

The Reality and Prospects of Mobile Banking in Algerian Public Banks

-Studying the Experience of the National Bank of Algeria and the Local Development Bank-

*Dr Souad CHAABNIA¹ Lecturer Pofessor, *Dr Assia SAADANE² Lecturer Pofessor,

* Dr Saliha AMARI³, Lecturer Pofessor

Department of ECONOMICS, 8 Mai 1945 University, Guelma, Algeria

E-mail ¹: chaabnia.souad@univ-guelma.dz

E-mail ²: saadane.assia@univ-guelma.dz

E-mail ³: chaabnia.souad@univ-guelma.dz

Abstract: *This study reveals the reality and prospects of the mobile banking service in Algeria. In order to achieve the study goal, the descriptive analytical method and the case study method were used. The study on the National Bank of Algeria (BNA) and the Local Development Bank (BDL) has concluded that both banks provide many banking services via the mobile phone at varying rates. Despite the recent experience in each of them, they have benefited from the widespread use of the mobile phone. The study concluded that most Algerian banks, like the rest of the world's banks, have realized the great importance of mobile banking. Almost banks have adopted this process. However, the experience of Algerian banks in this field remains modest because of the technical, security and cultural reasons related to the banking customer.*

Keywords: mobile banking, mobile phone

JEL Classification : G21- M31

*Corresponding author e-mail: chaabnia.souad@univ-guelma.d

1. Introduction

The worldwide development in the mobile phone market has widely been reflected in the financial and economic activities. Companies have rushed to integrate the mobile phone into their services because it has become available to a large segment of individuals.

Since banks are not isolated from the developments in the international arena, they have rushed like other institutions to take advantage of the mobile phone through using it in their banking services. Thus, they will be able to respond to the customer's desires which are represented in freedom from direct association with the bank and its agencies, the freedom from the time factor associated with the bank's working hours and the ease of obtaining banking services.

The mobile phone market in Algeria has recorded a great recovery since its liberation in the 2000. This has provided the banks operating in Algeria, especially the public ones because they control the Algerian banking market, with great opportunities to employ mobile phones in their activities. This has made us wonder: **To what extent the Algerian public banks represented in the National Bank of Algeria and the Local Development Bank use mobile phones in providing their services?**

This study is important because it deals with the importance of providing the banking service via mobile phone. Banks that adopt this channel expand their activities and increase their competitiveness by attracting customers through facilitating their access to banking services.

Study Objectives: This study seeks to:

- Providing the theoretical framework for mobile banking services
- Diagnosing the indicators of the mobile phone market in Algeria

Previous studies: Many previous studies which focused on the two parts of this topic have been reviewed. The first part was related to the mobile phone market subject in Algeria. The second part was related to the position of electronic banking in general and mobile banking in particular. Among these studies we mention:

-Preranaetal (2011) study which is an article that aims at studying the customer's point of view as well as the benefit of mobile banking services to the customer. The study has applied the descriptive approach. It has concluded that customers face the problem of mobile banking services as well as the problem of security while conducting this type of transaction.

-Sorych (2017) study which aims at investigating the factors that affect the adoption of mobile banking services. It is a descriptive study based on secondary data. The researcher concluded that bank customers should use mobile banking because it is more convenient for them to conduct banking transactions from their phones.

- Bourqaba Koueider et al. (2019) study which is entitled the Banking Transactions through Mobile Phone in Digital Economy - Case Study of US Mobile Bank: Wingspan.com Bank. It is an article which was published in an international journal. It aimed at revealing the reality of mobile banking management in the modern business environment created by the digital economy. The study has concluded that providing banking services without bank branches through the use of mobile phones is the most preferred method by customers compared to other available options.

- Bukhari Fatna study (2021) is entitled Challenges and the Necessity of Improving Electronic Payment Methods for the Performance of Banks in Light of the Corona Pandemic.

It is an article aimed at analyzing and diagnosing the reality of the electronic payment methods use as well as highlighting the most important challenges faced by Algerian banks in light of the pandemic. The study concluded that the means of

electronic banking payment during the COVID-19 has provided a number of benefits to customers as well as new opportunities for banks.

