A Dissertation submitted in partial fulfilment of the requirements for Master's degree in Financial Sciences and Accounting

Major: ACCOUNTING AND FINANCE

TOPIC:

THE IMPACT OF ELECTRONIC BANKING ON THE PROFITABILTY OF BANKS IN ALGERIA
CASE STUDY NATIONAL BANK OF ALGERIA BNA

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Dedication

I dedicate this work to

To my dear parents who have always been there for me, supported me and never had enough of being such loving and caring parents, May God bless you with peace in this life and paradise in the afterlife. ...

To my sisters who deserve all the happiness of the world...

To every pure soul I know...

To all of my friends, thank you for being in my life, for your mental support and for always believing in me, lucky to have you guys!

To myself, for believing in me, for never letting me down, for always being strong, determinant and confident and for getting through everything successfully, you will reach the stars!

Thank you

Skander ...

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List of abbreviations:

Abbreviation	Signification
IPO	Initial Public Offering
CBA	Central Bank of Algeria
CNEP	Caisse Nationale d'Epargne ET de Prévoyance
BNA	Banque Nationale d'Algérie
CPA	Crédit Populaire d'Algérie
BEA	Banque Extérieure d'Algérie
BADR	Banque de L'Agriculture ET du Développement Rural
BDL	Banque de Développement Local
LMC	Law on Money and Credit
CIC	Industrial and Commercial Credit
A.B.E. F	Association of Banks and Financial Institutions
C.M.C	Council of Money and Credit
CB	Banking Commission
ROA	Return On Assets
ROE	Return On Equity
GDP	Gross Domestic Product

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Abstract

Electronic Banking in Algeria has emerged as a strategic resource for achieving higher efficiency, control of operations and reduction of cost This study examines the impact of Electronic Banking services on the profitability of banks in Algeria, using a comparative ratio analysis and a profitability indicators as a tool to process and analyze data .The empirical results obtained using the Algerian National Bank as a case study for the period 2014-2019 showed that the introduction of E-Banking in 2017 has a negative impact on the profitability of the BNA Bank, despite all the advantages that E-Banking bring with.. The importance of this study and its distinguishing factors is, it discusses solely the topic of the relationship between E-Banking and profitability, while most of other studies discuss such topics in general term.

Key Words: E-Banking-Profitability -Algerian Banks

Résumé :

La banque électronique en Algérie est apparue comme une ressource stratégique pour améliorer l'efficacité, le contrôle des opérations et la réduction des coûts Cette étude examine l'impact des services bancaires électroniques sur la profitabilité des banques en Algérie, en utilisant une analyse comparative des ratios et des indicateurs de profitabilité comme outil pour traiter et analyser les données. Les résultats empiries obtenus en utilisant la Banque nationale algérienne comme étude de cas pour la période 2014-2019 ont montré que l'introduction de l'E-Banking en 2017 a un impact négatif sur la profitabilité de la BNA Bank. L'importance de cette étude et de ses facteurs distinctifs est, il discute uniquement le sujet de la relation entre l'E-Banking et la rentabilité, tandis que la plupart des autres études discutent de ces sujets en général.

Mots clés : L'E-Banking – Profitabilité – Les banques algériennes.

General Introduction

Electronic Banking is the use of computers and telecommunications to enable banking transactions to be done through telephone or computer rather than human interaction. It was first conceptualized in the mid-1970s. Than in 1985 some banks started to offer their customers services through Electronic Banking in. However, the lack of Internet users and the costs associated with using online banking stunted its progress. Nonetheless, E-Banking has grown alongside with the Internet explosion in the late-1990s and people became more comfortable with making transactions over the web.

This emergence of online banking in addition to the growth of business operations has prompted many banks to develop marketing strategies in order to stay competitive and to attract more customers. So, they began to offer Electronic Banking services to improve the effectiveness of distribution channels through reducing the transaction cost and increasing the speed of services. Recently, Electronic Banking has become the way for the development of banking system, and it is conceded as a strategy weapon that helps banks to achieve competitive advantages and increase their market share.

Because of that, the significance of E-Banking is increasing in many countries. Algeria saw the need to develop and upgrade its banking system and keep abreast of those developments and therefore the need to modernize the payment system. The present study aims to shed light on the implementation of Electronic Banking services on the Algerian banking system to demonstrate the extent to which E-Banking has helped in the cost reduction of transactions that may lead to an increase in the profitability of banks in Algeria.

With all that being said, we raise the following problematic:

Does Electronic Banking affect the profitability of banks?

To answer this question, we set the following sub-questions:

1. Is the profitability concept measurable?
2. Has the implementation of E-Banking positively affected profitability ratios?
3. Is there are any relationship between E-Banking and profitability?

To be able to answer the main problematic and the sub-questions, we will test the following hypotheses:

H1: The profitability of banks can be measured

H2: Electronic Banking has positively affected the profitability ratios

H3: There is a significant relationship between E-Banking and profitability

The introduction of Electronic Banking into the banking industry has positively affected the whole banking system, many banks are shifting gradually from traditional banking to online banking. This study will be a helping hand for banks in Algeria to understand banking through a new dimension. The results of the study will highlight the various benefits of online banking and how these measures if properly implemented can reduce operations costs and increase performance.

The study will also be of great importance to future scholars and academics as it will form basic tool for future research as well as providing literature for future studies on Electronic Banking.

For this work, we used a descriptive method to conduct the theoretical notions related to E-Banking, banks and profitability. On the other hand, we used comparative financial ratio analysis in order to compare and analyzed three profitability ratios of the BNA bank during the period (2014-2018) to study the effect of introducing E-Banking services on the profitability of the BNA bank.

To properly conduct this study, our research will be developed around three chapters:

The first chapter will provide a general overview on banks and banking and the concept of profitability, while the second chapter will define the notion of E-Banking its types, benefits advantages and drawback. The second section will be devoted to discover the relationship between Electronic Banking and banking performance and finally we will be presenting a review on the implementation of E-Banking services in Algeria.

The third chapter is a case study conducted on The Algerian National Bank in, we will start by presenting the Algerian National Bank and the Electronic Banking services provided by the host agency. After that we will get deep into the relationship between Electronic Banking and the concept of profitability.

CHAPTRE ONE: GENERAL OVERVIEW ON BANKS

Introduction

A well-functioning financial system is essential to a modern economy, and banks provide vital economic services. Thus, the objective of this chapter is to define the concept of banking, its historical development and functions in addition to some other notions related to banking activity in general.

In the other hand ,the chapter aims to shed light on Algerian Banking system through investigating its evolution's stages, its structures and organizations Also we will spot the light on the profitability concept, its determinants factors and how it can be measured by presenting the different profitability ratios such as margin and return ratios.

This chapter will be represented as follow:

- Section 01: General concepts on Banking.
- Section 02: The Algerian banking system.
- Section 03: General concepts on profitability

Section one: General concepts of Banking

Banks play a critical role in the economy. They provide vital services for its consumers. This section will present the historical development of banking and define the essential elements related to this activity.

1. The meaning of Banking:

The word "bank" originates from the Italian word "banchi". Which was the name given to dealers who traded money in the past. Banks are businesses that deal in money and financial instruments, as well as providing financial services for a fee, such as interest, discount, commission, and so on. Banking may also take into account a variety of other definitions.
The bank is a private or public institution that facilitates the payment of individuals and businesses, receives funds and manages payment methods.[1]

According to J.V.Capul and O.Garnier, "a bank is a particular type of business that receives money from clients (businesses or individuals), manages their payment methods (credit cards, chèques, etc.), and provides loans to customers" [2]

According to Articles 1 to 3 of Banking Law of September 2000, "Bank" refers to a legal entity engaged in the business of accepting deposits and using such funds either in whole or in part to extend credit or make investments for the bank's account.[3]

According to the companies Act of India "A bank is a financial entity that receives money from the public for the purpose of loan or investment repayable on demand or otherwise withdrawable by checks, drafts, or order or otherwise,".[4]
Sir John Pagette stated that "A bank is a financial organization that collects money in current, savings, or fixed deposit accounts; collects checks as deposits; and pays money out of the

[1] Dictionnaire LAROUSSE, p124

[2] CAPUL.J. V et GARNIER.O, « Dictionnaire d'économie et des sciences sociales », Hâtier, Paris 1994, p 20.

[3] Banking Law Official translation by the NBRM, On 09 September 2000

[4] Prabhavathi K- Dr.Dinesh G P - Banking: Definition and Evolution- International Journal of Scientific & Engineering Research Volume 9, Issue 8, Augsut-2018

depositor's account by checks," [5]
Given that the term "bank" includes a wide range of concepts, it is critical to define the term "bank" using a set of economic and legal criteria:

1.1. Economic definition:

Banks are businesses or institutions that receive public funds in the form of deposits and use them to conduct credit or financial transactions. The bank acts as a middleman between capital providers and capital demanders, and it does so through two separate processes:
-By interposing its balance sheet between providers and capital demanders which called the banking intermediation
-By putting in direct relation providers and requesters of capital on a capital market (financial market in particular). This is called the phenomenon of disintermediation.[6]

1.2. Legal definition:

Several amendments have been made to this concept as a result of successive legislation:
According to the law 86-12 of August 19, 1986, "is regarded as a bank, any credit institution that performs for its own account and in the regular course of business, primarily the following operations:"
-Collecting deposited funds, regardless of their duration or form
-Providing credit, regardless of duration
- Executing exchange and foreign trade transactions in accordance with existing laws and regulations.
- Assuring the management of payment instruments, including the placement, subscription, purchases, management, storage, and sale of tangible and intangible assets, as well as all financial products;
-Providing advice, assistance, and information.[7]

The definition given by the law of January 12, 1988 is as follows: "A bank is a legal entity with a capital that is committed to the principles of financial independence and accounting balance."[8]

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[5] IBID

[6] GARSNAULT. P et PRIANI.S, « La banque fonctionnement et stratégie », Ed economic, Paris 1997, p 28

[7] JORA, regulation 86-12 of 20 August 1986 on the banking system, article n°17.

[8] Law of 12 January 1988 article n°2

With the transformation of the Algerian economy from a planned economy to a market economy, the law 90-10 of April 1990 gives banks a new definition: Banks are moral entities that carry out transactions in the ordinary course of business, primarily those described in Articles 110 to 113 of the April 1990 Money and Credit Act. The reception of public funds, credit operations, and the provision of payment methods to customers, as well as their management, is all part of banking operations.[9]

2. The historical development of Banking:

The concept of banking has a long history extending back to the early stage of human civilization. Banking and finance began on the day that the first individuals learnt how to exchange commodities. While stating the entire historical evolution of banks or banking, as well as determining when or how the banking industry came into existence, is extremely difficult. It is undeniable that the banking industry did not emerge from nowhere. Rather, it developed gradually over time.[10]

2.1. Banking in pre-historic days:

Banks have existed since the creation of the first currencies, and even before that, Prior to the invention of money as a means of exchange, banking was done by trading grain and other essentials. Farmers might deposit grain in a grain bank and withdraw it at regular intervals to ensure a steady supply of food while their next harvest grew.

It wasn't until sometime around the 10th century when the Chinese first introduced paper money. Modern governments preferred a standardized currency because it made tax collection much easier, and paper currency was cheaper to maintain than metal currency.[11]

Banking in more modern sense can be traced back to medieval and early Renaissance Italy, specifically to the wealthy northern cities of Florence, Venice, and Genoa. The Bank of Venice was the first national bank to have been established within the boundaries of Europe,

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[9] Law of April 1990 article n°110 to 113

[10] THE HISTORY OF BANKS, https://www.worldbank.org.ro/about-banks-history

[11] Banking: The Evolution, Origin and Growth of Banking-by Smriti Chand –from https://www.yourarticlelibrary.com/banking/banking-the-evolution-origin-and-growth-of-banking/10998

Created in 1157 when a group of the government's creditors banded together and began using government debt as a method of payment in commerce.[12]

2.2. Banking in modern age:

Perhaps the most important changes that happened to the banking concept came within the 14th to 20th centuries. As business grew, so did innovation. Bills of exchange were invented to eliminate the need to carry cash and vast chests of treasure around. Money changers at merchants' fairs issued redeemable documents for hard currency. These documents could be redeemed at a different country's fair or at a future fair in the same place, one of those bills are banknote.

A banknote is a negotiable promissory note that can be used to pay a certain sum of money to another party. On demand, a banknote is payable to the bearer, and the amount due is shown on the face of the note. The first bank to supply banknotes was the Bank of England on 1694. Bank notes were, initially, promissory notes. You would deposit cash into the bank and be offered a note to mention that it had been there. Over time, the bank began to offer checks, overdrafts, and traditional banking services.[13]

It was within the 20th Century when banks began to occur within the way we all know them properly. Post-World War II, banks began to lend money to countries as a whole, and retail banking began to become a proper ‘thing’. In fact, plenty of the technology that was developed throughout the 20th Century remains in use today.[14]

The first decade of the twenty-first century also saw the conclusion of 30 years of technological progress in banking, with a substantial shift away from traditional banking and toward internet banking.

2.3. Banking in the last decade:

There have been many changes in the banking system within the past 10 years. The banks have been collecting vast amounts of information about customers, channels, financials, and risk, and therefore the availability of analytical technology opened a way to effectively manage and analyze data. Security, privacy, and fraud prevention became an area of prime focus and lots of measures have been taken in this regard. Globalization of monetary products

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[12] Definition of Bank: Meaning of the term bank and the business of Banking, From https://www.technofunc.com/index.php/domain-knowledge/banking-domain/item/definition-of-bank

[13] THE HISTORY OF BANKS, https://www.worldbank.org.ro/about-banks-history

[14] IBID

and services continued at an unprecedented pace drive were made for the financial inclusion of unbanked, poor and marginalized people.[15]

Banking is now one of the most complicated and diversified sectors, with commercial companies providing a broad range of services. By handling institutional loans to their clients, commercial banks became an essential economic stimulant.

3. Role of Banking:

Banks play a vital role in the economy; Banks collect the savings of the individuals and lend them out to business- people and manufacturers. Not only they provide a necessary service to consumers but they also play a pivotal role in capital formation. They act as intermediaries by bridging the gap between savings and investments. They provide lucrative opportunities of investment to the savers and facilitate supply of funds for investment to the entrepreneurs.

The banking system connects agents who have a surplus of funds with others who have a pressing need for liquidity. Banks and the financial market work together to provide the necessary financial resources while also stimulating economic growth. As a result, the bank is the most important part in ensuring intermediation between the various stakeholders.

Banks also render many other useful services:

-It encourages savings habit amongst people and thereby makes funds available for productive use.

-It facilitates business transactions through receipts and payments by checks instead of currency. Business Studies

-It provides loans and advances to businessmen for short term and long-term purposes.

- It helps in national development by providing credit to farmers, small-scale industries and self-employed people as well as to large business houses which lead to balanced economic development in the country.

-It helps in raising the standard of living of people in general by providing loans for purchasing durable goods, houses, automobiles, etc.[16]

The banking system also facilitates internal and international trade which facilitates import

[15] History of Banking: Evolution of Banking as an Industry, https://www.technofunc.com/index.php/domain-knowledge/banking-domain/item/history-of-banking,05 April 2012

[16] Boulabed Ons. L’impact des déterminants de la performance sur la stabilité bancaire : Validation empirique sur les banques tunisiennes cotées en bourse P55. 2020. Mémoire de fin d’Etudes

export transactions. A large part of trade is done on credit. Banks provide references and guarantees, on behalf of their customers, on the basis of which sellers can supply goods on credit. This is particularly important in international trade when the parties reside in different countries are very often unknown to one another.[17]

4. Types of Banks:

A bank is a financial institution licensed to receive deposits and make loans. Various types of banks have emerged throughout the previous three centuries. Each category usually focuses on a specific form of business. Depending on the type, a bank may provide various financial services ranging from providing safe deposit boxes and currency exchange to retirement and wealth management. As a result, we can distinguish between the various banks based on the functions they perform.[18]

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-It encourages savings habit amongst people and thereby makes funds available for productive use.

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-It provides loans and advances to businessmen for short term and long-term purposes.

-It also facilitates import export transactions.

- It helps in national development by providing credit to farmers, small-scale industries and self-employed people as well as to large business houses which lead to balanced economic development in the country. -It helps in raising the standard of living of people in general by providing loans for purchasing durable goods, houses, automobiles, etc.[19]

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[17] Irving Fisher 100% Money and the Public Debt. CreateSpace Independent Publishing Platform. (November 9, 2009) P65

[18] BELAID.MC, « Comprendre la banque » édition pages bleues, 2015, p 08

[19] Boulabed Ons. L'impact des déterminants de la performance sur la stabilité bancaire : Validation empirique sur les banques tunisiennes cotées en bourse P111. 2020. Mémoire de fin d'Etudes

4.1. Central Banks:

A central bank is a state institution that usually has the power to regulate commercial banks, create monetary policy, and provide financial services. They were created as a barrier against financial crisis and they play a vital role in the stabilization of the nation's currency, the prevention of inflation, and the reduction of unemployment.[20]

Although their responsibilities range widely, depending on their country, central banks' functions and tasks usually fall into three areas:

First, the national money supply is controlled and manipulated by central banks, which issue currency and set interest rates on loans and bonds. As the institution that controls a nation’s monetary policy, central banks have the ability to both boost and slow the growth of the economy. They often raise interest rates to restrict growth and prevent inflation, while lowering them to stimulate growth, industrial activity, and consumer spending. They manage monetary policy in this way to regulate the economy of the country and attain economic goals such as full employment.

Second, they use capital requirements, reserve requirements (which determine how much money banks can lend to clients and how much cash they must maintain on hand), and deposit guarantees, among other instruments, to regulate member banks. They also maintain foreign exchange reserves and provide loans and services to a country's banks and government.

Finally, a central bank serves as an emergency lender to troubled commercial banks and other institutions, as well as the government on rare occasions. When a government needs to raise money, the central bank, for example, can provide a politically appealing alternative to taxation by acquiring government debt obligations.[21]

In addition to the functions mentioned above, central banks have additional functions especially in developing countries. Such functions include first, the regulatory and supervisory role in order to ensure the efficient running of the financial system. The second is the promotional role of the central bank. Central banks are expected to foster the development of financial infrastructures such as the development of money and capital markets, the instruments of the market and the development of specialized financial institutions.

