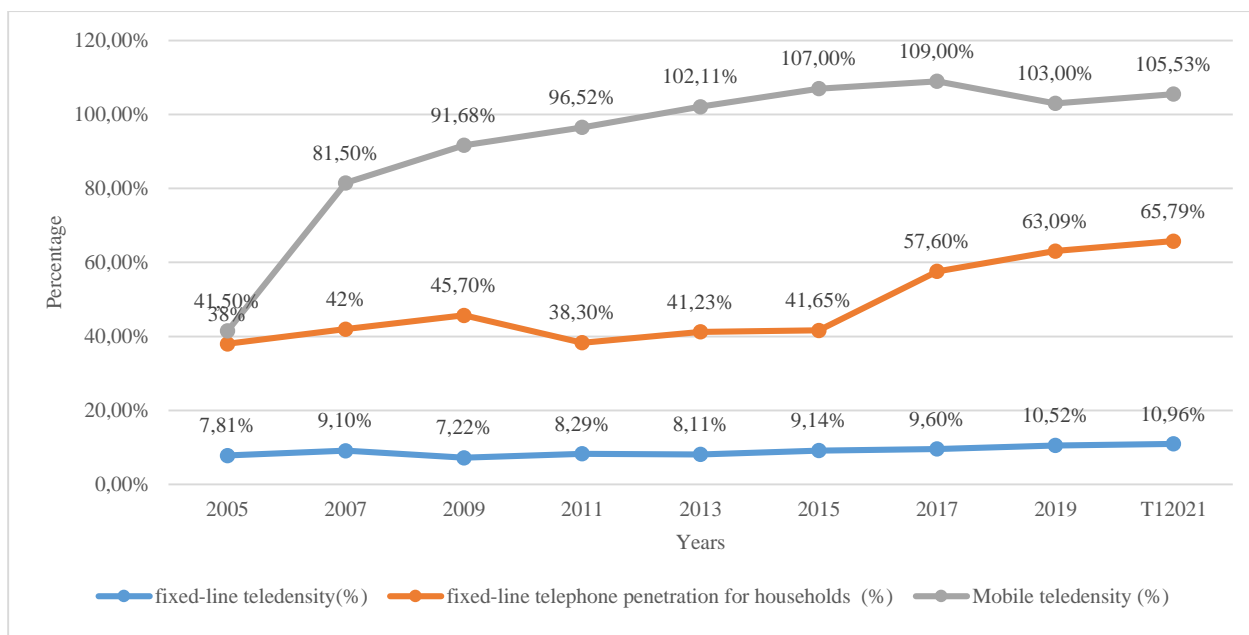
4.1. *Customers and subscribers of the electronic communication market*

It is included in the electronic communication market in Algeria, the telephone market, the Internet market with its various types and technologies.

4.1.1. *The situation of the phone market in Algeria*

To know the evolution of the telephone fold in Algeria, we have compiled the statistics shown in the following table for fixed and mobile telephones for the period from 2005 to the first quarter of 2021.

Figure 01: The evolution of teledensity in Algeria for the period 2005-2021



Source: Prepared by researchers based on reports of the Electronic Communications Regulatory Authority, Fixed Telephone Market Observatory, <https://www.arpce.dz/ar/doc/tf> various issues from 2005 to the first quarter of 2021

4.1.1.1. Fixed Land-line Network

According to the Telephone Observatory of the Regulatory Authority, Landline density refers to the number of fixed-line subscribers per 100 people (L'Autorité de Régulation de la Poste et des Communications Electroniques, 2017, p. 4). We note from the figure that the number of subscribers who have access to fixed-line telephones increased from 2.5 million subscribers in 2005 to 4.9 million subscribers On 03/31/2021, however, the telephone density caused a slight jump to move from 7.8% in 2005 to 10.96% for the first quarter of 2021.