The current study is different because it has dealt with banking via the mobile phone in Algeria, specifically in the two public banks "the Algerian National Bank and the Local Development Bank".

Study Methodology: In this study, we relied on the descriptive analytical method and the case study method.

In order to discuss the topic and be familiar with all its aspects, the study has been divided into three main axes:

1. What is mobile banking?
2. The components of the mobile phone market in Algeria
3. Mobile banking at the Algerian National Bank and the Local Development Bank

2. What is mobile banking?

European banks are considered the first to provide banking services via mobile phone, starting from 1999 when the Internet was used on mobile phones. However, the use of mobile phones was previously limited to sending short messages to bank customers (Ali Youssef, 2011).

2.1. Definition of mobile banking: "Mobile banking" is a term that has different interpretations because the components and applications in the field of mobile financial services are constantly evolving due to the continuous development of technology in the telecommunications sector. This, in turn, can create difficulties in defining what this term means. Perhaps the simplest definition of this term is "conducting bank transactions with the help of portable devices such as cell phones. According to Barnes and Corhitt (2009), mobile banking refers to the way through which a customer interacts with a bank via a mobile device, such as a mobile phone or personal digital assistant. Mobile banking services do not include the traditional form of phone banking services such as voice dialling or the phone dialling model for a service that relies on touch-tone phones only, but it goes beyond to include mobile payment services (Mehdi Khosrow-Pour, 2013). This type of banking does not only depend on technological progress, but it also depends on the consumer trust in the services provided by the bank itself (Ramesh Kumar Miryala, 2015).

Mobile banking is defined as "a package of services with which a consumer can interact with his or her bank or financial institution via a mobile device. These services include checking balances, transferring funds, depositing checks through cameras, making payments to the bank, and completing credit orders.

This definition differs from mobile payments where a consumer can make direct payments to a business via a mobile payment application (Marc J Schniederjans, 2014).

It is also defined as: "Those services that are available through a mobile phone. The customer uses a secret number that allows him to enter his account to inquire about his credit, as well as deducting from it for any enquired banking services." (Al-Serafy, 2016).

Mobile banking is defined as: "Using a mobile phone to access the bank account, credit card account, making bank transitions, cash statements, and pay bills. The use of the mobile bank can be accessed to through an application that is downloaded on the mobile phone." (Al-Nabaki, 2015).

Mobile banking is represented in: "Performing various banking operations, whether inquiring about the account, obtaining an account statement, making

financial movements, electronic payment, paying bills with the due date of payments, changing the secret code and other services provided by the bank via mobile phone.” (Muhammad Ali Khalil Al-Sumairat, Raed Muhammad Al-Adailiah, 2017).

From the above, mobile banking can be defined as a variety of banking services that are provided to the customer. Those services are provided by the bank to the costumers through downloading applications or programs on the mobile phone throughout the week and at any time.

1.2. The advantages and challenges of mobile banking:

Mobile banking provides several special advantages for both the bank and the customer. Those advantages are positively affecting the country's economy. However, it needs serious work to be imposed and used.

a. Advantages of mobile banking: The use of mobile phones in the field of banking services offers many advantages and opportunities, most notably (Muhammad, 2017):

- The effectiveness of time management, specifically in transferring data to customers at all times without time difference problems;
- Achieving the services and paying attention to the customer because mobile phones provide a direct link between the service and its recipient. This would give the customer a distinct feeling that he is the centre of attention;
- Productivity and performance effectiveness as cellular media can be relied upon to overcome production and performance barriers outside the work environment;
- Reducing the administrative cost which depends on the scope of application and the effectiveness of using modern technologies;
- Provide back-end business database all the time and everywhere;
- Ease of use compared to other monitory devices;
- Cancelling the idea of the site allowing the provision of services in open markets;
- Preventing the payment of tax for some rude bank employees and transportation expenses to benefit from their services. Thus, this type of banking makes its owner feel safe and secured (Sarlak Mohammad Ali, 2011)

b. Challenges of mobile banking:

Despite the advantages offered by the mobile bank, it faces a number of challenges most of which are listed below (Koueider Buraqah, 2019):

- Individuals would be exposed to the possibility of fraud because it is difficult to accurately monitor the mobile banking services;
- Some banks that provide this service do not make enough effort to inform their customers about this service which reduces the number of beneficiaries;
- Communication lines get busy sometimes, especially during peak times. This causes customers to lose confidence in this service.
- Customers are not aware of how to take advantage of this service.
- The slowness of the Internet sites may cause many reputational problems and financial damage to the bank.