[20] IBID

[21] IBID

4.2. Commercial Banks:

Commercial banks are financial intermediaries with a high level of leverage, a small amount of equity, and a substantial proportion of short-term debt in the form of deposits. These deposits are frequently receivable on demand and are issued to a wide range of individuals and businesses. The funds of commercial banks are generally utilized to make loans to companies and individuals. The vast majority of individuals use a commercial bank for their financial needs. Mortgages, vehicle loans, business loans, and personal loans are all examples of loans that these sorts of institutions provide and earn interest on. Banks get their capital from customer deposits, which allow them to offer these loans.[22]

Depending on the country, commercial banks may be government-owned or privately-run. According to their ownership structure they can be classified as public private and public sector banks:23

a) Private Sector Bank: A banking business is considered private if private individuals possess more than 51 percent of the share capital. These banks, on the other hand, are openly traded on a recognized exchange. To ensure their safety and smooth functioning there are generally entry barriers and regulatory criteria set like the minimum net worth etc. This ensures safety of public deposits entrusted with such institutions and they are also regulated by guidelines issued by Central Banks from time to time.

b) Public Sector Bank: A public sector bank is one in which the government owns more than 51 percent of the share capital of a publicly listed banking institution. Apart from the shareholding structure, both public sector and private sector banks offer the same set of services. The aspects on which those are different involve charges that are imposed as well as the duration and description of the services that are provided. The main objectives of public sector banks are to ensure there is no monopoly and control of banking and financial services by few individuals or business houses and to ensure compliance with regulations and promote the needs of the underprivileged and weaker sections of society.

The goal of a commercial bank is to generate commercial profits. Commercial banks can be listed on the stock market: the vast majority of them are. In fact, a commercial bank might be an international, national, or regional bank. They offer a variety of financial products such as loans, investments, and equities, as well as insurance (life insurance, car insurance.)

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[22] Giuliano Iannotta. Investment Banking -A Guide to Underwriting and Advisory Services. Springer P2-3

[23] IBID 9-11

Due to their importance, commercial banks are heavily regulated by central banks. For instance, central banks impose reserve requirements on commercial banks. This means that banks must maintain a specific percentage of their consumer deposits at the central bank as a safety net in case there's a rush to withdraw funds by the general public. [24]

4.3. Investment Banks:

A financial services organization that acts as a middleman in large and sophisticated financial transactions is known as an investment bank. When a startup company prepares for an initial public offering (IPO) or when a corporation merges with a competitor, an investment bank is frequently engaged. Large institutional clientele, such as pension funds, use it as a broker or financial adviser. They can also provide additional services such as market making, trading of derivatives, fixed income instruments, foreign exchange, commodities, and equity securities. They can also provide additional services such as market making, trading of derivatives, fixed income instruments, foreign exchange, commodities, and equity securities.25

An investment bank helps firms to raise funds by issuing securities in the financial markets. These securities can include equity, debt, as well as “hybrid” securities like convertible debt or debt with warrants attached. Investment bank’s structure the transactions by verifying financial data and business claims, performing due diligence and, most importantly, pricing claims.

5. Functions of Banks:

Basic banking services are provided by banks to the general public, including both individual consumers and small and medium-sized businesses. They offer credit and debit cards, bank accounts, deposits and loans, and deposit mobilization.

The functions of a bank, in all of its forms may be summarized as follows: [26]

5.1 Collection of Resources: This function is generally enabled thanks to:

- Remunerations or non-remunerations deposits of individuals and businesses account.
- The remunerated subscriptions of cash vouchers.

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[24] IBID P13

[25] ERIK SIRRI - Investment Banks, Scope, and Unavoidable Conflicts of Interest- Federal Reserve Bank of Atlanta ECONOMIC REVIEW Fourth Quarter 2004

[26] Süheyla Özyildirim & Zeynep Önder. Banking Activities and Local Output Growth: Does Distance from Centre Matter? Regional Studies, 2008 P22

- Remunerations deposits in the form of bank certificates.

5.2. Distribution of Loans: The law No. 86/12 of 19/08/1986 on currency defines credit as any act by which an institution empowered to do so, makes or promises to make funds available to a legal or natural person temporarily and for a fee.

A loan can take three forms:[27]

a) Individual Loan: consumer loan (or consumer credit) is a loan granted by credit institutions or specialized institutions to individuals. It is intended only for households and does not concern companies. For example, the purchase of a company car by a company cannot be financed by a consumer contract.

b) Business Loan: also known as operating credit, it is used to finance the current assets on the balance sheet by providing companies with the cash needed for short-term payments while waiting for them to recover invoiced receivable.

c) Investment Loan: The investment loan is a loan that allows the company to make medium or long-term professional investments. The investment loan generally corresponds to the financing of the company's balance sheet, with the main objective of developing or renewing the company's fixed assets and work tools.

5.3. Financial transactions

The bank frequently intervenes to complete financial transactions for the benefit of its clients in exchange for a remuneration based on commissions of the transaction itself.

In general a bank may perform the following financial transactions:

- The issue of bonds and their negotiations
- The issue of shares and their negotiations;
- Exchange transactions between different currencies;
- Investment transactions and the management and monitoring of a value portfolio on behalf of its clients.

5.4. Maintaining Bank Accounts:

Banks enable regular banking transactions such as deposits, withdrawals, check, and bill

[27] IBID P25

payments through a variety of types of accounts such as current accounts, saving accounts, and deposit certificates: [28]

a) The current Account: A current account, also known as a check account, or a deposit account, is an account used to save and withdraw money. It also allows for easy access to funds held in a variety of ways, including withdrawing money from an automatic teller machine or writing checks, making a transfer, or using a credit card. This sort of account is typically used for day-to-day expenses.

b) The Saving Account: Saving account is an interest-bearing deposit account for any non-immediate use. Despite the fact that these accounts often have a low interest rate, their security and dependability make them a great choice for cash investment to fulfill future short-term needs.

The frequency in which funds can be withdrawn is limited in saving accounts. However, they generally offer exceptional flexibility, making them ideal for establishing an emergency fund, saving for a short-term goal, saving extra money that we don't need right now so that it can expand due to the interest paid by the bank.

c) Deposit Certificates: A deposit certificates is an account that restricts access to the deposited funds but offers significantly higher interest rates than regular savings accounts. The bank pays interest at regular intervals until the account is closed, the longer the maturity period, the higher the interest rate, and hence the higher the return.

[28] Timothy Taylor. Principles of economics-Economics and the Economy. Journal of Economic Perspectives Opens tax - second edition Textbook Media; 2nd edition January 1, 2011

Section two: The Algerian banking system

In order to be fully aware of the context, in which the Algerian banks exercise its functions, I t is necessary to understand how the Algerian banking system operates.
This section will recall the history of the Algerian banking system and present its structure and organization.

1-History and evolution of the Algerian Banking system:

The Algerian banking system is the product of a process that has been carried out in several steps, following two different management systems. The historical stages of the Algerian banking system development can be summarized into five phases:

1.1 Colonial phase:

Algeria's banking history can be traced back to the French colonial era, when the Algerian financial system was one of the most developed in North Africa.
During this time, Algerian banking system consisted of the Bank of Algeria which was created on1851, whose purpose was to issue money, provide loans to finance colonial economic activity, and ensure currency exchange services.

Algerian banks were, essentially, an extension of the French banking system, established to meet the financial demands of the colonial economy.
They also specialized in funding colonial agriculture, overseas trade, and petroleum and mining exploration. They, on the other hand, failed to fund initiatives related to Algerian interests.
In addition, they specialized financing the colonist agriculture activities, foreign trade, and petrol and mining exploitation. On the other hand, they refused to finance any Algerian interest activities.[29]

1.2. Independence phase:

Following Algeria's independence in 1962, the government sought to create an economy apart from the colonial economy in order to achieve the country's independence.
The Algerian authorities have chosen a socialist economy oriented by the state, as dictated by

[29] Abdelkrim Naas . Le système bancaire algérien De la décolonisation à l'économie de marché. Maisonneuve ET Larose.15 septembre 2003 P125

political ideology, with the goal of improving the living circumstances of the Algerian people. In these conditions, the Algerian government needed to build an Algerian financial system that could support and fund ambitious economic development plans. To achieve this goal, the Central Bank of Algeria (CBA) was established in December 1962, with the primary goal of regulating and preserving the Algerian economy in a way that protects the country's overall interests. CBA was tasked with generating and maintaining money (Algerian Dinar), as well as making and managing currency exchange and ensuring the economy's direct and indirect financing through commercial banks and financial organizations. CBA was also given the task of providing loans and advances to state-owned companies in addition to financing the agriculture sector. As a result, CBA serves as a, a Bank of State, and a Bank of Exchange and was considered to be the Bank of Banks.

In August 1964, the “Caisse Nationale d'Epargne ET de Prévoyance” (CNEP) was established to collect savings. CNEP has been referred to be a housing bank, with responsibility for supporting housing initiatives through promoting and encouraging household savings.[30]

1.3. Nationalization and Socialization phase:

In 1966 and as a result of the nationalization process of the foreign banks that had operated in Algeria during the colonial period, the Algerian banking network have witnessed majors' expansions resulting in the creation of three commercial banks, The first bank was the “Banque Nationale d'Algérie” (BNA) which was established as a national organization in 1966. BNA performed all of the regular functions of a bank, including collecting savings from the public in the form of deposits, providing various forms of loans to individuals and businesses, and ensuring exchange operations.

The "Crédit Populaire d'Algérie" (CPA) was formed in 1989 as a national company that provided all banking services. Its businesses included hotelier, tourist, fishing, and artisan activities. In 1967, the “Banque Extérieure d'Algérie” (BEA) was established. BEA is a bank that offers full banking services. Its main responsibilities are to facilitate and develop all financial transactions between Algeria and other nations.[31]

During this time, banks were restricted from managing their revenues and revenues on their own, and all decisions, even those involving the investment of their financial resources, required the permission of the central authority. This limitation was put in place to prevent

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[30] IBID P140

[31] AMMOUR Benhalima Le système bancaire algérien, textes et réalité Editions Dahlab (1 janvier 1996) P10

banks from working for their own personal gain at the expense of the state's investment programs.[32]

1.4. Restricting phase:

The Algerian banking industry was enhanced during this period by the establishment of two commercial banks: “La Banque de L'Agriculture ET du Développement Rural” (BADR) was founded in 1982 to take over the job of financing agriculture from BNA. The BDL (Banque de Développement Local) was founded in 1985. It took over the CPA's activities of funding state-owned companies of a commercial nature and financing local government investment plans.

However, the defining characteristic of this period, is the reorganization of state-owned companies in order to increase their profitability, in the early 1980s businesses gained autonomy in establishing their policies and objectives in the context of management decentralization, they have benefitted from the loosening of bureaucratic controls.[33]

1.5. Liberalization phase:

Fundamental financial reforms were required in order to achieve the goals of the economic reforms. For this purpose, and in 1990, the Law on Money and Credit (LMC) was established, with the aim of implementing a modern banking system capable of meeting the needs of the market economy. The major goals of this law were to shift from directed credit banks to market-determined credit banks, as well as to improve banking sector modernization and competitiveness.[34]

2. The Structure of the Algerian Banking System

The Algerian banking system currently consists of the following institutions:

2.1. The Bank of Algeria:

According to the law on money and credit, The Bank of Algeria has been designated as an independent monetary authority with significant powers over commercial banks and foreign investments. The Algerian Bank establishes the general criteria under which Algerian and

[32] Abdelkrim Naas OP CIT P160

[33] AMMOUR Benhalima OP CIT P15

[34] IBID P22

foreign banks and financial institutions can establish themselves in Algeria and operate there. It also sets the circumstances under which this authorization may be modified or revoked. The Algerian Central Bank also defines all of the standards that each bank must comply constantly, including those relating to bank management ratios, liquidity ratios, and the use of personal funds - risks in general.[35]

2.2. The Public Banks:

Algerian public banks include six banks:
-The bank of Algeria (CBA).
-The National Bank of Algeria (BNA).
- The Algeria External Bank (BEA).
- The Local Development Bank (BDL).
-The rural development (BADR).
-The CPA Bank.
-The CNEP bank.

With the introduction of legislation on money and credit, all public banks that existed before to 1990 were required to comply with the law's requirements, which necessitated the approval of the currency and credit council.[36]

2.3. The Private Banks:

The new law n° 90-10, adopted on April 14, 1990, relating to money and credit, allowed for the establishment of private national and international banks. Currently there are four French banks in Algeria:
-Natixis Bank.
-BNP Paribas Bank
- Calyon Algeria
- Industrial and Commercial Credit (CIC)

Natixis Bank, received approval from the Algerian Central Bank in 2000, followed by BNP Paribas in 2002 Industrial and Commercial Credit (CIC) has also been present in Algeria since the year 2000, via a representation office, to assist its typical clients as well as those of

[35] REKIBA.S « le système bancaire algérien : état des lieux, degré de libéralisation et problèmes d'inadaptation avec les règles de l'agcs », Oran, 2015, p : 115

[36] IBID P128

the Credit Mutual Group at the international level.

In 2007, the authority's granted Calyon Algeria (a private financial institution) permission to expand in the investment banking industry.

Aside from the four French banks and the American City Bank, the other banks are primarily focusing on corporate finance, Islamic banking, and international trade in order to support the progress of business in their home country.[37]

The structure of the Algerian banking system is presented as follow:

Table1. 1.List of Banks in Algeria

(Table1)	**Name**	**Ownership**	**Approval Date**
01	Banque Nationale d'Algérie	Public	25/09/1995
02	Caisse Nationale d'Epargne et de Prévoyance	Public	25/05/1997
03	Crédit Populaire d'Algérie	Public	25/05/1997
04	Banque de Développement Local	Public	23/09/2002
05	Banque Extérieur d'Algérie	Public	23/09/2002
06	Banque de l'Agriculture et du Développement Rural	Public	23/09/2002
07	Banque Al Baraka Algérie	Private (Mixed)	20/05/1991
08	Arab Banking Corporation Algerie	Private (Foreign)	24/09/1998
09	Natixis Banque	Private (Foreign)	27/10/1999
10	Société Générale Algérie	Private (Foreign)	04/11/1999
11	City Bank Algeria	Private (Foreign)	18/05/1998
12	Arab Bank	Private (Foreign)	15/10/2001
13	B.N.P Paribas El Djazair	Private (Foreign)	31/01/2001
14	Trust Bank Algeria	Private (Foreign)	30/12/2002
15	Gulf Bank Algeria	Private(Foreign)	15/12/2003
16	The Housing Bank for Trade and Finance-Algeria	Private(Foreign)	08/10/2003

[37] IBID130

17	Fransabank El Djazaïr	Private (Foreign)	07/09/2006
18	Credit Agricole Corporate Et Investissement Bank-Algerie	Private (Foreign)	09/05/2007
19	Al Salam Bank-Algeria	Private (Foreign)	10/09/2008
20	H.S.B.C Algeria	Private (Foreign)	17/06/2008

Source: Algerian Central Bank. Consult https://www.bank-of-algeria.dz/

3-Organisation of the Algerian Banking system:

The Algerian banking landscape has evolved since the adoption of Law 90-10 on Money and Credit on April 14, 1990, which was extended and modified by the Banking Regulation on August 26, 2003, based on the following principles:

-Maintenance of the Ministry of Finance's dual monetary authority (direction of the Public Treasury) and the Algerian Central Bank.

-Clarification of the exercise of supervision functions through the establishment of two organizations (the Council of Money and Credit and the Banking Commission).

-The professional representation of banks and financial institutions provided by the Association of Banks and Financial Institutions (A.B.E.F).[38]

3.1. The monetary authorities:

As stated above there are two authorities in charge of the Algerian banking system:

3.1.1. The Ministry of Finance:

The Finance Ministry, in collaboration with the government, determines the country's monetary policy. Within this Ministry, the Treasury Department is in charge of banks and financial institutions, while the Department of Customs is in charge of change regulations.

3.1.2. The Bank of Algeria:

The amended and completed Law 90-10 grants the Algerian Central Bank significant powers over commercial banks, non-resident investors, in addition to the management of interest rates.

[38] SADEG.A, « système bancaire algérien : la réglementation relative aux banques et établissement financiers », les presses de l'imprimerie A.BEN, Alger, 2005, p : 41

The Algerian Bank is in charge of ensuring the smooth operation of the Algerian banking system. It also contributes to the formulation and implementation of the government's fiscal or monetary policy.

In order to achieve its goals, the Algerian Bank has eleven general departments and maintains a presence in the 48 states through three regional departments (Alger, Oran and Annaba)

In order for the Algerian banking system to adapt to the restrictions imposed by the transition to a market economy, a large program of equipment modernization and employee training has been implemented.[39]

3.2. Management and control structure:

The management and control structures have been established as part of the restructuring of Algeria's banking system, which now consists of three (03) institutions

- A representative institution: The Association of Banks and Financial Institutions (A.B.E.F)

- Regulation and approval institution: the Council of Money and Credit (C.M.C.)

-A supervisory institution: the Banking Commission (C. B)

3.2.1. The representative institution, The Association of Banks and Financial Institutions (A.B.E.F):

The A.B.E.F. investigates issues concerning the organization of the banking profession, such as the improvement of banking and credit procedures, the stimulation of money and credit, in addition to other function such as Representing the common interests of its members, Informing and sensitizing its supporters.[40]

3.2.2. The Regulation and approval institution: the Council of Money and Credit (C.M.C.):

As a monetary authority, the C.M.C. is the instance of the Algerian Bank, endowed with all regulatory powers over banking activity, allowing it to take charge on matters such as:

- Supervision and evaluation of monetary policy

-The accounting standards rules and regulations that apply to banks and financial institutions.

- The management standards ratios that apply to banks and financial institutions in order to protect themselves against liquidity, solvability risks.

[39] http://www.bank-of-algeria.dz.