In the same context, during the last five years, an increase in the number of subscribers to the fixed telephone network has been observed, with the exception of 2017, when it witnessed a slight decline in the number of subscribers. With the country's strategy to provide these regions with more efficient and effective communications infrastructure such as 4G and LTE (the General Directorate of the Digital Economy, 2018).

On the other hand, the percentage of households that own a telephone line ranged between 38% in 2005 and 41.65% in 2015, despite the increase in the population during this period, but the percentage of fixed-line telephone penetration for households in Algeria remained lower than the average except for the year 2010, when This percentage witnessed a remarkable decline of 34.2%, and the year 2009 witnessed an exceptional boom, during which the percentage of families that had a telephone line was estimated at 45.7%.

It was also noted that during the last five years from 2016 until the first quarter of 2021, the ownership of Landlines by households witnessed a remarkable development, moving from 43.40% in 2016 to 65.79% on March 31, 2021, thanks to the facilities granted by The customer is Algeria Telecom, which is to benefit from free and unlimited calls to local and national phones, in addition to preferential rates towards preferred mobile numbers (Algerietelecom ATM, 2021).

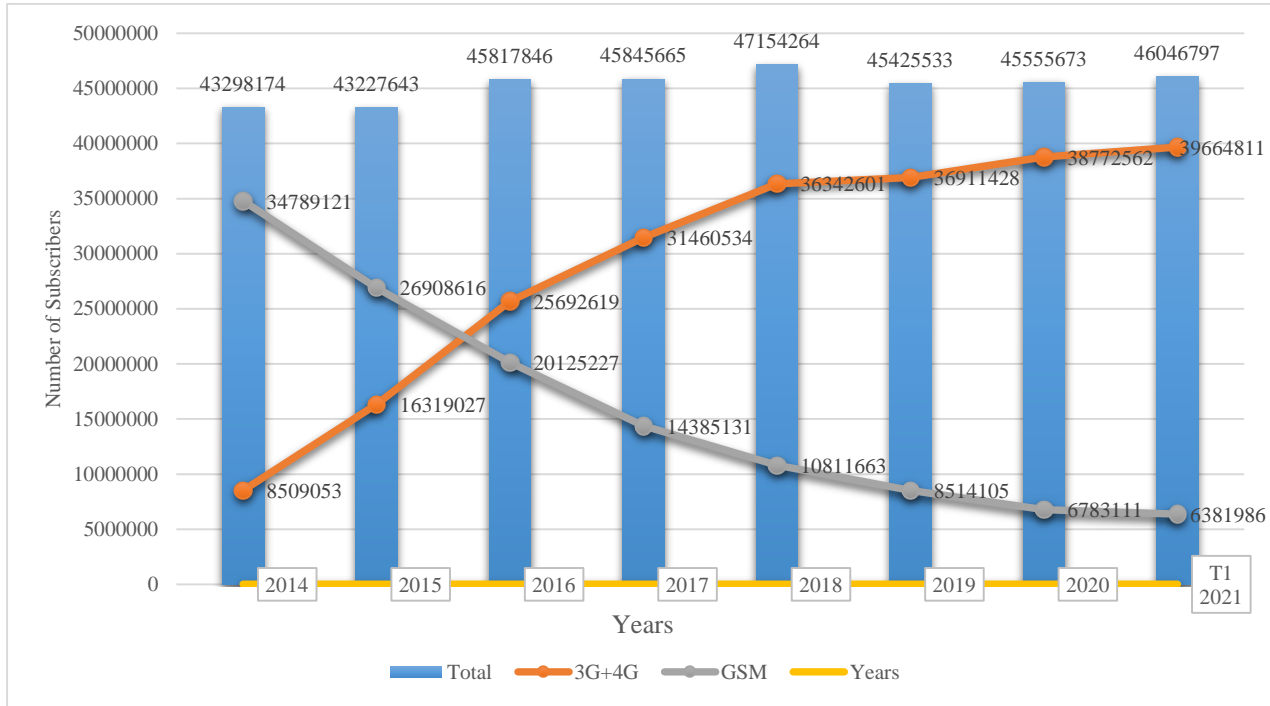
4.1.1.2. Mobile Network

Mobile teledensity in Algeria witnessed a remarkable development during the period under study, as it moved from 41.5% in 2005 to almost complete coverage of the population density estimated at 99.52% by the end of 2012, meaning that everyone in Algeria owns a mobile phone, without neglecting A slight decline in the growth rate of mobile telephony was recorded in 2008, estimated at -2.46%, and in 2010 by -1.38%. After the mobile teledensity reached 100%, it continued to rise, recording a growth of 7.51% between 2013 and 2014, to witness a decrease in 2015 estimated at -2.62%, due to the discontinuation of the segments of inactive and unknown subscribers by the mobile phone operators.

Between 2013 and 2018, mobile phone density ranged between 102.11% in 2013 as a minimum and 112.11% in 2018 as a maximum. On the other hand, then this density will know a decrease in the years 2019 and 2020, this decrease is due to the stability of the mobile phone market and the increasing population in Algeria.