The best evidence is what happened with Northern Rock Bank in the United Kingdom. The bank faced a credit problem when some news spread that the bank was suffering from financial problems. Thus, customers rushed to transfer their money to another place which resulted in creating several problems for the bank.(Shah Mahmood, 2009).

3. The components of the mobile phone market in Algeria

The wireless telecommunications sector has witnessed significant transformations since the opening of the mobile phone market to competition under Law 2000-03 of August 5th, 2000. The law defines the rules relating to posts and telecommunications (Official Journal of the Algerian Republic, 2000). As it was scheduled in the reforming program of the communication field, all parts of the Algerian market sector have gradually opened up to investment and competition. This competition was marked by the entry of the second mobile phone operator to Algeria represented by “Orascom Telecom” Algeria (OTA) under the commercial name “Djezzy”. It launched its first offers for mobile phone services in 2001. After that, the first historical operator in Algeria which is Algeria Telecom (ATM) under its commercial name “Mobilis” was launched in 2003. On August 25th, 2004 another third operator which was the National Corporation Algerian Telecom was launched under its commercial name “Nedjma” which is turned later into “Ooredoo.”(Khanfusi, 2018).

3.1. The evolution of mobile phone indicators in Algeria according to customers:

The mobile phone market in Algeria has witnessed a great development due to the multiplicity of operators. This has led to the gradual reduction in the prices of the provided services (especially the value of subscriptions and the price of calls) in order to attract the largest number of customers. In addition, the gradual decrease in the prices of mobile phones has allowed the possibility of its acquisition compared to previous periods. The following table summarizes the evolution of the number of subscribers by operator. It explains the operator's share of the market as well as the development of mobile phone density.

Table 1. The Evolution of the Number of Mobile Phone Subscribers, Market Share by Operator and Mobile Phone Density during the Period (2013 - First Semester 2021)

Indicator	2013	2014	2015	2016	2017	2018	2019	2020
Mobilis	12538475	13022295	14087440	16885490	18365148	19106401	18633371	18654330
Market share %	31,64	30,07	32,47	36,85	40,06	40,52	41,02	42,00
Djezzy	17585327	18612148	17005165	16360904	14947870	15848104	14707625	13952347
Market share %	44,37	42,99	39,19	35,71	32,60	33,61	32,38	31,42
Ooredoo	9506545	11663731	12298360	12571452	12532647	12199759	12084537	11805053
Market share %	23,99	26,94	28,34	27,44	27,34	25,87	26,60	26,58
Totale	39630347	43298174	43390965	45817846	45845665	47154264	45425533	44411730
Mobile access%	102,11	109,62	107,40	112,20	109,95	111	103,02	101,07

Source: Prepared by the researchers based on the publications of the Ministry of Post Information and Communication Technologies:

- Indicators of the development of information communication technology and the information society, available on the website: <https://www.mpt.gov.dz/sites/default/files/Ar-Rapport%20-TIC2018.pdf>, 12/03/2021;
- Algeria Telephone and Internet Market Development Report S.A. 2020, Available at: <https://www.mpt.gov.dz/sites/default/files/Download%20report%20developpement%20market%20phone%20and%20internet%20in%20Algeria%20sau%202020.pdf>, 12/03/2021

It is clear from Table No. 01 that mobile phone services have witnessed an increase as it raised from 396,30347 subscribers in 2013 to 47154,264 subscribers in

2018. This is considered the largest value during the study period. Then, it decreased to reach 45425533 subscribers in 2019 which was the same number of the first six months of 2020 that reached 44, 11730 subscribers. In its entirety, this positive development was reflected on the mobile phone density which in total exceeded 100% and achieved its greatest value in 2016 by about 112.20%.