[40] Article no. 62 of Order 03-11 of 26 August 2003 relating to currency and credit

- The standards and requirements for granting and establishing banks and financial institutions, their networks, as well as the determination of their minimum capital and the terms of their release.

3.2.3. The supervisory institution: the Banking Commission (C.B):

The Banking Commission has several oversights and sanctioning authority. This authority extends to all credit institutions (banks and financial institutions). In terms of oversight, the Banking Commission monitors credit institutions' compliance to various legislative and regulatory laws, as well as their adherence to professional standards of morality.

The Commission is authorized to inspect credit institutions on paper and on the field using the services of the Algerian Central Bank. In terms of disciplinary authority, and depending on the nature of the offenses, the Banking Commission may impose the following sanctions: warning, reprimand, prohibition from performing specific transactions, temporary suspension of a director, and withdrawal of approval.[41]

[41] IBID

Section three: General concepts of Profitability

This section presents the definition of the concept of profit and the different types of profit in addition to the main factors affecting this concept. It also presents banking profitability, how it can be measured, and the determinants of Banks' Profitability.

1. Concept of Profit:

Profit is defined as the difference between output and input components represented in monetary terms. As a result, it is the excess of revenue over costs. Profits are, in reality, a valuable intermediate signal for directing a company's cash.

Profits are a test of efficiency and a measure of control for financial management, a measure of the worth of their investment for owners, a margin of safety for creditors, a source of fringe benefits for employees, a measure of taxable capacity and the basis of legislative action for the government, and a measure of national income for the country.

In the words of Professor Robbins, “Profits are the motivating force for economic activity”. It is this generic nature of profit that is universally acceptable, because in every country the need for creating economic surpluses, that is, for generating earnings by utilizing available resources effectively and efficiently, is of paramount importance for accelerating the pace of economic growth.[42]

1.1. Types of Profit:

There are three types of profit: [43]

1.1.1 Accounting Profit:

In accounting terminology, this profit or net income is known as the excess of total revenue over the total cost associated with these revenues for the period. As a result, accounting profit may be defined as the remaining revenue after all the specified items of expenditure have been met. Raw materials utilized, direct wages, administrative expenses, selling and distribution expenses, depreciation, and interest on capital are all examples of explicit expenditures.

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[42] Lionel Robbins & Steven G. Medema & Warren J. Samuels. A History of Economic Thought. Paperback – November 15, 2000.P270

[43] Dr. Ritu Toshniwa - CONCEPT OF PROFIT AND PROFITABILITY OF COMMERCIAL BANKS IN INDIA. Indian Federation of United Nations Association.18th December 2016. P175

Accounting Profit = Sales Revenues - Total Costs

1.1.2. Economic Profit:

Economists believe that subtracting a period's "implicit" and "explicit" expenses from that per iod's income generates the amount of economic profit. The term “economic profit” in the shape of a formula can be explained as under:

Economic Profit = Accounting Profit – Implicit Costs or Economic Profit = Total Revenue – (Explicit Costs + Implicit Costs)

1.1.3. Social Profit:

The excess of social benefits over social costs is known as social profit. Only a business's social operations are included in social profit. The social benefits made available to the society by a business firm include creation of employment opportunities such as. Providing jobs to the weaker sections of the society on a preferential basis; exploring certain areas which are of vital interest for our nation, providing a wide range of variety to the consumers, erection of good localities and townships, offering between conditions of work and impairment in tax base for the community as a whole. The social costs are the sacrifice of the society for which the business firm is responsible like air pollution, water pollution, and premature depletion of energy sources, soil erosion and deforestation, costs associated with unemployment and idle resources and production of dangerous products and explosives

1.2 Factors Affecting Profit:

There are several factors that can affect the profit of an entity in both positive and negative ways: [44]

1.2.1: Expenses:

There are two types of expenses: direct and indirect expenses. Direct expenditures are less manageable, but indirect expenses are more controllable. Among indirect costs, there are those that can be minimized, restricted, or completely eliminated. The profit will eventually grow if the selling price remains constant and the overall cost is controlled or reduced.

1.2.2. Selling Price:

The selling price of the product is one of the most important elements determining earnings. In a competitive market, one must maintain a competitive selling price. However, in a monopolistic situation, the selling price of the product may be increased to attain the targeted

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[44] IBID P176

profit level.

1.2.3. Cost Reduction and Cost Control:

There are several cost-cutting and cost-control strategies available. Applying suitable cost-cutting strategies and building a cost-conscious mindset will undoubtedly boost profits.

1.2.4. Research and Development:

There are two sorts of research and development: basic research and applied research. Applied study is focused on a specific object. Success in research and new product sectors and techniques produced through ongoing research will boost product demand while also increasing profit.

1.2.5. Operating and Financial Leverage:

Financial leverage boosts profits by leveraging low-cost fixed capital, while operational leverage boosts profits by producing more with the same fixed costs.

1.2.6. Capital Structure and Financial Planning:

Long-term own and borrowed funds, and cash flow are all included in capital structure and financial planning. The proper amount of capital will improve the company's prospects of getting lower-cost goods and services while also adding to its goodwill. This will help in the increase of profits

1.2.7. Purchase of Raw Material:

The cost of raw materials is an essential factor to consider. The raw material should be bought at the appropriate price, in the proper quantity, at the right time, with the highest possible quality, and from the best available source.

1.2.8: Stock Levels:

Stock levels should be determined properly. To save cost and achieve economy, Re-Order Level, Maximum Level, Minimum Level, and Economic Order Quantity (EOQ) must be properly determined for each type of important raw material.

1.2.9. Government Policy:

Both the selling price and the costs are influenced by government policy. Some items' selling prices are directly regulated by the government, while others are regulated indirectly by customs laws, product importation, and other factors.

1.2.10. Credit Control:

The Central Bank of Algeria (CBA), as well as the government through different financial organizations such as State Financial Corporation, Industrial Financial Corporation, Insurance

Companies, and other similar entities, have direct influence over credit or lending policies. The cost of borrowed funds is determined by credit policy, which also influences a company's profit margin policy. These factors will also have an impact on the total profit.

2. Concept of Profitability:

Profitability is often described as an investment's capacity to generate a profit from its employment. Profitability is made up of two words: "profit" and "ability." The term "profit" has been defined in a variety of ways, but the most common definition is the amount obtained by subtracting sales income from total costs. The term "ability" refers to a company's ability to make a profit. The ability is also known as the investment's earning power, earning capacity, or operational performance.

The ultimate goal of a firm is to provide a sufficient return on investment while also maintaining a healthy financial position. A satisfactory return is determined by a number of criteria, including the type of the business risk involved, and so on. If a company fails to make a profit, its invested capital is depleted, and if this condition continues, the company may eventually go out of business.

Profitability is a measure of a company's financial capabilities, and it tends to increase its ability to make money.[45]

2.1. Profitability Analysis:

Profitability analysis helps in the critical evaluation and interpretation of a company's existing and future earning potential. It becomes much more critical when there is an earnings target in existence to drive the behavior of managers and other employees inside the company. It also facilitates external users of accounting information relating to a particular business concern, such as bondholders, shareholders, potential investors, bankers and other creditors, and a variety of government agencies, in maintaining the economic health of that business concern through its net earnings.[46]

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[45] Bion B & Miller Upton. Howard. Introduction to Business Finance. McGraw-Hill (January 1, 1953) P474

[46] William W. Cooper & Yuji Ijiri . Kohler's Dictionary for Accountants. Pearson College Div ; Subsequent edition March 1, 1983) Pearson College Div ; Subsequent edition (March 1, 1983). P222

3. The Determinants of Bank's Profitability:

Evaluating banks profitability is a complex process that involves assessing interaction between the environment, internal operations and external activities.

Determinants of bank profitability can be divided between those that are internal and those that are external. Bank profitability is a function of internal and external factors. Internal factors include bank-specific; while external factors include both industry-specific and macroeconomic factors. [47]

3.1. Internal Determinants:

Internal determinants of bank profitability can be defined as those factors that are influenced by the bank management decisions and policy objectives. The internal key factor of bank profitability performance is Profitability Ratios; which represent a type of financial measure that uses data from a specific point in time to analyze a company's capacity to create earnings relative to its sales, operational costs, balance sheet assets, or shareholders' equity over time. Companies employ several profitability ratios to provide valuable information on the financial well-being and success of the organization. The primary method of evaluating internal profitability is analyzing accounting data.

The profitability analyses are achieved on a set of indicators to measure the banking profitability. The indicators arise from the accounting dates, which illustrate the reference periods in the most synthetic expressions of balance sheet and the profit and loss account. These ratios may be divided into two groups, which are as follows: [48]

3.1.1. Margin Ratios:

Margin ratios, reflect a company's capacity to turn revenues into profits, in varying degrees of measurement. It includes:[49]

a) Gross Profit Margin:

The gross profit margin is the percentage of gross profit to sales revenue. This indicates how much a company earns after deducting the costs of producing its goods and services. A high

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[47] Sonia Ouksel. Investigating the Role of Financial Innovation in the Profitability of Commercial Banks the Case of Algerian National Bank. Master theises2020

[48] BID

[49] Profitability Ratios-Measures of a company's earning power – consult https://corporatefinanceinstitute.com/resources/knowledge/finance/profitability-ratios/

gross profit margin ratio implies that core activities are more efficient, which means that it can still pay operating expenditures, fixed costs, dividends, and depreciation while still delivering net earnings to the firm. A low profit margin, on the other hand, implies a high cost of products sold, which can be ascribed to poor buying practices, low selling prices, low sales, intense market rivalry, or ineffective sales promotion tactics.

b) Net Profit Margin:

The net profit margin examines a company's net income and divides it by total revenue. It offers the ultimate image of a company's profitability after all expenditures, including interest and taxes, have been deducted. The net profit margin is useful as a measure of profitability since it takes everything into account. One disadvantage of this statistic is that it includes one-time costs and profits, making it difficult to compare a company's performance to that of its competitors.

c) Operating Profit Margin:

Operating profit margin – examines earnings as a proportion of sales before deducting interest expenditure and income taxes. Companies with high operational profit margins are typically better positioned to pay for fixed expenses and interest on commitments, have a greater chance of surviving an economic recession, and may offer cheaper pricing than their competitors with lower profit margins. Operating profit margin is commonly used to measure a company's management strength since effective management may significantly enhance a company's profitability by controlling its operating costs.

3.1.2. Return Ratios:

Return ratios indicate the ability of a firm to create returns for its shareholders.it includes the following ratios: [50]

a) Return on Assets (ROA):

The most comprehensive bank profitability measurement, to date, is Return on Average Assets (ROAA, also referred to as ROA). ROA provides a simple picture of management's ability to generate profits from the invested assets. As the definition states, ROA is measurement of profit.

ROA is calculated by dividing net income by total asset giving a ratio of earning generated

[50] IBID

from invested capital. Heavy emphasis in put on ROA in the banking business as it precisely measures asset performance.

ROA=Net income / Total Assets

Where: Total Assets = Shareholder Equity+ Liabilities.

b) Return on Equity (ROE):

Return on Equity (ROE) is the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. Return on equity or profit to equity is the most significant indicator for profit, which measures the banking management in all its dimensions, and offers an image over the way to use the capitals, brought by shareholders, the effect of their retainer in bank's activity. In other words, ROE measures the rate of return on the money invested by common stock owners, and demonstrates a company's ability to generate profits from shareholders' equity. It also shows a bank uses investment funds to generate growth. ROE is calculated by dividing net income by shareholders equity. It shows how efficient the bank management uses shareholders' money- the current study uses the return on equity as research for profitability and it represent a dependent variable.

ROE= Net Income /Shareholder Equity

Where: Shareholder Equity=Assets−Liabilities.[51]

c) Return On Invested Capital (ROIC):

Return on invested capital (ROIC) is a metric used to evaluate a company's efficiency in allocating capital under its control to successful investments. The return on invested capital ratio indicates how well a firm uses its capital to produce profits. This ROIC formula can be calculated in a variety of ways. One method is to subtract cash and non-interest-bearing current liabilities (NIBCL) from total assets, including tax liabilities and accounts payable that are not subject to interest or fees.

Another, more accurate way of writing the ROIC formula is as follows:

ROIC = (net income - dividend) / (debt + equity)

ROIC is typically represented as a percentage and is commonly annualized or following 12-

[51] IBID

month figure. To determine whether a firm is producing value, it should be compared to its cost of capital.[52]

Profitability Ratios can be summarized as follow:

Figure 01: Profitability Ratios

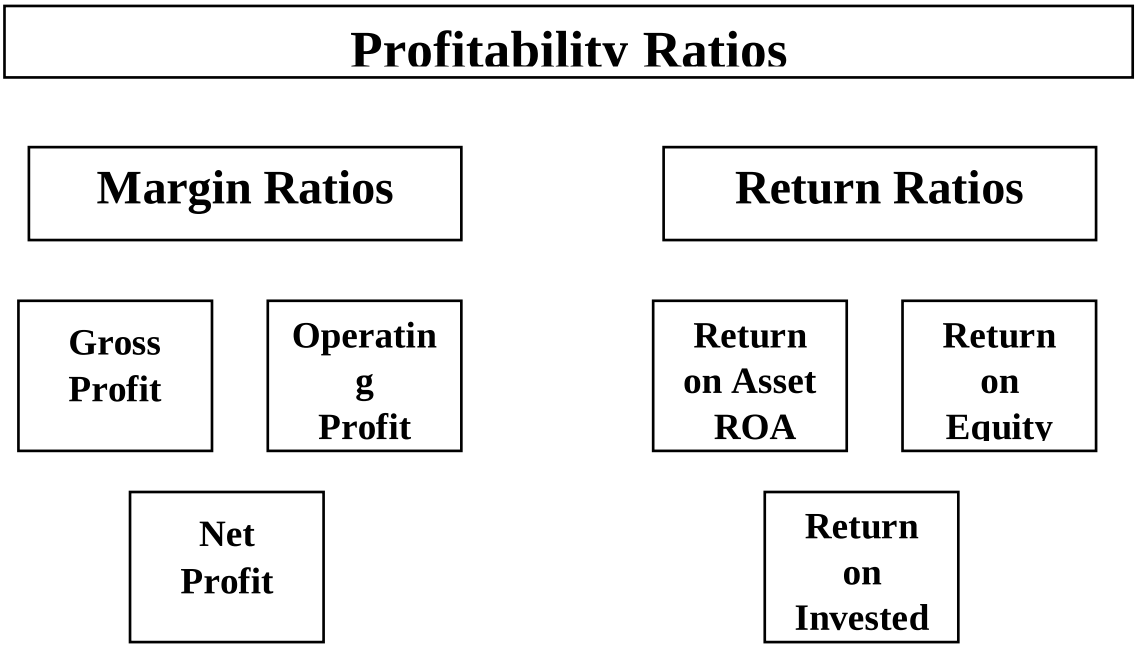

Figure 1. 1.Profitaility Ratios

Source: Developed by me

3.2. External Determinants:

External determinants includes industry-specific factors as well as macroeconomic factors:[53]

3.2.1 Industry-Specific Determinants:

Bank industry determinants are external variables that influence bank profitability, such as the degree of industry concentration and the size of the banking system in proportion to the size of the economy as a whole. The degree to which an industry in a market is supplied by only a

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[52] ADAM HAYES. Return on Invested Capital (ROIC). Mars 21, 2021.Consult: https://www.investopedia.com/terms/r/returnoninvestmentcapital.asp

[53] Eda Oruç Erdoğan& Kokou Adalessossi. Analysis of Factors Influencing Bank Profitability: Evidence from the West African Economic and Monetary Union Banking Sector. Studies. January 2019

few or many banks is referred to as industry concentration. When a banking market is less concentrated, customers have fewer options, competition is lower, and particular banks have greater market power.

3.2.2. Macroeconomic Determinants:

The last set of profitability factors is concerned with macroeconomic control variables. Economic development is considered to enhance bank profitability by boosting loan demand, lowering loan default rates, and allowing banks to charge higher fees for their services. This may be countered by an increase in the supply of financial services, as perceived favorable circumstances stimulate expansions and new entrants. This statistic is determined by the year's actual change in gross domestic product (GDP) for the country in which the bank is situated.

Conclusion:

Banks have a significant role in economic system. They are collectively responsible for the management of payment instruments and are seen as one of the most important safeguards of a country's economic stability and competitiveness

Since the implementation of the Money and Credit Law 10/90, the Algerian banking sector has evolved a lot. This has allowed foreign banks to invest in the country in order to modernize and increase competition in the banking market.

As has been shown, Profit is considered as one of the basic objectives of any financial institution including banks. Thus, profitability analysis provides a base for profit planning in every enterprise. Profitability can be measures with the use of financial ratios. Profitability ratios reflect the company’s earning power and also its performance in using its resources.

Chapter 02:
General Overview on Electronic Banking

Introduction:

The waves of innovation that have occurred in the last several decades in the field of information and communication technologies have dramatically influenced the banking structure and financial services, resulting in a significant increase in competitive intensity. Under these difficult circumstances, banks must find ways to remain competitive while also distinguishing themselves from their competitors. Innovation allowed for the introduction of new products to the market, which may provide a competitive advantage for any bank. The birth of E-Banking has pushed the banking industry into redefining its client relationships as well as increasing interbank exchanges.

The aim of this chapter is to define the concept of E-Banking concept, its history and various forms and types, as well as its advantages and disadvantages both to the bank and to the client in addition to its impact on the banking performance in general. Furthermore, a part of this chapter will be dedicated to presenting the evolution of Electronic Banking in Algerian and its implementation on the Algerian banking industry

Thus, we have divided this chapter into three sections as follow:

- Section one: general concept on Electronic Banking
- Section two: E-Banking and banking performance
- Section three: the implementation of Electronic Banking in Algeria.

Section one: General concept of Electronic Banking

Banks have always been at the forefront of technology in order to improve the mobilization of their products and services. They have used technology and communication networks over time to provide a wide range of high-value-added products. Furthermore, E-Banking provides enormous benefits to consumers in terms of transaction luxury. This section will present fundamental concepts of E-Banking, its evolution over time in addition to other essential elements related to this service.