4.1.1.3. Distribution of mobile subscribers by type of technology (2014-2021)

Figure 02: The evolution of mobile subscribers in Algeria



Source: Prepared by researchers based on reports of the Electronic Communications Regulatory Authority, Mobile Market Observatory, <https://www.arpcce.dz>, various issues from 2014 to the first trio of 2021.

According to the above graph, we note that in 2015, the GSM subscriber pool numbered 26.91 million subscribers, an estimated decrease of 22.65% compared to 2014, mainly due to migration to the third generation network (3G). For the third generation, it almost doubled in 2015 compared to 2014. A continuous decline was recorded in the number of GSM subscribers, with a total percentage since 2014 until the end of the first quarter of 2021 estimated at -81,65%, as the number of GSM subscribers decreased in 2014 from 34.78 million subscribers to 6.38 million subscribers; This decline is explained by the movement of subscribers towards modern technology networks for the third and fourth generation, where the latter recorded a remarkable development in the number of subscribers from 8.50 million subscribers to 39.66 million subscribers in the same period, a growth rate of nearly 04 times, and accordingly, on March 31, 2021 Out of 46,047 million active subscribers, we find that 6,381 million are subscribers to the GSM network, at a rate of 13.86%, compared to 39.66 million subscribers in the third and fourth generation networks, at a rate of 86.14%, noting the stability of the mobile phone fold in 2017, which justifies This market is saturated similar to other countries.

4.1.2. The situation of the internet market in Algeria

4.1.2.1. The evolution of Internet subscriptions by type of technology (2014-2020)

Table 03: Internet subscribers in Algeria

	ADSL and fiber	4G of fixed and Wimax	3G mobile internet	4G mobile internet	Total internet subscribers	Development (%)
2014	1518629	82714	8509053	/	10110396	/
2015	1838492	425288	16319027	/	18582807	+83,80%
2016	2083114	776453	25214732	1464811	29539110	+58,96%
2017	2246918	921099	21592863	9867671	34628551	+17,23%
2018	2190465	1069000	17422312	18920289	39602066	+14,36%
2019	2377120	1192056	11989157	24922271	40480604	+2,22%