As for the market share of the three operators, we note that 'Ooredoo' ranked third during the study period achieving the largest share of 28.34% in 2015 which is lower than the least share achieved by Mobilis during the period (2013-2020). The competition was great between Mobilis and Djezzy. Djezzy took the lead during the period (2013-2015). However, its share during the same period has witnessed a gradual decline. It decreased from 44.37% in 2013 to 39.19% in 2015. During the period of (2016-2020"the first semester", Mobilis Corporation took the lead where its market share has gradually increased from 36.85% in 2016 to 42% in the first six months of 2020. The following figure shows Mobilis' possession of the highest share in the Algerian market in recent years (from 2006 to the present day) due to the number of users of its segment compared to the rest of the active operators in this market, such as "Djezzy" and "Ooredoo":

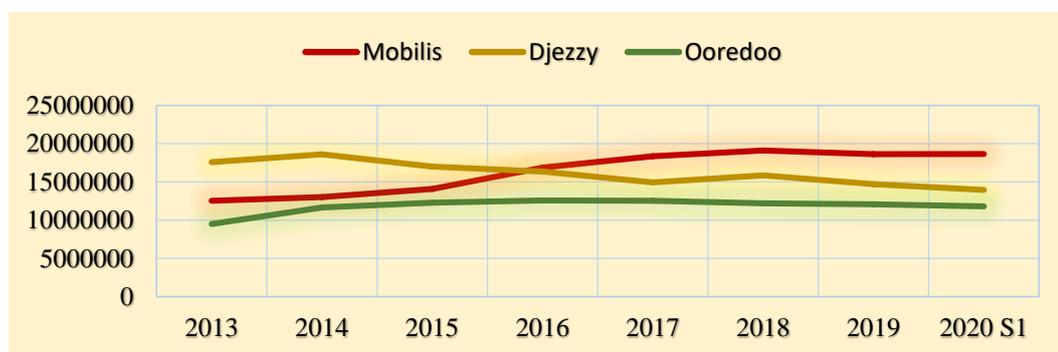


Figure 1. The Number of Mobile Subscribers` Evolution of Mobilis, Djezzy, Ooredoo during the Period (2013- First Semester 2021)

3.2. The evolution of the number of mobile phone subscribers in Algeria according to the technology used: 3G mobile phone service began in Algeria in December 2013. In just one month, 308,019 subscribers were registered. This number was multiplied 27 times in 2014. In 2017 it reached more than 23 million subscribers.

In the context of modernizing and spreading the telecommunications network and directing individuals towards the digital economy, the fourth generation (4G) mobile phone service was launched in Algeria in 2016. 1,464,811 subscribers were registered, 87.95% of them were prepaid subscriptions (Ministry of Information and Communication Technolo, 2021).

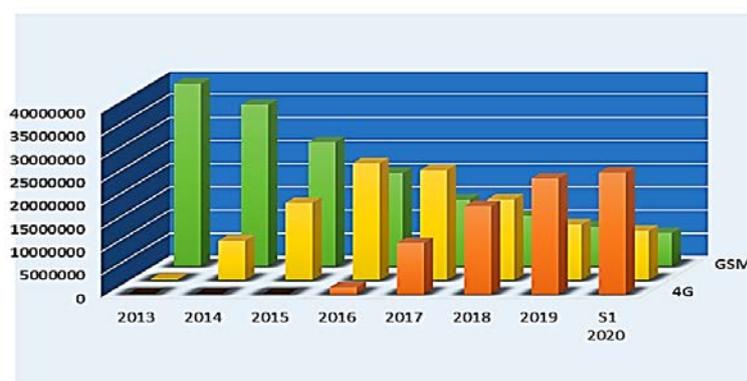


Figure 2. The Number of Mobile Subscribers' Evolution by the Technology Used during the Period (2013- First Semester 2021)

It should be noted that the number of subscriptions to the second generation has continuously been declining since the launch of the third and fourth generation of the mobile technologies. The number of subscriptions in the third generation has also declined after launching the fourth generation. This was due to the switch of subscribers to broadband Internet offers. The mobile phone network for the second and third generations covered almost the entire population whereas; the fourth generation network covered more than half of the population. (Ministry of Information and Communication Technolo, 2021). This is what the following table shows.