1. Definition of Electronic Banking:

Several scholars have provided various definitions of E-Banking:
E-Banking (E-Bank or online banking) refers to a set of banking services such as Account checks, transfers, and financial product purchases provided via electronic technologies (Electronic Banking) and hence through the internet.[54]

E-Banking may also be defined as the automated distribution of financial products and services to customers via electronic communication channels. It may also be described as a set of the following platforms:[55]
-Internet banking (or online banking).
-Telephone banking.
-PC banking (or off-line banking).
-Canal ATM (Automated Teller Machine).

Deniz defines E-Banking as a service provided by several banks that allows customers to do banking transactions through the internet using a PC, mobile device, or tablet.[56]

Villates [57] defines Electronic Banking as any banking activity directed towards a customer or prospect that takes place from an electronic point of service (phone, PC, automatic ticket dispenser) and makes use of a communication system such as a traditional phone network or

[54] Denoel Cédric, « Le E-Banking remplace-t-il la banque traditionnelle ou la complète-t-il. ». Mémoire de master en science de gestion. Ecole de gestion de l'université de liège ; 2007-2008. P20
[55] Bouchelit Rym, « Les perspectives du E-Banking dans le e-Algérie 2013 ». Mémoire de magister. Université Abou Bakr Belkaid, Tlemcen, 2014-2015. P64.
[56] Deniz, E.1997. « Web banking in USA ». repeated in Bouchelit Rym, op.cit p64.
[57] Villates Dominique. (1997), « Demain la Banque à Distance » Banque n0 585, repeated on Bouchelit Rym, op.cit p65.

the internet. These services may be classified into four categories:[58]

-Information.

-Financial transaction execution.

-Marketing and sales.

- Consultation and planning.

The Financial Sector Consultative Committee (CCSF) has provided a broad range of definitions of online banking, defining it as a collection of services provided by a bank without the use of branches or customer service centers and utilizing new technologies (Internet, phone, etc.) to perform in whole or in part transactions on the customer's behalf.[59]

We can see from these definitions of E-Banking that the scholar’s emphasis on the use of the internet in banking transactions that includes a variety of technologies ranging from the use of the phone for banking purposes to automatic distributors.

1.1. E-Banking Levels:

According to the FDIC (Federal Deposit Insurance Corporation), E-Banking may be classified into three different system levels based on the degree of functionality:[60]

- The first level is a system that simply provides general published information and allows for the transmission of non-sensitive electronic mail (a system made up entirely of information); using this system, the bank specifies the information available on the site.
- The second level is an interactive system that allows users to share sensitive information as well as communicate (electronic information transfer system) on a banking website that allows clients to make online loans or deposit funds into their accounts.
- The third tier of the system may provide electronic fund transfers, account transfers, bill payment, and other financial activities (payment system electronic). This rank represents the most elevated degree of functionality.

E-Banking refers to a system that allows clients, financial institutions, individuals, or businesses to access accounts, conduct commercial transactions, or obtain information about financial products and services over a public or private network, such as the Internet

[58] Bouchelit Rym. Op.cit p65.

[59] CAPRIOLI A. Eric, « LA BANQUE EN LIGNE ET LE DROIT » R-B Edition 2014, p.16.

[60] Denoel Cédric, op.cit. p22.

or a mobile phone. Clients can access E-Banking services by using an intelligent electronic device such as a personal computer (PC), a personal digital assistant (PDA), an automatic bill distributer (DAB), a terminal, or a telephone.

1.2. E-Banking distribution channels:

Banks currently use several electronic distribution channels to deliver their services in the financial sector. They may be classified into three types: automated, remote, and interpersonal.[61]

- Automated banking: In the automated free service, the client performs the majority of the activities with the use of basic hardware supports, commonly referred to as Automated Banking Machine (GAB).
- Remote banking: when it comes to remote banking services. It includes the mobile phone and the Internet, both of which provide a wide variety of services to consumers.
- Interpersonal services: both the customer and the employee must be present at the time of service.

2. The evolution of Electronic Banking:

The E-Banking business model started back in the 1980's, and it evolved through three main phases that can be summarized as follows: [62]

2.1. The Eighties: The early beginning:

Modern E-Banking first appeared in New York in the early 1980's, where it was offered by major banks in that city, such as Citibank and Chase Manhattan. The United Kingdom banks started to adopt the concept in 1983 where the Bank of Scotland was the first to introduce it. Back then it required a computer terminal, a monitor, and a telephone line. It was also offered through a numeric keypad on a telephone enabling sending messages to the bank. The early services were very basic ones such as viewing your bank statements and paying your bills online. It was not a full transaction banking service; however, it paved the way for the more comprehensive and sophisticated E-Banking services that we see today.

[61] IBID P74

[62] Rifat O. Shannak, PhD. KEY ISSUES IN E-BANKING STRENGTHS AND WEAKNESSES: THE CASE OF TWO JORDANIAN BANKS. European Scientific Journal March 2013 edition vol.9,

2.2. The Nineties: Modern Internet Banking:

In the 1990's, the use of internet evolved when more people owned computers and were connected to the dial-up home internet. The first bank to offer the most comprehensive e-Banking services was the Stanford Federal Credit Union bank in 1994. This technological evolution and the spread of home internet usage meant customers enjoyed 24/7 e- Banking services. On the other hand, many customers during the 1990's didn't trust the concept enough to make serious and substantial monetary transactions and did not think the internet banking is safe enough. This triggered a massive effort and investment by the offering banks to develop more security features for their online banking services and promoting them in the market.

2.3. The 2000's: The Growth and Acceptance:

The first bank to reach three million online banking customers was the Bank of America in 2001. Throughout the 2000's on-line banking started to grow and become more acceptable by customers. It covered most of the banking services range. We also had our first "on-line only" banking firms that offered better interest rates and more features to their clients taking advantage of the cost savings achieved by the "Digital Firm" business model.

3. Different types of E-Banking:

E-Banking has several forms, these forms do not all refer to the same thing, but they all serve the same purpose: managing customer relationships remotely.

3.1. Telephonic Banking:

The telephone banking services allow clients to conduct banking transactions at any time by dialing a phone number. The only disadvantage is that it does not include the clients' vision when processing their transactions. Phone banking is one of the most popular electronic services, and its use is spreading throughout the world. In the 1970s, customers could use their home phones to check their balance, transfer funds, and pay bills. Telephone banking services may be classified into two types:

- Assistive operator: His functions are for clients who have complicated concerns and needs that cannot be met by automated services, or who demand services that require a high level of security.

- Automatic: its functions are required to be executed and resolved by an automated system without the need of human operators.[63]

3.2. PC Banking:

The increased awareness of the necessity of "computer" has resulted in an increase in the use of personal computers across the world. The term "PC-Banking" refers to banking activities conducted from a client's computer. Around the middle of the 1980s, banks began to offer this type of service, allowing customers to access their accounts by connecting to the bank's intranet using a password.

This service was not as popular and was not widely adopted or used by many banks since it required proprietary systems and massive technological investments that only a few banks could afford.[64]

3.3. Internet Banking:

Internet banking may be defined as a system based on the Internet network that allows bank customers to access their accounts and general information about banking products and services via a computer or other intelligent device.

Banking services via the internet are used to complete banking transactions by gaining direct access to a bank through the internet. Clients of Internet banking services may now access a variety of online services. The internet is now regarded as a "strategic weapon" for banks in order to meet the ever-changing demands of clients and the needs of businesses.[65]

3.4. Mobile Banking:

M-Banking may be defined as a combination of the Internet and mobile phones that allows customers to use their mobile phone's Internet connection to check the balances of their bank accounts, move assets between accounts, control credit lines, and settle bills. The bank provides mobile banking services through the use of a digital cell phone as well as various non-wireless devices.[66]

3.5. Automated banking machine:

The GAB is open 24 hours a day, seven days a week, and it is located at various locations,

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[63] Denoel Cédric, op.cit. p21.
[64] IBID
[65] Bouchelit Rym, op. cit.p72
[66] Idem.

particularly in heavily populated areas, making them easy to locate. The use of a GAB necessitates the use of an automatic teller machine and a personal PIN (Personal Identification Number) code, which allows customers access to banking services such as transfers, withdrawals, transfers, and requests for information on account balances, and so on.[67]

4.Advantages of Electronic Banking:

E-Banking has evolved at a fast rate in order to keep up with the rapidly changing needs of users of new information and communication technologies. E-Banking provides benefits and risks to both the bank and the customer.

4.1. Advantages of E-Banking from the bank's perspective:

E-Banking allows the bank to take advantage of the following benefits:

4.1.1 Significant time saving:

The fact that consumers do the majority of their transactions electronically results in significant time savings for bank employees. Furthermore, we can see that the use of these technologies has significantly changed employees' tasks and shifted the focus to higher-value-added services.

4.1.2 New possibilities:

Initially, bank websites were limited to basic tools designed to introduce the costumer to the bank, thanks to E-Banking they have evolved into true transactional tools via which customers may obtain information about the products offered by banks, track their accounts, perform transactions related to account management, contract loans, or conduct investment transactions.[68]

4.1.3 Reduced transaction costs:

Despite the fact that there are several types and forms of E-Banking services, they all point to a significant reduction in the cost of banking and financial services, particularly the cost of information management. The transmission of banking and financial services via the internet provides both a new channel of distribution and a significant reduction in the cost of banking services and products. It is worth noting that the cost of establishing an agency is far more than that of establishing an Internet

[67] Denoel Cédric, op.cit. p29.
[68] Denoel Cédric, op.cit. p34

site. According to Lemaitre an automated transaction costs 2 times less than in an agency, 3 times less by telephone and 7 times less by internet. The internet has significantly reduced the cost of delivering the vast majority of financial services. The profitability of a bank is partly determined by its costs. Transaction costs are the most important of those. Electronic Banking has significantly reduced the costs of collecting data, processing it and delivering it.[69]

4.2. Advantages of E-Banking from the client's perspective:

Thanks to E-Banking Clients can benefit from the following befits:

4.1.1 24-hours availability:(Anytime)

The availability of banking services 24 hours a day, seven days a week, and the elimination of constraints related to the hours and days of operation of banks allow the client to conduct transactions at any given time. Also, customers are no longer required to manage their professional accounts during office hours. To make things easier, banks have put in place communication tools that allow its clients to access their accounts, make transfers and withdrawals, order checks, place orders for the sale or purchase of securities, meet with a financial advisor, and stay up to date on new banking products without ever having to visit the agency and hence avoiding long lines
waiting.[70]

4.1.2 More features:(Anything)

The features and options provided by E-Banking to customers are becoming increasingly ambiguous. The service has grown over the years and now offer a comprehensive set of information and functions that allow for more proper management. For example, the client can check the value of his account, obtain a, apply for loans, track the progress of his investments, review interest rates, and gather other important information.[71]

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[69] Lemaitre Pierre, (1997), « les enjeux de la banque à distance ». Banque N0 587, repetead on Denoel Cédric, op.cit. p35.

[70] Denoel Cédric, op.cit. p39.

[71] IBID

4.1.3 cross-border supply:(Anywhere):

DEYOUNG notes that the E-Banking reduces the significance of geography in the creation of financial services and the maintenance of financial relationships. Each party operates on the network via a computer, with no regard for geographical distance or installation. As a result, the customer has the ability to conduct banking transactions quickly and easily from his home or from banking terminals located all over the world, as long as he has an Internet connection.[72]

5.Disadvantages of Electronic Banking:

5.1. Risk and confidence problems:

The growth of online banking and finance raise several types risk for bankers and supervisory authorities including operational insecurity, these risks include legal risk, reputational risk and other risks:[73]

a) Risk of operational insecurity:

The security of online services is threatened by two networks of the banking system: internal and external networks. Internally, the risk of insecurity is mostly caused by the fraudulent use of a bank's computer system by a bank employee who, may take advantage of his position inside the bank and manipulate information and perform questionable transactions on several accounts. A bank can also be the subject of a piracy attack, often known as a "hack," which involves stealing confidential information from customers and accounts and then using it for illegal purposes. On the other hand, the bank itself may be vulnerable to computer viruses that might attack its system and network.

It is important to recognize that Electronic Banking will undoubtedly contribute to the complexity of bank operations. In addition, as bank services become more innovative, the number of risks associated with various operations and transactions will grow along with it.

The solution for controlling the risk associated with banking transactions is mostly relies on the bank's willingness to implement effective policies and procedures to address any risk caused by the use of Electronic Banking. As a result, a basic

[72] Idem Cédric DENOEL. 2008 p39
[73] Denoel Cédric, op.cit. P42.

internal control must be performed on a regular basis, and it must include the monitoring of functions as well as the monitoring of information security.[74]

b) Legal Risks:

The Electronic Banking system is also the subject of several legal issues including risks, such as money laundering, the disclosure of confidential customer information, or simply the robbery of money. This worries bankers, who have a heavy responsibility to preserve the funds deposited by their customers.[75]

c) Reputational risks:

Any security or legal issue will have a significantly negative influence on the bank's image and reputation. It's a sensitive situation, especially given that in the banking industry, secrecy and confidentiality are critical and inseparable components of the bank's competency. The negative consequences of security issues have a significant effect on the bank's reputation, putting it at risk of losing customers.[76]

d) Other risks:

Traditional banking risks, such as liquidity risk and market risk, can occur with varying degrees of severity depending on the type of activity of the bank. This is especially true for banks that specialize in E-Banking and, more specifically, in electronic money transactions.[77]

Advantages and disadvantages of E-Banking are summarized as follow:

[74] Belabdi Mohamed, op.cit, p17
[75] Saleh M. Nsouli et Andrea Schaechter « les enjeux de la banque électronique ». Revue Finance et Développement septembre 2002, p50
[76] Denoel Cédric, op.cit. P44
[77] Saleh M. Nsouli et Andrea Schaechter. Op.cit, p52

Table2. 1.Advantages and Disadvantages of E-Banking

Advantages	**Disadvantages**
-Very convenient, comfortable, and easy way to do whatever monetary transaction you wish to do with your bank - Provides 24/7 services as the e-bank never closes and has no cutoff time - Smart and interactive with auto solutions and troubleshooting functionalities. - Higher interest rate enabled through the cost savings achieved by digital firm capabilities. - Speed and easiness of conducting the digital transactions compared to paper-based dealings with walk-in customers.	- Poorly delivered E-Banking services can be slow & time consuming. - Some identity authentication requirements can be annoying & overwhelming for clients - Might require lots of paperwork & procedures for registration & set-up, such as documentations & power of attorney to spouses beyond what is required for traditional paper-based dealings - Can be difficult for clients to get familiarized with the bank's website & E-Banking channel

Source : http://methodofsolutions.com/2010/06/22/advantages-and-disadvantages-of-onlinE-Banking/

Section two: E-Banking and Banking Performance

as this study focus on the impact of E-Banking on the profitability of banks its necessary to present the nature or relationship between E-Banking and banking performance.

1. Evaluation of the performance of E-Banking services:

The performance evaluation system includes a set of interdependent non-financial and financial indicators such as customer service quality, reduction of cost, etc.

1.1. Quality of service provided to clients:

The quality of services provided by the bank is the link between the banks and its client. Since banking industry is saturated nowadays, the ultimate goal of any bank is gaining the client's loyalty by providing a comprehensive set of services through new distribution channels. The measurement of quality in banking services is a mechanism that allows the bank to determine the level of satisfaction or dissatisfaction of its customers with the provided services and, if necessary, improve them.

There Five steps that facilitate the measurement of service quality:[78]

- Defining the client's quality expectations: here, we use client feedback (surveys of customers and internal results at the company) to assess the quality of customer satisfaction.
- Developing quality standards: quality policy, benchmarking and qualitative indicators.
- Showing staff, the quality thar could be produced through training and awareness.
- Delivering services according to the defined standards.
- Surveillance and quality control: This involves a continuous assessment of the client's level of satisfaction and the implementation of corrective measures.

1.1.1. The criteria of determining the quality of service:

Users rate the quality of services based on the following criteria, which are obviously changeable depending on the service offered:[79]

- **a) Service tangibility:** Physical appearance of facilities, equipment, employees, and documentation.

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[78] KUBWAYO C.la gestion de la qualité des services comme facteur de la performance d'une institution financière, Kigali, 2009, p.19

[79] IBID P22

- **b) Friability:** The ability to deliver the promised service in a safe and precise manner.
- **c)Rapidity (reactivity):** Willingness to assist the client by providing a quick and appropriate service.
- **d)Competence:** The service organization possesses the necessary knowledge, resources, know-how, and capabilities to provide the service.
- **e) credibility and honesty:** The organization's notoriety, reputation, and assurance of sincerity, and honesty.
- **g) Accessibility:** The service must be easily accessible to customers. (Physical and psychological accessibility).

1.1.2. the advantages of a high-quality banking service:

The benefits of high quality of banking service are:[80]

Better quality reduces costs:

Previously, quality was controlled by detection, which meant that defects were discovered after the products were manufactured, resulting in additional costs, mostly due to inspection. Today, the emphasis is on preventing any flaws during the design and manufacturing processes in order to avoid producing defective products. This allows for cost savings since malfunctions are avoided.

A higher level of quality leads to increased productivity:

by improving the quality of the products and services offered, businesses are able to save costs by reducing returns and waste. As a result, the products are well-made from the start, and there is no need to rework them, resulting in an increase in the company's productivity.

Quality improvement does not necessitate large investments:

Contrary to popular belief, quality improvement does not need a large investment, but rather a strong commitment on the part of the executive team. The quality of products and services may be significantly improved by raising employee awareness of customer requirements, standardizing processes, training execution agents.

1.1.3.E-Banking and improving the quality of products and services:

Benefits of E-Banking include increased freedom of service, the development of remote

[80] IBID P27

consultation services, time savings, re-negotiability, flexibility, ease of access to services, instant interaction.