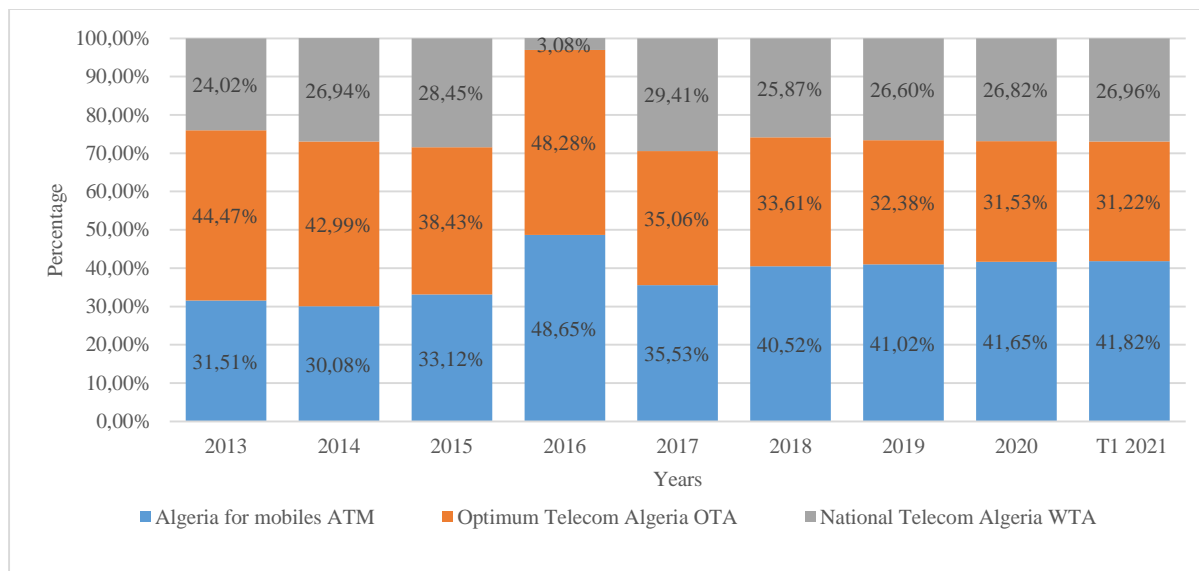
2020	2573427	1205374	9265682	29506880	42551363	+5,12%
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Source: Prepared by researchers based on reports of the Electronic Communications Regulatory Authority, Internet Market Observatory, <https://www.arpce.dz>, various issues from 2014 to 2020.

Through the table, we note that the Internet market witnessed a significant increase in the number of subscribers in 2015 compared to 2014, and this increase is mainly due to the launch of mobile Internet services of the third generation and the fourth generation LTE 4G fixed, as this market witnessed a significant growth of 83.80% during the same year, it led to the transition of the Internet from 10.11 million subscribers in 2014 to 18,583 million subscribers in 2015, including 16,319 million subscribers to the 3G mobile internet. The Internet site continued its growth in 2016, registering an increase of 58.96% as a result of the continuous increase in the number of 3G mobile subscribers on the one hand, and the increase in the number of subscribers of the fourth generation fixed Internet, ADSL and fiber Internet, and the entry of the 4G mobile Internet into service on the other hand, Similarly, the increase in the same park continues at different rates until the year 2020, while drawing attention to the decline in the number of third generation internet users since 2016 for the benefit of users of the fourth generation internet technology. This is due to the entry of fourth generation phone devices that support third generation services, while the latter is only compatible with phones of the same generation, which constitutes a natural trend in choosing technology that offers the best efficiency and streaming speeds.

4.2. Market shares distribution (GSM, 3rd & 4th Generation) for Mobile Phone Customers (2013-2021)

Figure 03: Shares of mobile phone market customers in Algeria



Source: Prepared by researchers based on reports of the Electronic Communications Regulatory Authority, Mobile Market Observatory, <https://www.arpce.dz>, various issues from 2013 to the first trio of 2021

Market share analysis allows measuring the performance of dealers, the intensity of competition or the dealer's position in the market sector. Market share is calculated by considering the ratio between the number of subscriptions for each dealer and the total subscriptions, and based on the data related to the market share of each dealer, it is clear to us that the market (GSM, third and fourth generation) is a market oligopoly.