Figure 3. Percentage of Population Covered by the Mobile Phone Network during the Period (2015-2019)

4. Mobile banking at the National Bank of Algeria and the Local Development Bank

The Algerian public banks have tried to keep pace with developments affecting banking activity, especially those related to the provision of electronic banking services which are strengthened with the availability of the infrastructure. However, there is a discrepancy between what these banks offer. Through what will be presented we will try to study the experience of two public banks that make it possible to present their services through mobile banking loaded on their electronic pages. (National Bank of Algeria, 2021).

4.1. National Bank of Algeria: Customers of the Algerian National Bank can benefit from distant banking services by the use of the mobile phone through:

a. The mobile phone banking window: In order to benefit from this service, the individual must be a customer of the mobile phone company "Mobilis". This service allows the following (National Bank of Algeria, 2021):

- Viewing the credit of the bank account;
- Pay the telephone bills of the operator "Mobilis" at any time;
- Recharge the prepaid line of Mobilis;
- Transferring funds between the bank's agencies.

b. Electronic Bank: The National Bank of Algeria offers the "BNA.net" service. It is a permanent and instant service that allows access to the personal bank account at any time through the link "ebanking.bna.dz". It is also accessed through downloading the mobile application "BN@" from the "Play Store" by entering "BNAtic" and soon it will be available on the "App Store".

- The services used vary according to the chosen package (pack Net, pack Net+):
- View the account and detailed history of the credit for a period of 23 months;

- Issuing transfers to third parties, ordering your check book and your interbank card;
 - objection to the interbank card;
 - online tax payment;
 - Electronic messages service in order to communicate with the bank (National Bank of Algeria, 2021).
- c. **“WIMPAY-BNA” application:** This service was launched on March 10th, 2021. It is a payment service based on scanning a QR code. It is directed to individuals, professionals and companies. It can be downloaded for free on the phone or the electronic tablet from the “Play Store” and “App Store”. The “WIMPAY-BNA” application provides several services that we summarize in the following table.

Table 2. "WIMPAY-BNA" Application Services in Accordance to the Benefited Categories

Individuals, professionals and merchants	Companies
checking the credit; checking the list of the completed operations;	
<ul style="list-style-type: none"> - Make payments via QR-code; - make transfers for "WIMPAY-BNA" users; - requesting money from another user of the "WIMPAY-BNA" service; - Share consumption bills (for example a restaurant), - budget management; - View the list of money transfer requests (received/sent). 	<ul style="list-style-type: none"> - Acceptance of payments made via QR-code for the provided services; - Managing sellers and points of sale; - View the activity of sellers and points of sale.

Source: Prepared by the researchers based on the publications of the Algerian National Bank on the website: <https://www.bna.dz/en/2016-05-19-13-18-23/wimpay-bna.html> , 24/03/2021

The Algerian National Bank has signed several agreements to encourage mobile banking, the most important of which are:

- The signing of an agreement between the Algerian National Bank and the Sonelgaz Group: It was signed on September 30th, 2021. The agreement aims at implementing development programs for electronic payment methods and distant services for the benefit of customers of Sonelgaz subsidiaries. It enables the customers to pay energy bills through the proposed mobile payment service (WIMPAY-BNA) to pay Energy bills (Algerian Foreign Bank, 2021).
- Signing a protocol of agreement between the Algerian Foreign Bank and the General Union of Algerian Traders and Craftsmen on the development of electronic payment: It was signed on August 4th, 2021. The protocol aims at implementing a program to develop electronic payment methods and distant bank services for the benefit of the members of the General Union of Algerian Traders and Craftsmen at the national level. It allows them to access several electronic services. The most important of which is the use of the mobile payment application (for payment and collection) (WIMPAY-BNA) (Algerian Foreign Bank, 2021).