In order to increase customer loyalty, the bank must improve the quality of its services. The more a bank adopts E-Banking channels, the more it will be able to provide higher-quality services and higher-value-added products, information, and commercial relationships to its customers.[81]

1.2.E-Banking and improving customer relationship:

The vast majority of banks that conduct Electronic Banking services use their internet site to increase their credibility in the eyes of potential customers or to increase the satisfaction of their current customers. The adoption of E-Banking allows the financial institution to strengthen its relationship with its customers. By utilizing various communication channels that are integrated and available at all times, this relationship tends to strengthen over time and becomes more personalized, which will have the advantage of better responding to the specific needs of each client, which will also impact the overall level of satisfaction. The more a bank adopts E-Banking, the better it will be able to meet the needs of its customers, and the more valuable and enriching its relationship with its customers would be.[82]

1.3.E-Banking and the reduction of cost:

The reduction of entry costs is one of the primary benefits of the introduction of Electronic Banking, as is the reduction of transaction costs, advertising costs, sales costs, and costs associated with repetitive tasks. Institutions that conduct remote banking in their operations have noticed an immediate decrease in their operating costs. Adoption of E-Banking will simplify administrative procedures, save work hours, transaction fees, operational costs, and advertising and public relations costs in order to commercialize products and services and enter new markets.[83]

1.3.E-Banking and the conquest of new market:

The new distribution channels allow companies to reach out to customers over increasingly wide geographic zones, allowing them to conquest new markets.

Banks employ electronic distribution and communication channels to manage, and retain new customers in foreign markets, as well as expand its market share in their home country

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[81] MOHAMED BELABDI. DÉTERMINATION DU PROFIL DES UTILISATEURS D'INTERNET-BANKING AU QUEBEC JUIN 2010

[82] Bernard Michel, « Banque et nouvelle technologie. », Horizon Bancaire, (2003), N°.316

[83] IBID

through the creation of new segments. Because of the advancement of information and communication technology, banks now have greater international coverage through foreign networks. Indeed, economic agents can participate in the financial market via websites, conduct financial transactions via the internet, research the market, manage their accounts, and place trades. Furthermore, the internet provides several competitive advantages in the financial sector. In fact, online banking presents an opportunity to seize in order to ensure a significant market share around the world.[84]

1.4. E-Banking and the expansion of service offerings:

To better serve its customers and differentiate itself from the competition, the company evolves its offering system to provide a more global, cohesive, rich, and innovative package for both the customer and the bank itself.

The adoption of new E-Banking channels opens up new opportunities for the bank to expand its range of products and services available to customers, such as image checks, electronic checks, digital signatures, and electronic payment methods. The expansion of the bank's offering of products and services that meet the needs and expectations of its customers and differ from the offerings of competitors allows it to differentiate itself from its main competitors, maintain its market share, and even increase it.[85]

The impact on Electronic Banking on the performance of banks can be summarized as follow:

[84] MOHAMED BELABDI. DÉTERMINATION DU PROFIL DES UTILISATEURS D'INTERNET-BANKING AU QUEBEC JUIN 2010

[85] IBID

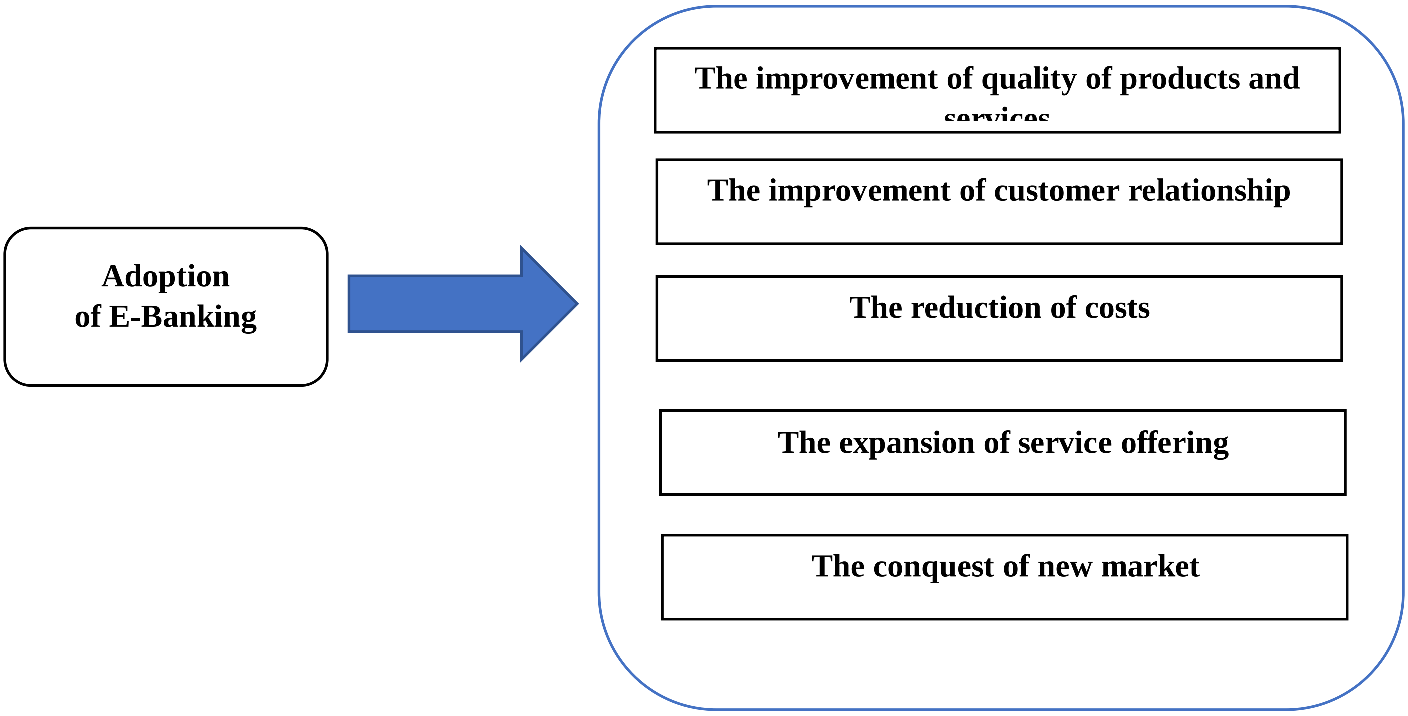

Figure 2. 1The impact of E-Banking on the performance of banks

Source : Naoufel Daghfous Université du Québec à Montréal L'impact de l'adoption de E-Banking sur la performance.

Section three: The implementation of Electronic Banking in Algeria

This section will be devoted to present the historical development of the adoption of Electronic Banking system as well as explaining the influencing factors that may affect the adoption of this service.

1.The evolution of Electronic Banking in Algeria:

Algerian banks are increasingly confronted with financial liberalization prospects and the consequences of increased competition. To be competitive in the face of foreign competition, it is necessary to eliminate the inefficiencies that characterize Algeria's banking sector and to provide it with quick and low-cost services. The Algerian banking sector has also engaged on a modernization process involving the installation of new networks, which would necessitate significant capital expenditures for the acquisition of new equipment and communication technology. Several experts believe that the success of this modernization process depends on the effectiveness of the telecommunications network, which serves as the primary technical support for the new monetization network. In fact, the telecommunications network helps in the smooth functioning of exchanges and the handling of payment and data exchanges both inside and outside banks.[86]

1.1. The born of SATIM institution:

The desire to develop E-Banking in Algeria was manifested in the early 1990s with the establishment of the Interbank Transaction Automation and Electronic Banking Company SATIM in 1995,it was founded as the leading federator of all operational banks in Algeria (BNA, BEA, BADR, CPA, BDL, EL BARAKA, CNEP, CNMA).This company was given several tasks related to the modernization of banks and the development of electronic payment measures to promote the development and use of electronic payment methods; installation and management of technical and the involvement in the establishment of rules for the management of interbank financial products. On an organizational and technical level, the SATIM is in charge of a number of functions, including:

- The development of electronic payment mechanisms.

[86] BEKHTI, M. (2013). POLITIQUE DE LANCEMENT D’UN NOUVEAU PRODUIT Enjeux des NTIC dans le secteur bancaire algérien. Etude de cas : le comportement des clients bancaires avec le multicanal. Mémoire de Magister : Marketing : Université de Tlemcen, P172

- The implementation and management of a technical and organizational platform that ensures absolute compatibility among all actors in the Algerian financial network.
- Engagement in the establishment of interbank rules for the management of interbank monetary products as a force of proposals.
- Assisting financial institutions with the implementation and development of financial products.
- The personalization of checks, payment cards, and cash withdrawal cards.
- The implementation of a set of activities that govern the operation of the monetizing system in its many components.

  The main focus of the SATIM is on the development and management of a financial solution that is based on a secure infrastructure and technical equipment that is connected to payment sites, and that meets the requirements of the international EMV standard and allows for the prevention of any known fraud attempt.[87]

1.2. The Algerian poste initiative:

Despite the SATIM's official privileges, the first payments to E-Banking in Algeria were individual payments made by leading organizations such as Algeria Post. It has been running a trial project in the field since 1997. Between 1997 and 2005, a project was launched that allowed for the installation of a network of 110 automatic ticket dispensers (DAB) and the distribution of 200.000 refund cards.

For this time period, it is important to note that on the one hand, the smaller size of the operational network; a figure of 200.000 cardholders appears to be insignificant when compared to the total number of customers, which was estimated to be in the millions. But on the other hand, it's also important to note that the available features to customers were limited. During this time, the cards issued only allowed for cash withdrawals from DAB, no transactions could be paid in person or via the internet However, after ten years, the number of cardholders has surpassed one million, with more than 1300 DAB-equipped stations and 1000 TPE installations.[88]

[87] www.satim.dz, consulted on 08/09/2021
[88] DAHDOUBI Djelloul . L’E-BANKING ET SON IMPACT SUR L’ENVIRONNEMENT DE LA BANQUE 2019 p40

The SATIM's E-Banking initiatives began in 2002, which is seven years after the organization's foundation.
During the first phase, the SATIM would conduct several initiatives designed to establish an "interbank payment system" between 2002 and 2005. Among these initiatives:

- The development of an interbank monetization network (RMI) to ensure the security and integration of the DAB and TPE withdrawal and payment systems.
- The adoption of an EMV-compliant card payment system between 2003 and 2004.
- The establishment of an interbank monetization committee (COMI) in 2005.

In the second phase, significant efforts were made between 2006 and 2008 to ensure the development of the interbank payment system (CIB). Back then, the SATIM developed system provided two key services:
-Withdrawing money from ATMs.
-The settlement of transactions using electronic payment terminals (TPE) purchased by merchants.

In a third phase, the SATIM began a series of initiatives in 2008 to promote the development of online banking services and mobile banking services. In this context, Algerian banks offered advanced services on their websites to their clients including sold consultation, checks requests, demand for bank account information, transfers, and so on.
In addition to the SATIM's efforts, The Algerian Poste's activities, which began in 1997, were enhanced in beginning of 2005 in which, various projects were adopted by the company all of which were focused on: [89]
-The distribution of electronic cards to the company's entire client base.
-The accessibility of CIB payment cards
- The expansion of the DAB network
- The progressive development of services offered to customers via the internet and mobile phone.

2.Factors influencing the adoption of E-Banking in Algeria:

It is necessary to investigate the affecting factors that lead to the adaption of Electronic Banking services on Algeria

[89] BEKHTI, M OP CIT P188

It is necessary to investigate the factors that influence the level of E-Banking adoption in Algeria. Until now, scientists emphasized on the existence of several factors thar appear to be limiting the development of E-Banking in the Algerian banking system
these factors may vary in type and it can be classified into three categories:

- Technological factors
- Organizational factors.
- Environmental factors.

2.1. The Technological factor:

a) accessibility:

which means the possibility to access needed tools and resources to conduct E-Banking and take full use of the offered services on the bank's many platforms, including:

-The banking cards, which is still difficult to obtain in some countries (slow procedures).

-Subscribing to a connection or communication network, which can be problematic for residents of isolated areas.

Access to computers and the internet is a requirement for obtaining banking services via the internet; the higher the computer access, the greater the likelihood of obtaining banking services through the internet. However, research have proven that the lack of access to personal computers by customers is a major reason for online banking underuse.[90]

b) Perceived Ease of Use:

complex technologies that require technical skills and significant operational efforts are likely to face resistance from users. Studies have demonstrated a significant influence on the factor of ease of use in terms of online banking adoption, classifying it as an important factor for consumers

2.2. The Organizational factors:

In addition to the technological environment, several factors arising from the organizational context may justify the slow growth of E-Banking in Algeria.

a) Infrastructure and resource availability:

The term "infrastructure" refers to a collection of essential equipment such as the internet, electricity, and telecommunications. Their presence and reliability ensure the smooth operation of online banking services. On the other hand, if this infrastructure has flaws such

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[90] IDEM

as shutdowns or a low credit limit, users will be unable to use them. A big obstacle to the development of E-Banking in Algeria is a lack of national technological infrastructure. As previously stated, the evolution of Electronic Banking is heavily reliant on the infrastructure's ability to accommodate potential transactions. Despite the fact that there are a number of private equity projects in the field in Algeria, there is still a significant delay in this field.[91]

b) Trust and credibility:

In a country where financial sector activity is always characterized by poor performance (long transaction times, queues, poor service quality, etc.); and in the face of various disfunctions and scandals that have plagued the sector over the last ten years. low credibility and trust in banks would definitely slow down the adoption of E-Banking services.[92]

c) Banks performance:

In order to achieve the aspect of banking performance, it is necessary to be able to adjust services and distribution channels as well as the efficiency of the information and piloting systems to customer expectations level, according to several studies, the slow growth of E-Banking in Algeria might be explained by the poor performance of the banking system. Since independence, poor performance has emerged as a striking and persistent feature of the Algerian banking system.[93]

2.3. The Environmental factors:

Aside from technological and organizational factors, there are several other environmental factors that may be linked to the low development of E-Banking in Algeria

a) Competitive pressures:

First and foremost, the banking sector in Algeria is dominated by state-owned enterprises that are well-protected by the government. Organizations whose survival is mostly dependent on government subsidies and limitations on the development of private bank. In an environment with low competitive pressures, such as this one, bank desire and willingness to develop E-Banking appear to be quite weak.[94]

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[91] CAPIEZ, A. Nouvelles technologies et performance le cas de la banque à distance. 22eme Congres de L'AFC, May 2001, France. P 21
[92] IBID P22
[93] IBID
[94] IBID P25

c) Security and perceived risks of using E-Banking:

The level of security is one of the most important factors in determining whether or not a consumer should use Electronic Banking systems (E-Banking). Security concerns keep consumers and banks away from online banking, and that if security could be assured, many more people would be willing to conduct their transactions online via the internet.

In Algeria trust has a significant influence in the adoption of online banking systems, thus, and in order to attract users' attention, banks should ensure the privacy and security of customers who may put their trust in them.

b) Institutional and legal environment:

The increasing growth of online transactions need a tangible legal and regulatory framework. The lack of rules and regulations makes customers more hesitant to use E-Banking services. Clients like to be protected by using online services, particularly online banking services. The majority of customers are concerned and worried about the lack of legal support, which would allow them to protect themselves from any potential fraud that may occur as a result of their use of the Internet. In fact, consumer protection remains a top priority for all businesses who sell their products and services online.

Algeria, on the other hand, has never been recognized as a legitimate Internet country. the slow development of banking services, the low level of market organization, and the relatively low level of legislative evolution in relation to E-Banking due to the legal vacuum in this area, all appears to suppress the growth of E-Banking.[95]

3.Electronic Banking in Algeria:

Numerous changes have occurred in the Algerian banking sector in recent years (privatization of public banks, the entry of new banks from the Middle East and Europe, etc.). As a result, Algerian banks must now restructure their information systems in order to accelerate their growth. In order to modernize their infrastructures and continuously improve the quality of financial services provided to their customers, Algerian banks have implemented their own monetization system.

This system, which is based on a complete monetization solution, has interface with the

[95] LAUDON, K. LAUDON, J. (2006). Management des Systèmes d'Information. 9e édition. France : éd. PEARSON Education.P638

central information system and allows for actual control of the account balance during withdrawal transactions on ATMs.[96]

3.1. CIB card (interbank card):

A CIB card is an interbank card that is identified by the interbank symbol, and that has a microprocessor known as a "sym" that ensures the security of payment transactions.
It allows its owner, known as the "carrier of the card," to manage his or her purchases at vario us retail establishments such as hotels, restaurants, supermarkets, and pharmacies. Currently, there are two types of CIB cards:[97]

a) The standard card:

This card is made available to customers based on the criteria set by each bank.
It includes interbank payment and withdrawal services.

b) Gold Card:

The gold card is also available to customers who meet certain criteria, in addition to payment and withdrawal of funds, this card has extra features and higher withdrawal and payment limits.

3.2. Internet banking in Algeria:

There are several financial institutions thar provides online banking to it consumers, take, for example, the Algeria Post site: after receiving the secret code, the customer may access his account by visiting the following link: eccp.poste.dz, where he can view his account, order checks, view his account history, and request electronic cards...Other banks that provide this service include BEA, BADR, BNA, CNEP, and others.[98]

3.3. SMS banking in Algeria:

MOBILIS has launched a new SMS-banking service called (RACIDI), which allows customers to check their CCP balance at any time by sending a simple SMS. To obtain information about his CCP account sold, the customer sends an SMS to 603 with the number of his CCP followed by a confidential code.
In response, the customer receives an SMS containing the following information:
The CCP account number

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[96] ATOUI Nadjib& BENREGUIA Badreddine Conception et Réalisation d'un Système E-Banking pour les Transactions Electroniques. Mémoire de Fin d'études En vue d'obtention de LICENCE P07

[97] IBID P08
[98] IBID

The Sold of the CCP account

The date of the most recent update.[99]

[99] IBID P08

Conclusion:

Electronic Banking continues to offer new possibilities and opportunities for banks, which helps them in innovating their products and services reducing their operational cost and building a strong customer relationship.

Furthermore, it has been proven of a significance relationship between Electronic Banking and banking performance. The adoption of E-Banking service has contributed strongly and positively in the improvement of the financial performance of banks.