From the figure, it is clear to us that during the first three years in a row, the operator Optimum Telecom Algeria acquired the largest share in parallel with a decline in its market share during the same period (2013-2015) in favor of the national operators of Algeria Telecom and Algeria Telecom for mobile phones, this situation is explained in addition to the fact that the operator Optimum Telecom of Algeria is the last entrant in the third generation market, as he had the largest presence of GSM subscribers before the advent of the technologies of both the third generation and the fourth generation 4G.

Starting in 2016, the dealer that controlled the market during the previous period began to decline to the second place in favor of the dealer, Algeria Telecom for mobile phones. The latter maintained its first position until the end of the first quarter of 2021 with a market share estimated at 41.82%, thus confirming it as a market leader For the sixth year in a

row, Wataniya Telecom Algeria remains at the bottom of the ranking throughout the period under study, with a market share that did not exceed 27% during the last three years, while recording the weakest market share in 2016 with 3.08%.

4.3. Economic indicators of the electronic communications market

Table 04: Economic Indicators in the Electronic Communications Market

year	2018	2019	Growth rate (%)
Average monthly revenue per subscriber for the fixed (DZD/month)	1873	1945	+3,84 %
Average monthly revenue for each mobile subscriber (DZD/month)	520	522	+0,38 %
Fixed network turnover (billion DA)	97,7	107,76	+10,29 %
Mobile network turnover (billion DA)	294,2	284,82	-3,18 %
jobs	41360	43842	+6,00 %
VSAT network revenue (billion DA)	7,7	4,96	-35,58 %
GMPCS Network Revenue (Billion DZD)	0,54	0,52	-3,70 %
Revenues of licensees (billion DA)	11,99	8,67	-27,69 %

Source: Prepared by researchers based on the annual activity report of the Electronic Communications Regulatory Authority, www.arpce.dz/ar/file/j0z5o5, 2019, pp. 14-16.

During the fiscal year 2019, the average monthly revenue for each subscriber of the fixed amount was 1945, i.e. a growth of 3.84% compared to 2018. The average monthly revenue for each mobile subscriber also saw a slight growth in 2019 compared to the year 2018, which amounted to 0.38%, and here It should be noted that although the average monthly revenue for each fixed subscriber is greater than the average monthly revenue for each mobile subscriber by more than 03 and a half times, the fixed network revenue is less than the mobile network revenue, and the reason is due to the large difference in the number of subscribers in each network.

The number of workers dealing with electronic communications also witnessed a positive growth in 2019 compared to 2018, estimated at 06%, thanks to the unification of efforts and placing human capital at the center of the regulatory authority’s concerns. As for the revenues of the electronic communications market, it indicates that a turnover of 406.73 billion dinars was achieved in 2019, of which 398.06 billion dinars were achieved by dealers holding licenses to establish and exploit networks open to the public (Mobile, landline, GMPCS, VSAT), which represents 97,86% of the total business number, landline and mobile phone customers represent the huge part of the total business number with 96.53%, and accordingly, although the total indicators remain stable In general, with a slight change estimated at -1.31% for the year 2019, and this proves the validity of the above analysis of the evolution of the number of subscribers in this market, which means that the market entered a state of saturation and its stability during this period of study.

5. Conclusion

Through our study of the electronic communications market in Algeria, our knowledge and the statistics of the telephone and internet markets were based on all the information that dealt with it, Which enabled it to follow up on the status of most of the changes that occur in the market indicators from the development of the number of subscribers according to the system and type of communication technology, as well as the share of each dealer in the market, up to the monthly revenue of each subscriber and the revenue of each dealer, where all the data recorded a continuous growth until the state of stability is achieved. By saturating the market, Thus, organizing the latter and setting controls for its management in line with technological and technical development to ensure effective protection for consumers and dealers at the same time, in order to achieve the principle of comprehensive and promising economic development. Changes in light of the growing global market indicators, which makes us suggest more stimulus for growth in the electronic communications market in order to achieve more consumer welfare and provide a fertile environment for dealers that ensures the advancement of the national economy, especially after the state of saturation and relative stability that has been achieved during the recent period.

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