4.2. Local Development Bank: Similar to the Algerian National Bank, the Local Development Bank has provided mobile banking services which are mentioned below:

a. The "DIGIT BANK" platform: It is an innovative and easy-to-use digital banking service by the customers of the Local Development Bank and users who want to receive services. It was specifically designed to meet the financial needs at any time and from anywhere. The customer can install the application via a device on the "Play Store" or "App Store".

It is possible to communicate on the "DIGIT BANK" platform by the use of three languages, Arabic, French and English. The application contains two spaces:

- **Public space:** It is a service that is directed to all persons wishing to install the application through the App Store with access to all ad hoc services.
- **Authenticated space:** In this space, the customer needs to obtain the authentication by entering the password of the electronic bank "e-Banking" in addition it provides access to a number of other services.

The category concerned with the "DIGIT BANK" service is every physical or legal person who owns a local development bank account with checking as well as any independent customer who owns a smart phone equipped with the Internet (Local Development Bank, 2021).

Table 3. "DIGIT BANK" Application Services According to the Benefited Categories and the Price for Obtaining them

Individuals	Professionnels	Institutions
<ul style="list-style-type: none"> - checking credit -Bank card request -Check book request -Interbank wire transfer -Internal transfer: is not specified -External transfer: less than 1000000.00 DZD 		<ul style="list-style-type: none"> - Acceptance of payments made via (QR-code) for the provided services; - Managing sellers and points of sale; - view the activity of sellers and points of sale
150 DZD/ is not subjected to tax/ monthly	750 DZD/ is not subjected to taxes/monthly	2000 DZD/ is not subjected to taxes/monthly

Source: Prepared by researchers based on local development bank publications, on the website: <https://www.bdl.dz/Algerie/arabe/Digitbank.html> , 28/08/2021

b. Electronic Banking Service "e-BDL": The Local Development Bank offers the electronic bank service "e-BDL" which is a subscription that allows the bank's customers to perform a set of banking operations via the Internet or by mobile phone.

In order to use the "e-BDL" service via a mobile phone, a set of conditions must be fulfilled which are:

- Obtaining an e-BDL service subscription at the level of the Local Development Bank;
- Ownership of a mobile phone with specific parameters to download the service on the mobile;
- 3G or 4G internet network;
- Download and install the application on the mobile phone (Local Development Bank, 2021).

The provided services are related to the type of subscription. The bank offers packages of services that we summarize in the following points (<https://www.cnepbanque.dz>, 2021):

- **Mobility Package:** It includes the mobile bank, checking the balance, and alerting by SMS. It is provided for private individuals, professionals and companies. Although it provides the same services for each category, it differs in pricing.

For private individuals, it is estimated at 100 dinars / without calculating taxes for the month. For professionals, it is estimated at 200 dinars / without calculating taxes for the month. For companies, it is estimated at 400 dinars / without calculating taxes for the month.

- **Two packages for private individuals are:**

- **Electronic Bank Package:** It consists of a set of banking services and its pricing is 100 dinars/without calculating taxes for the month. It includes: checking the account; checking the operations; mail; downloading account statements; operations search; and the list of agencies.

- **Electronic Bank Package +:** It consists of the services of the Electronic Bank Package in addition to other services. Its pricing is 250 dinars / without calculating taxes for the month. It includes: Electronic Bank Package; card operations; transfer from account to account; transfer: to the beneficiaries (within and between banks); request checks.

- **Two packages for professionals: namely:**

- **PRO Package:** It consists of the same services included in the electronic bank package with a different pricing which is estimated at 500 dinars / without calculating taxes for the month.

- **PRO + package:** It consists of the same services included in the electronic bank package + with a different pricing which is estimated at 1000 dinars / without calculating taxes for the month.