On the other hand, the Algerian banks have suffered a significant technological slowdown and have faced difficulties in adopting the E-Banking services in the past few years as a result of the presence of outdated systems, technological incompatibilities between existing processes and internet-based technology as well as the complexity of its organizational infrastructure.

CHAPTER 03:

THE EFFECT OF ELECTRONIC BANKING ON THE PROFITABILITY OF BNA BANK

Introduction:

After the presentation of all primordial theoretical concepts related to our study from the definition of banks, Electronic Banking and profitability and the characteristic of each concept. We are going, in this chapter, to concrete the theoretical notions we mentioned before.

To start with, we will be presenting the National bank of Algeria as well as the hosting agency in addition to the Electronic Banking structure on the BNA banking system.

After the determination of the methodological elements, we will manner to measure the effect of Electronic Banking on the profitability on the National Bank of Algeria

So, this chapter will be presented as follow:

- Section 01: presentation of National Bank of Algeria.
- Section 02: Electronic Banking Structure on the National Bank of Algeria.
- Section 03: the effect of Electronic Banking on the profitability of BNA bank.

Section one: Presentation of National Bank of Algeria

The National Bank of Algeria (BNA), like other banks, is considered to be a legal person who deals with all banking services; it carries out transactions involving the receipt of funds from the public, foreign exchange and credit transactions within the framework of bank legislation and regulation.

1.Background of the National Bank of Algeria :

The historical development of BNA can be divided into two majors periods: [100]

1.1.Period before the economic reform (1962-1986)

The National Bank of Algeria was created on 13 June 1966 with a capital of 15 000 000 DA which was the first national and commercial bank in Algeria back then. It carried out all the activities of a universal bank with a specialized department in the financing of agriculture; it was responsible for financing professional groups and companies operating in the agricultural and industrial sector.

The restructuring of the BNA in March 1982 gave birth to a new bank called the Agriculture and Rural Development Bank "BADR with a main purpose of financing and promoting agriculture, this ended the BNA's monopoly on the financing of this sector.

The restructuring was also concerned with other aspects of implementation policy, the reorganization of the structures of the general management and the creation of directorates of operating network.

1.2.Period after the economic reform (1986-to date)

Under the law N. 88-01 of January 1988 on the autonomy of public enterprises, the BNA became a Public Economic Enterprise, whose capital is exclusively owned by the state and it also became a joint stock company that obtained its approval in 1995 following the various economic reforms. Currently the BNA network has 216 agencies spread across the national territory.

2.The organization of National Bank of Algeria

The BNA manages a network of 216 branches spread across the Algerian territory, 9 branches of network of farms, 90 ATMs (ATMs) and more than 5,000 employees

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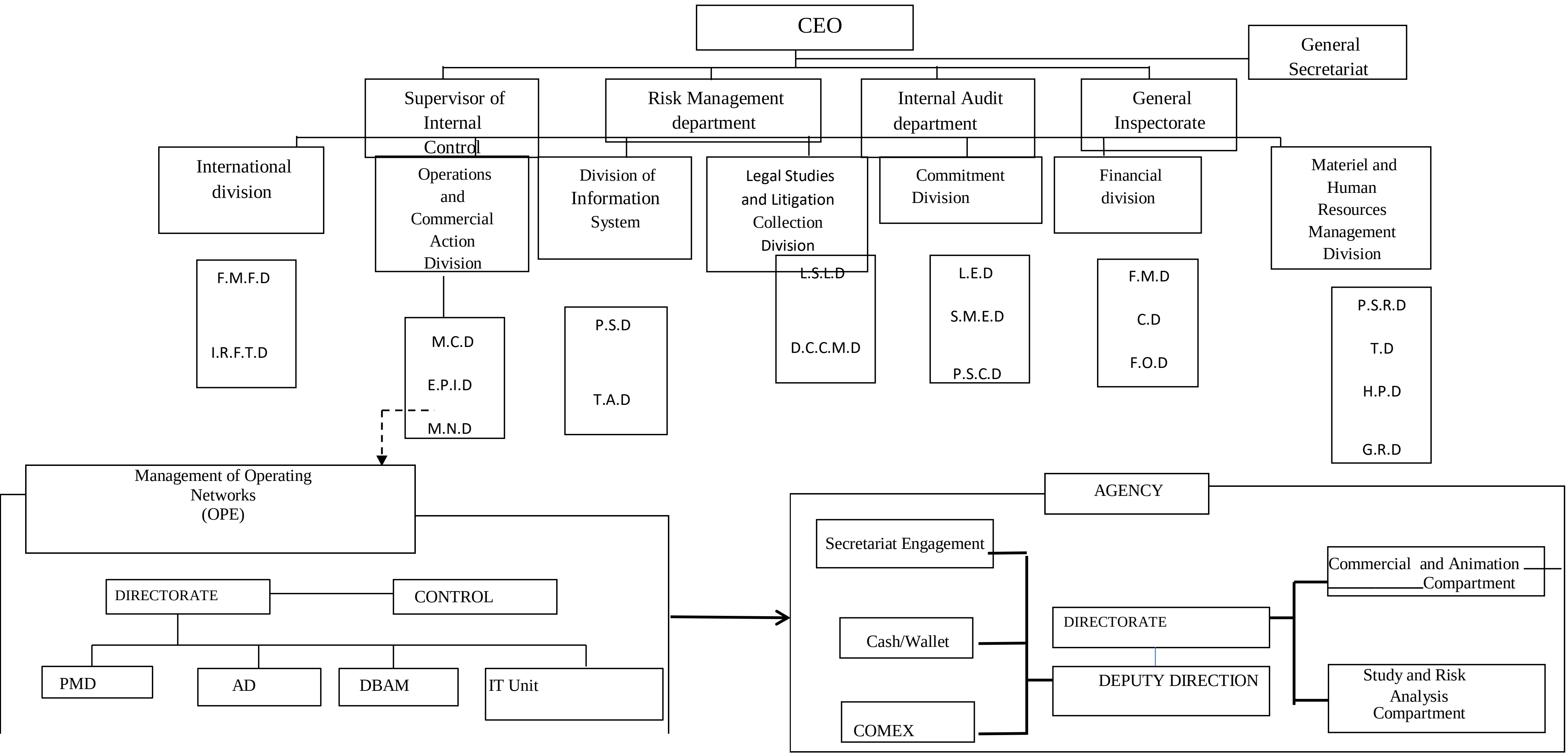
[100] Presentation of BNA. Consult https://www.bna.dz/fr/a-propos-de-la-bna/presentation-de-la-bna.html

The organizational chart of the National Bank of Algeria is presented as follow:



Source: Internal document of the BNA Annaba agency.

Figure 3. 1.The organizational chart of BNA

List of BNA Organizational Chart Abbreviations

- C.D : Credit Division
- A.D : Accounting Division
- P.S.C.D: Participatory and Specific Credit Division
- D.P.S.D: Development and Project Study Division
- L.S.L.D :Legal Studies and Litigation Division
- DM.N.D :Management of the Network Division
- T.D :Training Division
- D.B.A.M: Department of Budget and Administrative Management
- L.E.D : Large Entreprises Division
- M.C.D :Marketing and Communication Division
- F.M.F.D: Financial Movements with the Foreigner Division
- F.M.D :Financial Markets Division
- G.R.D : General Resources Division
- E.P.I.D: Electronic Banking and Payment Instruments Division
- D.O.D :Documentary Operations Division
- P.M.D :Promotion and Marketing Department
- S.M.E.D: Small and Medium-sized Enterprises Division
- F.O.D :Forecasting and Organization Division
- H.P.D :Heritage Preservation Division
- P.S.R.D: Personnel and Social Relations Division
- DP.S.D :Production and Services Division
- G.R.D :Guarantee Realizations Division
- D: I.R.F.T.D: International Relations and Foreign Trade Division
- D.C.C.M.D :Debt Collection and Commitment Monitoring Department
- T.A.D :Technologies and Architecture Division
- COMEX: Executive Committee

3. Missions and tasks of The National Bank of Algeria:

the BNA is a commercial bank that all the activities of a deposit bank, it collects deposits from households (individuals) income, businesses and government receipts, usually paid directly to deposit accounts, or paid through a check or payment card.

This mass of collected money is not kept sterile by the banks; instead, it is being lent either to their usual customers or through the intermediation of financial markets. The BNA also deals with foreign exchange and credit transactions within the framework of bank legislation and regulation.

The order No. 66-178 of 13 June 1966 establishing that BNA is charged with the following tasks:[101]

-As a commercial bank: it handles all the banking operations from collecting deposits and lend it to customers, to financing foreign trade operations

-As an investment bank: it collaborates with other financial institutions on medium and long-term loans

- As a national society: It serves as a financial planning instrument, responsible for implementing the government's credit policy.

The following figure summarizes the tasks and missions of the BNA:

Figure3.1: Missions of National Bank of Algeria BNA

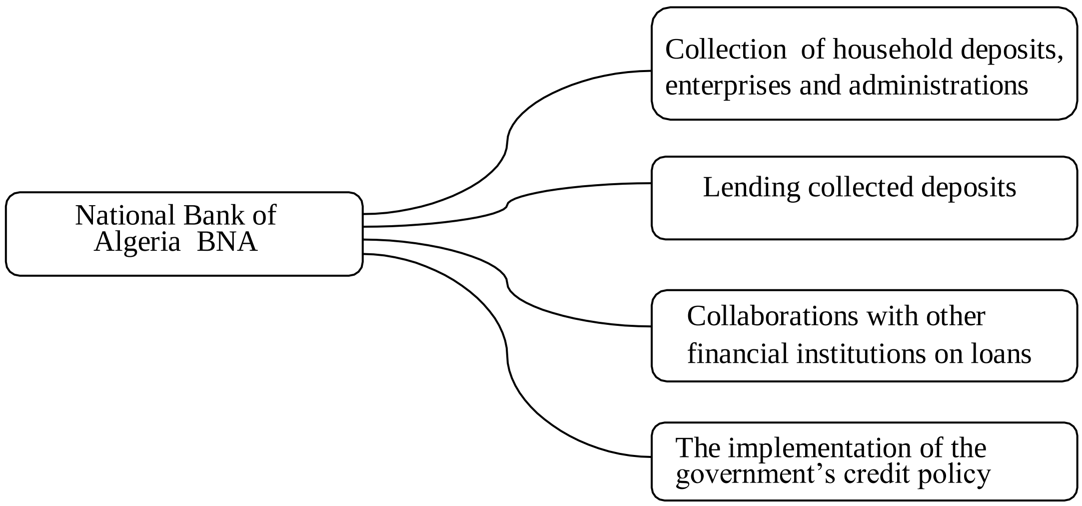


Figure 3. 2.Missions of Algerian National Bank

Source: Internal document of the Annaba Ferrovial Agency Bank – circular N 2124 of 29/05/2016

[101] Internal document of the Annaba Ferrovial Agency Bank – circular N 2124 of 29/05/2016

4. Presentation of the host Agency Bank (Annaba BNA Agency Bank code 810)

The BNA-Bank agency code "810" was inaugurated on 29 January1984, in line with the development of BNA-BANK's operating networks. This last has chosen to establish this new agency in the city of EL HADJAR Annaba due to its strategic situation.

The BNA AP 810 agency is currently located at the Palace of Culture – ANNABA after the change of the agency address on 1990.[102]

2.1. The organization of Annaba Agency Bank

The agency is classified according to the level of activity deployed, for this reason there are three types of an agency bank

- Lead agency
- Agency of first category
- Agency of second category
- Agency of third category

These agencies are headed by a Director and Deputy Director, depending on their importance and the number of clients managed, they are structured either in a sub-fund or in services.

Our work will consist in the study of the structure and organization of a lead agency, namely the Annaba 810 agency bank, which has five compartments:[103]

a) The commercial and legal compartment

This compartment is headed by a compartment manager who manages and coordinates the agency's commercial and legal activities, whose tasks are prospecting, providing assistance, advising clients and monitoring their accounts. It analyses and monitors the progress of the agency's collection of resources on a daily basis. This sub-fund has three services:

-Client and Account File Management Service: it includes a section related to clients' accounts and suspects and business intelligence.

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[102] BNA document, Circular No. 2129 of 28/07/2016

[103] IBID

-Investment Management Services and Financial Products: it combines the banking outputs and financial output sections.

-Legal management department.

b)The cash and portfolio compartment:

It is managed by a compartment manager who ensures the proper execution of cash and portfolio transactions carried out by or on behalf of clients, it is organized in two services:

-Cash Transaction Service: which is responsible for receiving cash deposits and payment or transfer of any origin effected by or on behalf of the customer, thus manage transactions on the ATM, make settlements or payments, and schedule by clients within the limits of the amounts available.

-Portfolio Operations Department: which is responsible for processing receipts, cashing of checks on and off the premises, cashing of items on the premises, return of unpaid payments and compensation with colleagues and manage resource accounts interbank

c) The Foreign operations compartment:

It is headed by a sub-fund manager who is responsible for:

-Supervising, controlling and coordinating all operations with foreign countries.

Monitoring, and consulting with his employees the compliance and regularity of operations recorded during the day using the documents that are submitted to signature or endorsement as they are made up.

-Ensure the collection of analysis, centralization and transmission of information static to internal and external user service.

d) The loans and commitments compartment:

It is headed by a sub-fund manager who manages and controls the credit activities and commitments of the agency, Its mission is:

-The assistance and guidance of its employees in the areas of studies and analyses of credit files, processing of commitments by signature and management of including receivables..

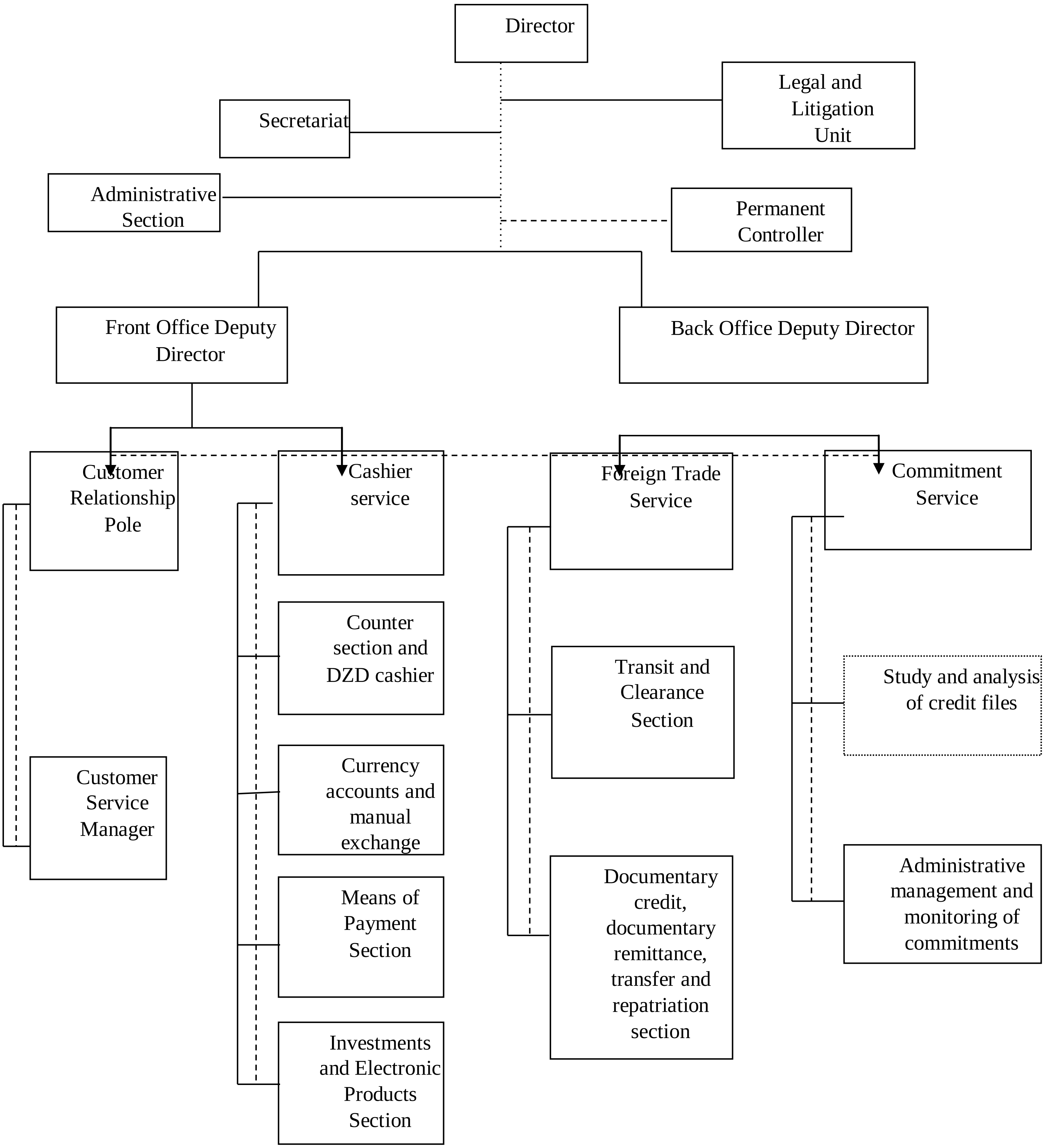
- It also manages credit authorizations granted to customers and follows their use.
- The processing of credit files is entrusted to a study manager who collects the documents

concerning the client, its activity or its project to be financed.
-It synthesizes information available on the client (statement of outstanding amounts per client, operation of different accounts, internal and external business information.
- It processes customer credit applications, prepares customer credit files, and credit application.
This sub-fund includes a unit for the study and administrative management of credits, signature commitment service and debt management services included.

e) The accounting and administrative control compartment:

It is headed by a sub-fund manager and supervised by the deputy director who coordinate these following activities:
-The accounting control and taxation unit: It is responsible for verifying the journal of accounting entries of each entity of the Agency after checking the validity of the events recorded during the day, and ensure the correction of all anomalies found, and ensure the transmission to good date of declarations.

-The administrative assistant: Ensures overall discipline within the Agency and compliance with regulations within the bank develops and follows the agency's annual budget.
The following figure represents the organizational chart of Annaba Agency bank code 810:



__________ Hierarchical link

- - - - - - - - Functional Links

Source: BNA document, Circular No. 2129 of 28/07/2016

Figure 3. 3.The organizational chart of the 810Agency

4.2. Mission and Tasks of Annaba FERROVIAL Agency Bank:

The Agency is an integral part of the operating network that maintains functional relationships with all bank structures. As a trade action organ, it ensures the bank's representation at the local level in addition to the development and profitability of the bank's business in the context of its objectives by taking the initiative in finding deals and resources within the instructions implemented by the bank.

The Agency executes customer transactions diligently and in compliance with regulatory and organic texts.it must secure a first-level control inherent in user access to the information system, as well as event validation to ensure proper operations. To fulfill its mission, the agency is endowed with all the necessary material and human resources in line with its level of activity.[104]

The following figure summarizes the main tasks of an Agency bank:

Figure: Mission of Annaba FERROVIAL Agency Bank

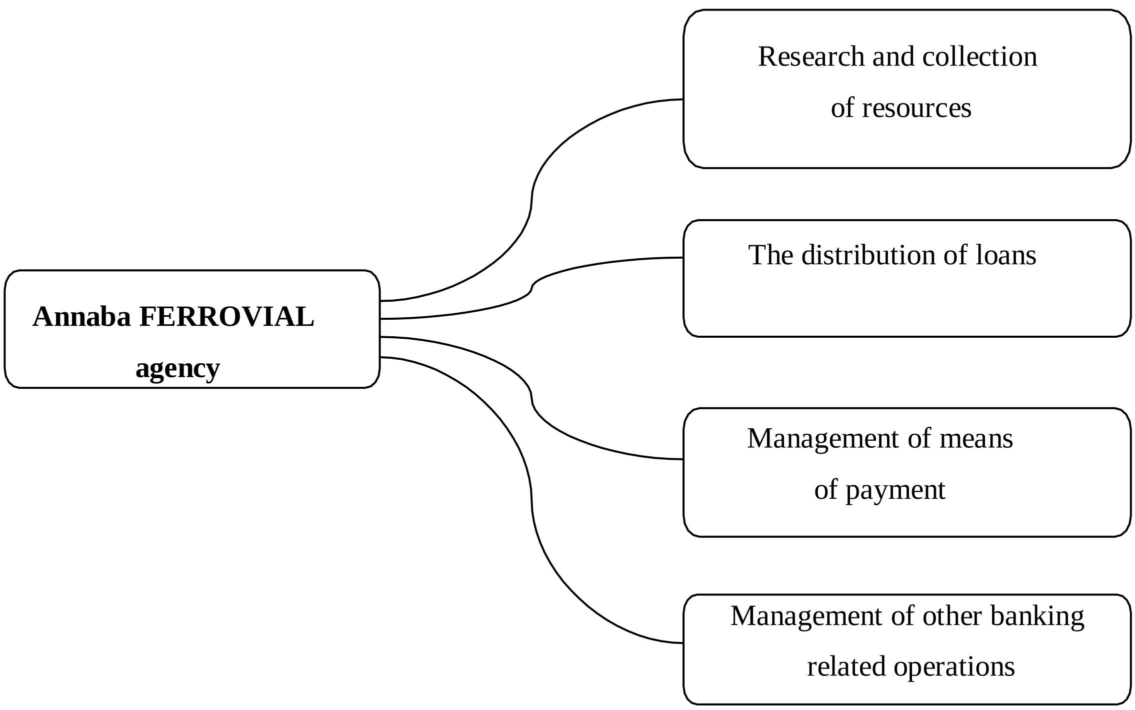


Figure 3. 4.Mission of 810 Agency

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[104] Internal document of FERROVIAL Agency

Source: Internal document of FERROVIAL Agency

5. Legal Notice:

5.1. For The Central Bank:

Legal name: BANQUE NATIONAL D ALGERIE

A share company with share capital of 41,600,000,000.00 DA

Head Office address is 08, Boulevard Ernesto Che-Guevara 16000-Alger-Algeria.

5.2. For the agency BNA Annaba 810:

-Legal Name: AGENCE PRINCIPALE ANNABA (810)

-Social capital: 41,600,000,000.00 DA

-Agency code: 581

-Agency address: PLACE DE L'ESPLANADE PALAIS DE LA CULTURE MOHAMED BOUDIAF LES SANTONS ANNABA, ALGERIE

-Email: apannaba810@bna.dz

-Reporting direction: D.R.E ANNABA (186)

-Email of the reporting direction: dreannaba@bna.dz .

Section Two: Electronic Banking Structure on the National Bank of Algeria

1. History of E-Banking on the BNA Bank:

The National Bank of Algeria started using the online banking services for the first time on 28/07/2016 via the web site www.ebanking.bna.dz under the name of BNA.net , before they added the mobile application on 22/10/2019 named "BN@TIC" , these Electronic Banking services was as an extension of the already existing service on the electronic data exchange platform EDI which was exclusively granted for companies to facilitate salary transfers for its employees .

The launch of this new service is part of a process of enrichment and modernization of the offer of products and services to its clients, not only to corporate (Companies and professionals) but also to regular customers. The service also aims to improve the quality of the Bank's relationship with its customers and to raise it to the international standards.

2. E-Banking services of the BNA Bank:

2.1. The BNA.net service:

BNA.net is a paid subscription-based service that allows customers to stay securely connected to their accounts, and to grant them a remote access to many other related services, 24/7 and 7/7 via the internet through the link «ebanking.bna.dz» or by downloading the mobile application "BN@TIC" .The service also allow its clients to carry out several operations such as a secure connection to the client accounts using a personal confidential code all done by a simple click.[105]

This E-Banking service in the National Bank of Algeria is divided into packages as follows: [106]

2.1.1 The "NET" Package:

it is a service available to customers which consists of providing the following services:

-Consultation of the latest account movements.

-Consultation of balances and account history.

-Transaction search on the account.

-Downloading account statements.

[105] BNA Agency Internal Note

[106] IBID

-Email services (mailing).

- Account statement editing

2.1.2 The "NET+" Package:

It includes all the services of the normal "NET" package in addition to some exclusive services such as

- Salary transfers for companies "Exchange of Computerized Data (EDI) , so that the enterprises could remotely transfer its employee’s salaries .

- Credit Card Order and Card Objection.

-A One-time account to account transfer from the same customer.

- Check Book Order.

The following figure represents the subscription fees of the two packages of the BNA.net service:

Table3. 1.Pagkages of the BNA.net service

PACKAGES	SERVICES	NORMAL CLIENT S*	ENTREPRISE S*
NET PACKAGE	-Consultation of the latest account movements. -Consultation of balances and account history. -Transaction search on the account. -Downloading account statements.	100 DA HT	800 DA HT

NET+ PACKAGE	-Email services (mailing). -Account statement editing. -Salary transfers for companies "Exchange of Computerized Data (EDI). - Credit Card Order and Card Objection. -A One-time account to account transfer from the same customer.	200 DA HT	1200 HT

Source: BNA Agency Internal Note

3. Terms and functionality the BNA.NET service:

There are three processing modalities concerning the BNA.net service: [107]

3.1. Transfers processing:

Transfers are processed on two levels

3.1.1. Transfers processing at the central level:

this process is done according to the following steps:

a) Receipt of transfer orders:

The transfer orders issued by the client are received by the unit attached to the department, which is Distributed Systems Management under the Production and Services Department (DPS) via the website www.ebanking.bna.dz in the form of files under the directory:

-EDI/VIRCAC for account-to-account transfers.

-EDI/TRANSFER for salary transfers.

b) General Transfers to operating System/central Site:

[107] BNA Agency Internal Note

The received files must be generated in a format recognized by the bank’s operating system: under the directory “EDI/En” the department of the Production and Services department.

c) Pre-Integration of Transfers:

The user of the operating system and the Central Site under the responsibility of the Directorate of Production and Services loads the files and the received transfers by entering the data relating to the agency and the client.

The system performs a transfer integrity check and displays the detected integrity in a table. A file status of the detected file l is produced and edited automatically at the end of processing. A detailed statement of the pre-integrated transfers can be published on request.

c) Transfer Integration:

All pre-loaded transfers entered are viewed and displayed in a table. The user must select in the table the transfers to be integrated. At the end of the selection, the user confirms the integration of all selected transfers.

3.1.2 Processing transfers at the client agency level: after receiving the transfer files by the agency, the events relating to this instrument are displayed in "AT" standby status. The postman performs all the necessary checks for the execution of the transfer order in accordance with the relevant instructions, and then he validates or rejects the received transfers on the information system. In case of rejection, the ignored event (the rejection of the transfer) is escalated to the central site after end of the processing day, and then handed over to the client after transmitted it on the "E-Banking platform.

3.2. Card and Check Book order processing

same as the transfers, the card and check book order is processed on two levels: [108]

3.2.1. Card and Check Book order processing at the central level:

Orders for cards and checkbooks issued by customers are received by the unit attached to the Distributed Systems Management Department under the DPS, via the website www.ebanking.bna.dz as files under the “current/DEMCAR” (meaning card request) and “current/DEMCHQ” directories (meaning checkbook request).

These files are then deposited at the file server to which the card and checkbook orders are distributed and routed to the relevant directories of the transit agencies for processing from the file server.

[108] IBID

3.2.2. Card and Check Book order processing at the client's agency level:

Orders for checkbooks and bank cards made by the customer subscribing to the "BNA.net" services are made available to client's agency for processing via a file server.

The inspection and processing of orders for checkbooks and bank cards must be carried out daily by post agents.

Access to the directories controlling bank cards and checkbooks at agency level via the file server is only permitted for authorized personnel and the access to these directories is provided for consultation only.

3.3. Card objection processing:

3.3.1. Card objection processing at the central level:

Requests for oppositions on cards issued by customers are received by the unit attached to the Distributed Systems Management Department DPS, via the website www.ebanking.bna.dz in the form of files under the directory Current/OPPCAR (opposition on card).

These files are then deposited at the file server to which the requests for oppositions on cards are distributed and routed to the directories of the concerned agencies. When receiving the client's request for opposition, the services of Mass Payment Instruments Division (DIPM) proceed to temporarily block the card (card pending).

3.3.2. Card objection processing at the client's agency level:

Card objection shall be dealt with at agency level in accordance with the provisions in force. Access to bank card opposition's directories, at agency level via the server file is only permitted for duly authorized personnel and the access to directories is provided for consultation only.

4. Functional description of E-Banking services:

The E-Banking service allows us to perform several transactions such as: [109]

4.1.Consultation of Balances and Account History:

The balance page allows the subscriber to view in a table the balances of his accounts with the following information:

-Holder of the account.

-Date of balance.

-Currency of the balance.

-Account balance or available balance.

[109] IBID

-Balance in value.

From this page, the user can access:

-The history of the available balance by clicking on the link of the available balance;

-A value balance history by clicking on the value balance link.

-Account histories, allowing the subscriber to have an overview of the evolution of his balances over a given period.

The consultation period is configured in number of days. This allows the user to view the evolution of his balance over this period from the date of his balance.

The history is presented in the form of a calendar in a table where the corresponding balance is displayed for each date.

4.2. Consultation of the latest account movements:

This service allows the subscriber to view the details of the transactions of each account.

From the balances page, the customer can access the transaction statements page which presents the information on the account consulted as well as the details of the transactions available in the history of this account.

For each operation, there is certain information available to the customer:

-Type of operation.

-Reference of the operation.

-Date of operation.

-Description of the transaction

-Value date.

-Transaction amount: This amount appears in the Credit column if it is positive. Otherwise, it appears in the Debit column.[110]

4.3. Account transactions search:

The client can search their statements for one or more entries based on certain criteria.

The search is made on:

-The basis of the operations available in the platform's database following the breakdown of account statements made available to it by the central site;

-Based on one or more criteria specified by the customer in the form made available on the site. The criteria available are:

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[110] IBID

-Transaction date or value date interval;

-Minimum amount;

-Maximum amount;

-Type of operation.

The user must specify at least one of these criteria.

The search is done on a single account, and not on the entire client's accounts.

This account is also specified by the user in the search form.

The layout of the search result page is identical to that of the Statements of Accounts or Transactions page.

4.4. Downloading Account Statements:

This service allows the customer to download their transaction statements. The user selects its format in a combo box.

The available formats in the platform are PDF, CSV, Excel and ASCII.

The PDF format serves the client who wants a viewable and printable format and the CSV format serves the client who wants a format that they can import into processing tools (Excel, reconciliation, etc.).

During the download, the platform generates the transaction file in the format expected by the user allowing it to integrate its operations automatically into cash management software without having to re-enter them or have a printable presentation of the information.[111]

4.5. Account statement editing:

When downloading or viewing the account statement in PDF format, the customer can, with a simple click, print his statement.

4.6. The bank identity statements editing:

This service allows the user to edit his Bank Identity Statement (RIB) or IBAN by Internet without having to travel to his agency. He can print a RIB/IBAN for each of his accounts giving rights.

The page of this service displays a form in which the user must mention the following information:

-The account for which the customer wants a RIB;

-The desired number of prints.

After validation of the form, the requested RIB/IBAN is displayed on the user's screen and

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[111] IBID

can be printed by simply clicking on the appropriate button.
The account number, for the national format, is displayed according to the nationality of the online banking site. The IBAN is of course displayed according to the accepted standard.

4.7. Check Book Order:

This service allows the subscriber to order checks via the Internet. When ordering, the user fills in a form that will provide the bank with the following information:
-The account of the order: the customer chooses the account in a combo box listing all the accounts giving entitlement to a bank card;
-The type of card: the customer chooses from a list of cards offered by the bank;
-Cardholder: This field is automatically initialized, after the account is selected, by the name of the account holder.
A summary of the information entered allows the customer to check his order to confirm it. This confirmation page allows the subscriber to modify or cancel their order until the transaction has been confirmed.
The user confirms his order by entering his password (authenticated confirmation).
Checkbook orders are tracked through the Order History function, which provides the customer with an overview of the Checkbook requests made through the Checkbook Order service. The customer can sort the history of his orders according to the criterion of his choice by clicking on the corresponding label. The history displays the following information for each control:
-Identification of the account.
-Date of the order.
-Type of checkbook ordered.
-Quantity ordered.
-Request reference automatically assigned by the system after ordering.[112]

4.8. The credit card order:

This service allows the subscriber to order a bank card that provides the bank with the following information:
-The account of the order: the customer chooses the account in a combo box listing all the accounts giving entitlement to a bank card.
-The type of card: the customer chooses from a list of cards offered by the bank;

[112] IBID

-Cardholder: This field is automatically initialized, after the account is selected, by the name of the account holder.

4.9. Credit Card Objection Request:

This service allows the subscriber to file an objection on a bank card (lost or stolen) via the Internet. The user completes a form that provides the bank with the following information:

-Reason for opposition (loss or theft).

-Date and time of loss or flight: this information is optional.

-Police reporting (done or to be done)

A summary of the information entered allows the customer to check his order to confirm it. This confirmation page allows the subscriber to modify or cancel their order until the transaction has been confirmed.

The user confirms his order by entering his password (authenticated confirmation).

4.10. The one-time transfer in intra account to account of the same customer:

This service allows subscriber customers to make one-time transfers between their accounts. In order to make transfers, the subscriber must complete a blank form containing the following information:

-The account to be debited.

-The account to be credited.

-The date of execution of the transfer (date of the day or deferred).

-The reason for the transfer.

-The amount of the transfer.

-The currency of the transfer.

Section three: the effect of Electronic Banking on the profitability of BNA bank

This section will be the object of the presentation and the interpretation of the results in order to measures the impact of E-Banking on the profitability of the National Bank of Algeria

1. Methodological elements:

The primary objective of this study is to investigate the impact of E-Banking on profitability of banks, using The National Bank of Algeria (BNA) as a case study. Furthermore, and for the purpose of identifying the effect of E-Banking services on the profitability of the BNA bank, a certain profitability ratio needed to be calculated. Profitability ratios are used to evaluate the company's ability to generate income as compared to its expenses and other cost associated with the generation of income during a particular period. Thus, several profitability ratios are calculated over the period of (2014-2019), and the reason we chose this timeline is because it contains to major periods:

- Period before the implementation of E-Banking (2014-2017).
- Period after the implementation of E-Banking (2017-2019).

A comparative ratio analyses will take place during the 6 years′ timeline period to examine the impact of the introduction of E-Banking services on the profitability of National Bank of Algeria.

1.2. Comparative Ratio Analysis:

In order to enrich our research, we will use a descriptive financial ratio analysis, to measure compare and analyses the profitability of the National Bank of Algeria during the period (2014-2019) which includes two major periods. Period before the implementation of Electronic Banking (2014-2017), and period after the implementation of the service (2017-2019). A comparison and an analysis of the profitability's ratio evolvement during the 6 years periods will allow us to confirm or deny the existence of an impact of E-Banking services on the profitability of the BNA bank.

1.2.1. Variable determination:

A critical issue in this study is the definition of the dependent and the independent variables.

For this reason, a variety of sets of variables are considered to analyze the impact of Electronic Banking on the profitability of BNA bank.

a) Dependent variable:

For a variable to qualify as a dependent variable, it needs to be measured and to be manipulated by the independent variable, and since this study examines the impact of E-Banking on the profitability of Algerian banks, profitability becomes the dependent variable for the study.