- **Two packages for companies:** They are summarized in:

- **The CORPORATE package:** It consists of the same services included in the electronic bank package in addition to a new service which is EDI operations, a multiple transfers, and multiple deductions. Its pricing is estimated at 1500 dinars / without calculating taxes for the month.

- **CORPORATE+ package:** It consists of the same services included in the electronic bank package with the addition of other services. Its pricing is estimated at 2000 DA / without calculating taxes for the month. The additional services are represented in: EDI operations, multiple transfers, multiple deductions; Download Swift; Upload execution reports (unpaid file, transaction report as previously provided); account statistics analysis; account-to-account transfer; Transfer to beneficiaries (within or between banks); Request checks.

5. CONCLUSION

- The spread of mobile phones and the development of their various used applications allowed the emergence of applications and programs that allow the provision of banking services through which the customer can conduct his operations easily and at any time. The study has reached the following results:
- Mobile banking provides the possibility of distant dealing which relieves the work pressure on agencies as well as providing the customer with the service without the need to visit the bank.

- Mobile banking enables the bank to reduce costs which is positively reflected on the prices of the provided banking services;
- The mobile phone market in Algeria provides a great opportunity for banks to benefit because it provides its services to a large number of users. Especially that the number of subscribers has exceeded 40 million in recent years;
- Delayed integration of banks for mobile banking services, especially the two study banks;
- The lack of advertising campaigns known as mobile banking services by the two study banks.
- Recommendations:
- Spreading the culture of using mobile banking by promoting it through all possible means, especially social media which has become one of the most important marketing channels;
- Adopting easy-to-use and uncomplicated programs and applications that do not require high technical skills that are not available in the majority of bank customers;
- Encouraging partnership between banks and mobile phone network customers, which will open the door to competition and the possibility of reducing prices.

6. REFERENCES

- Ali Youssef, Hadjar Bouziane Al-Rahmani, (2011): *The Role of the Cell Phone in Developing and Improving Payment Systems in Algeria*, the International Forum on Modernizing the Payment System in Algerian Banks and the Problem of Adopting E-Commerce in Algeria - Presentation of International Experiences-, held on 26-27 April 2011, University Center Khemis Miliana, Algeria.
- Mehdi Khosrow-Pour, (2013): *E-Commerce for Organizational Development and Competitive Advantage*, Information Resources Management Association, USA, p 227.
- Ramesh Kumar Miryala, (2015): *Trends, Challenges & Innovations in Management - Volume III*, (1st Published), Zenon Academic Publishing, p 219.
- Marc J Schniederjans, Qing Cao, Jason H Triche, (2014): *E-commerce Operations Management*, (2nd Edition), World Scientific Publishing Co, p 287.
- Muhammad Al-Serafy, (2016): *Management of Banking Operations: Ordinary, Extraordinary, and Electronic*, Dar Al-Fajr for Publishing and Distribution, Cairo, Egypt, first edition, p. 218.
- Al-Hur Sami Abbas Al-Nabaki, (2015): *Factors Affecting the Adoption of the Mobile Bank from the Point of View of Commercial Banks Customers Operating in Jordan*, unpublished Magister thesis, Middle East University, Jordan, p. 25.
- Muhammad Ali Khalil Al-Sumairat, Raed Muhammad Al-Adailiah, (June 2017): *Factors Affecting the Use of Electronic Banking Services Via the Mobile Phone from the Customers` Point of View: A Field Study in the South Region - Jordan*, University of Sharika Journal for Humanities and Social Sciences, Volume 14, Issue 1, p. 194.
- Muhammad Abdullah Shaheen Muhammad, (2017): *Arab E-Commerce between Challenges and Growth Opportunities*, Hemithra House for Publishing and Translation, Cairo, Egypt, first edition, pp. 260-261.
- Sarlak Mohammad Ali, Hastiani Asghar Abolhasani, (2011): *E-Banking and Emerging Multidisciplinary Processes: Social, Economical and Organisational Models, Solution.*, Information Science Reference, New York, USA, p 37
- Koueider Buraqah, Reem Omari, Sami Omari, (2019): *Mobile Banking in the Digital Economy - A Case Study of the US Mobile Bank Wingspan.com Bank-*, Al-MIAAR Journal, Vol. 10, No. 2, p. 100.
- Shah Mahmood, Clarke Steve, (2009): *E-Banking Management: Issues, Solutions, and Strategies: Issues, Solution*, Information Science Reference, New York, USA, P 104

- Official Journal of the Algerian Republic, *Law No. 03-2000 of August 5th*, 2000, No. 48 issued on August 6th, 2000, p. 3.
- Abdul Aziz Khanfusi, (2018): *Electronic Payment Law*, Academic Book Center, Amman, Jordan, 1st Ed., p. 118
- Indicators of the development of information communication technology and the information society, available on the website: <https://www.mpt.gov.dz/sites/default/files/Ar-Rapport%20-TIC2018.pdf>, 12/03/2021
- Algeria Telephone and Internet Market Development Report S.A. 2020, Available at: <https://www.mpt.gov.dz/sites/default/files/Download%20report%20development%20market%20phone%20and%20internet%20in%20Algeria%20sau%202020.pdf> 12/03/2021
- Indicators of the development of information and communication technology and the information society, available on the website: <https://www.mpt.gov.dz/sites/default/files/Ar-Rapport%20-TIC2018.pdf>, 12/03/2021
- Algeria Telephone and Internet Market Development Report S.A. 2020, Available at: <https://www.mpt.gov.dz/sites/default/files/Download%20report%20development%20market%20phone%20and%20internet%20in%20Algeria%20sau%202020.pdf>, 12/03/2021
- Ministry of Post, Information and Communication Technologies, *Indicators of Information and Communication Technology as well as the Information Society Development*, date of access: 12/03/2021, available on the website: <https://www.mpt.gov.dz/ar/content/indicators-information-and-communication-technologies>
- Algeria Telephone and Internet Market Development Report S.A. 2020, Available at: <https://www.mpt.gov.dz/sites/default/files/Download%20report%20development%20market%20phone%20and%20internet%20in%20Algeria%20sau%202020.pdf>, 12/03/2021
- Ministry of Post, Information and Communication Technologies, *Development Report of the Telephone and Internet Market in Algeria S.A. 2020*, date of access: 12/03/2021, available on the website: <https://www.mpt.gov.dz/sites/default/files/Download%20report%20development%20market%20phone%20and%20internet%20in%20Algeria%20sau%202020.pdf>
- National Bank of Algeria, *bank window service via mobile phone*, accessed: 03/24/2021, on the website: https://www.bna.dz/ar/banking-services_for_major-institutions/remote-bank/office-banking-by-mobile-phone.html
- Algerian National Bank, *Electronic Bank*, date of access: 03/24/2021, on the website: <https://www.bna.dz/ar/e-bank.html>,
- Prepared by the researchers based on the publications of the Algerian National Bank on the website: <https://www.bna.dz/en/2016-05-19-13-18-23/wimpay-bna.html>, 03/24/2021
- Publications of the Algerian Foreign Bank, on the website: <https://www.bna.dz/ar/25-Updates/564-Signing-a-framework-agreement-between-the-Algerian-National-Bank-and-the-Algerian-electricity-and-gas-sonelgaz.html>, 27/08/2021
- Publications of the Algerian Foreign Bank, on the website: <https://www.bna.dz/ar/25-Updates/556-Signing-a-protocol-agreement-between-the-Algerian-National-Bank-and-the-General-Union-of-Algerian-Merchants-and-Craftsmen-Concerning-development-of-electronic-payment.html>, 27/08/2021
- local development bank publications, on the website: <https://www.bdl.dz/Algerie/arabe/Digitbank.html>, 08/28/2021
- Publications of the Local Development Bank, DIGIT Bank, date of access, on the website: <https://www.bdl.dz/Algerie/arabe/Digitbank.html>, 08/28/2021
- <https://www.bdl.dz/Algerie/arabe/e-banking.html>, 28/08/2021
- <https://www.cnepanque.dz/page.php?id=particulier>, 08/28/2021