Profitability is the state or condition of yielding a financial profit or gain. It is often measured by profitability indicators. Profitability ratios are financial metrics used by analysts and investors to measure and evaluate the ability of a company to generate income (profit) relative to revenue, balance sheet assets, operating costs, and shareholders' equity during a specific period of time. They show how well a company utilizes its assets to produce profit and value to shareholders. As explained before in the previous chapters, there are various profitability ratios that are used by companies to provide useful insights into the financial well-being and performance of the business, and we will be focusing on three profitability ratios, two of which are return ratios and the other one is a margin ratio:[113]

- Return On Assets (ROA)
- Return On Equity (ROE)
- Net Profit Margin (MRG)

Thus, these three indicators will be the dependent variable on behalf of profitability.

b) independent variables:

The independent variables are the determinants that influence dependent variable, and since the purpose of this study is to measure whether or not Electronic Banking services affect the profitability of banks. E-Banking become the independent variable of the study.

as stated on theorical part, E-Banking has various forms and types including:

- Internet Banking IB
- Mobile Banking MB
- Automates teller Machine ATM

[113] What are Profitability Ratios? Consult: https://corporatefinanceinstitutecom/resources/knowledge/finance/profitability-ratios/

2.Presentation of the results:

2.1. Profitability Ratios:

2.1.1 Return on Assets (ROA):

In order to see the profits from all the E-Banking services used by the Algerian National Bank (BNA) during (2014-2019) and the asset rating (the bank relies on E-Banking) Comparing the BNA profits earned before and after the implementation of the service to highlight its impact on the Bank's profitability. In order to reach the final answer to the assumptions made, we relied on the calculation of the asset return rate in the following relationship:

ROA = Net result / Total liabilities

After calculating the return on assets (2014-2018), we have the following table/ curve:

Table3. 2.BNA's Return on Asset Ratio (2014-2019)

YEAR/RATIO	ROA %
2014	1,09%
2015	1,19%
2016	1,31%
2017	1,16%
2018	1,06%
2019	0,55%

Source: elaborated by me via Microsoft Excel

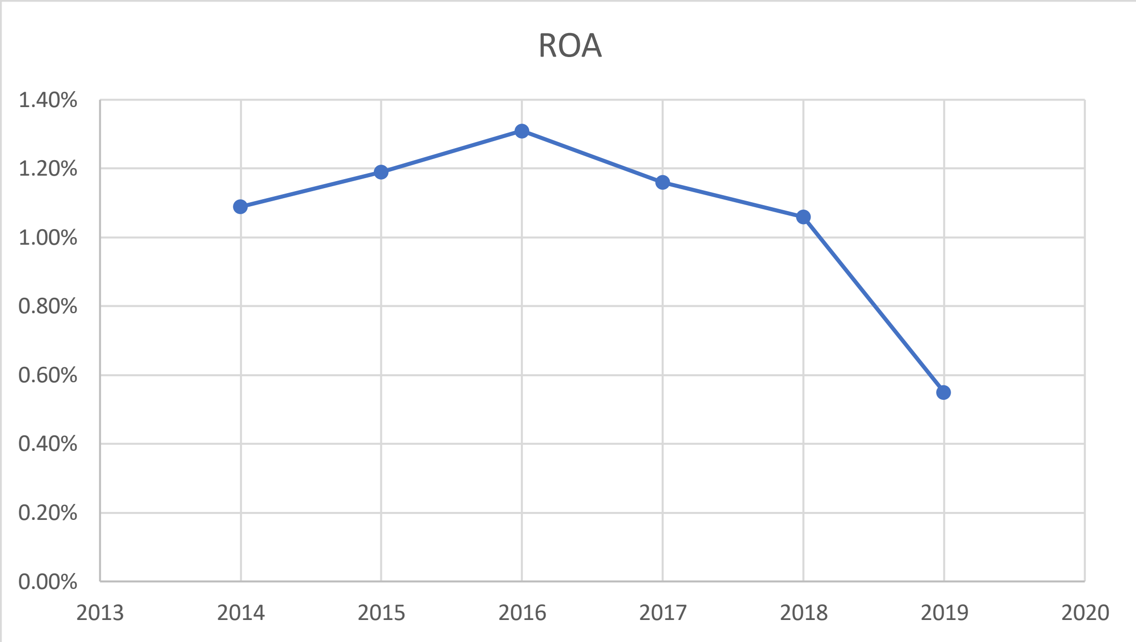

Figure 3. 5. Return on Asset (2014-2019)

Source: elaborated by me via Microsoft Excel.

2.1.2. Return On Equity (ROE):

In order to determine what the Algerian National Bank achieves in each unit of equity in the net profit, we calculated the rate of return on property rights, known as the following relationship:

ROE = Net result / Capital equity

After calculating the latter, we found the results shown in the next Table/ curve:

Table3. 3.BNA's Return on Equity Ratio (2014-2019)

YEAR/RATIO	ROE %
2014	12,87%
2015	13,16%
2016	17,97%
2017	11,31%
2018	10,43%
2019	6,37%

Source: elaborated by me via Microsoft Excel.

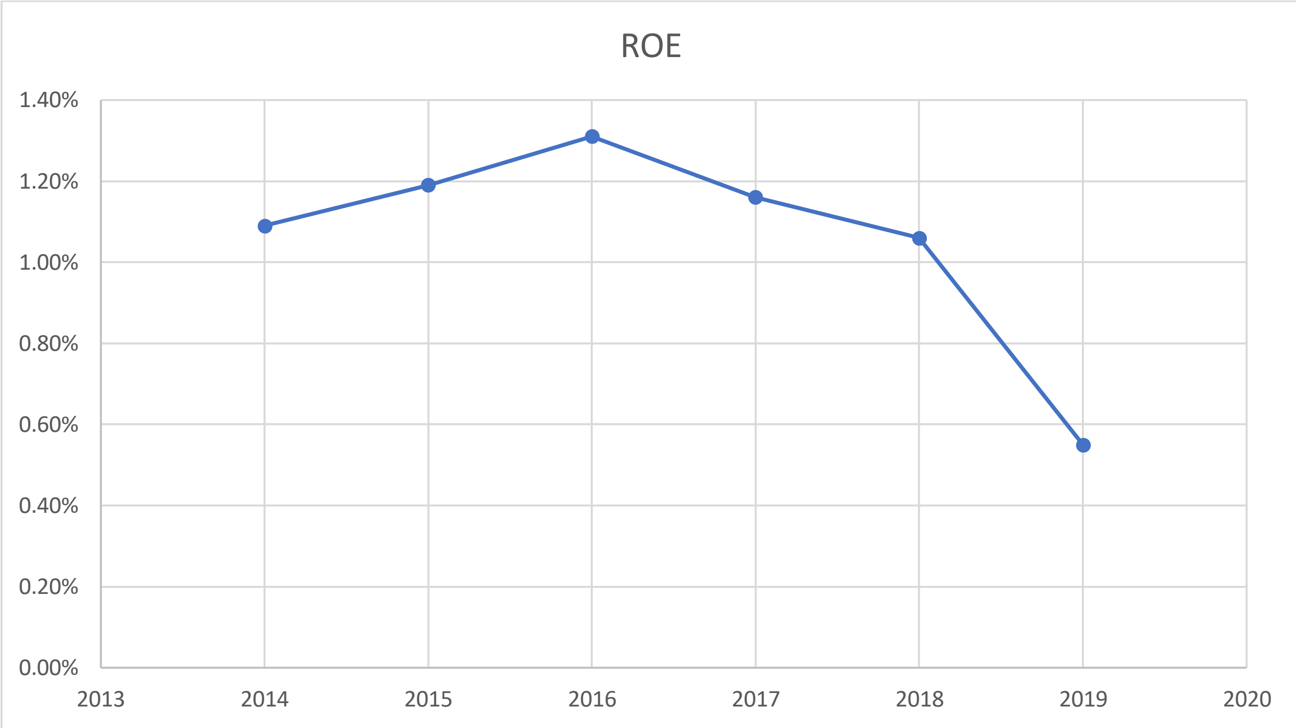

Figure 3. 6.BNA’s Return on Equity Ratio (2014-2019)

Source: elaborated by me via Microsoft Excel.

2.1.3.Net Profit Margin :

MRG=NET INCOME / REVENUE

Table3. 4.BNA's Margin Ratio (2014-2019)

YEAR/RATIO	MARGIN %
2014	38,00%
2015	43,00%
2016	54,00%
2017	33,00%

2018	25,00%
2019	20,00%

Source: elaborated by me via Microsoft Excel.

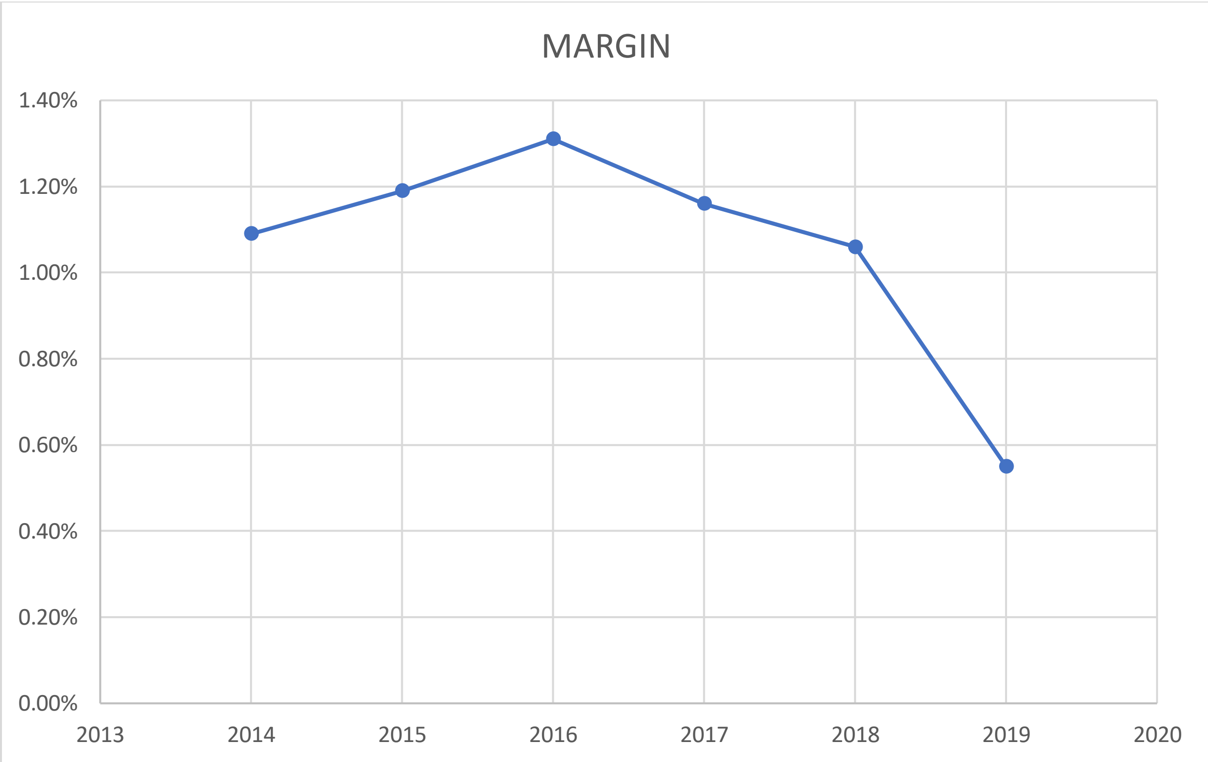

Figure 3. 7.BNA's Net Profit Margin Ratio (2014-2019)

Source: elaborated by me via Microsoft Excel.

The previous results are summarized in the following Table/ curve:

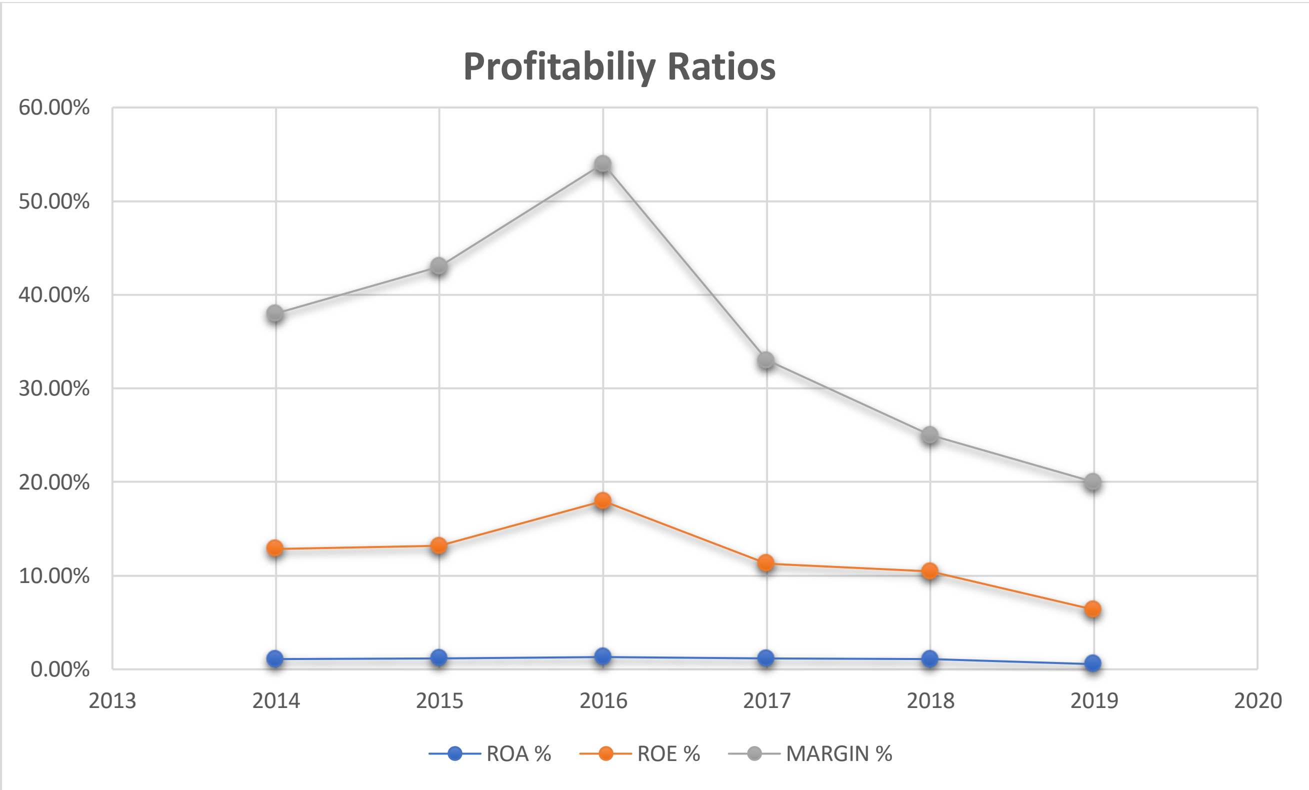

Figure 3. 8.BNA's Profitability Ratios (2014-2019)

Table3. 5.BNA's Profitability Ratios (2014-2019)

YEAR/RATIO	ROA %	ROE %	MARGIN %
2014	1,09%	12,87%	38,00%
2015	1,19%	13,16%	43,00%
2016	1,31%	17,97%	54,00%
2017	1,16%	11,31%	33,00%
2018	1,06%	10,43%	25,00%
2019	0,55%	6,37%	20,00%

Source: elaborated by me via Microsoft Excel.

3.Result analysis:

Based on the tables and curves above, we start by calculating the profitability ratios (ROA – ROE-MRG) of the Algerian National Bank relying on the finance lists available on the Bank's official website and use of the EXCEL program in the analysis of data during 6 years period starting from 2014 where E-Banking hasn't been implemented yet to 2017 where it was firstly adapted and moving on until the year 2019 where the service reached the 4 years mark.

We notice through the curves that all three indicators (ROA-ROE-MRGN)have witnessed the same evolvement which can be summarized in two phases:

a)The Growth phase:(2014-2016): which included period before the implementation of Electronic Banking. All three indicators have witnessed significant growth in various proportions:

- in 2015: Return on Asset (ROA) achieved by the BNA bank before the has Increased significantly by about 8,40%, ROE by2,20%, while MRG increased by 11,62%

- in 2016: ROA increased by 9,16%, ROE by 26,76%, while MRG increased by20,37%

b) **The Decline phase:(2017-2019)**: which included period after the implementation of Electronic Banking. All three indicators have witnessed significant declined in various proportions:

- in 2017: ROA decreased by 2.93%. ROE by 58.89% and MRG by 63,64%

- in 2018: ROA decreased by 9.43%. ROE by7.78%. MRG by32%

It is safe to say that the implementation of Electronic Banking services by the Algerian National Bank on 2017 has negatively affected its profitability which caused the decline phase to appear at the same year as E-Banking was first adopted.

Conclusion

Throughout this chapter, we tried to get to know the Algerian National Bank and the Electronic Banking services that it provides , we also tried to figure out the impact of these several online banking services such as internet banking, mobile banking and ATMs on the profitability of the Algerian National Bank By relying on calculating profitability indicators from the finance lists available on the Bank's official website and use of the EXCEL program in the analysis of data during 2014-2019. Through what has been achieved, and after calculating the profitability indicators, and comparing them during the 6years period we can say that the adoption of Electronic Banking on the BNA bank has negatively affected its profitability in the first three years (2017-2019). this decline could be traced back to the E-Banking enormous infrastructure costs, especially that the service is only 4 years old.

General conclusion

This study has attempted to assess the impact of Electronic Banking services on the profitability of banks in Algeria using the Algerian National Bank as a case study. Thanks to the bibliographical documentation, and after conducting the comparative ratio analysis in which we followed the evolvement of profitability ratios before and after the implementation of Electronic Banking services in the 6 years period extending from 2014 to 2019, we managed to find answers to the questions posed in the general introduction which would help us to answer our main research question by confirming or invalidating the hypotheses.

By exploring the concept of profitability and its measurement and after getting to understand this notion we came to conclusion that profitability can be measurable using various types of financial ratios, most importantly margin and return ratios which **confirmed** us the **hypothesis H1**

Another key concept was conducted in this study was the concept of Electronic Banking, and despite how reliable, effective, secure and convenient the E-Banking service can be, the results of the comparative study showed that the introduction of Electronic Banking services in the Algerian National Bank's system has a negative effect on its profitability ratios regarding the period 2017-2019.As a result, the **hypothesis H2 can be denied.**

In the other hand the negative impact that e-banking had on the profitability ratios of the Algerian National bank indicate the existence of a significant relationship between E-Banking and banking profitability, and that the implementation of electronic banking services has a negative effect to the profitability of banks especially in the short term where the enormous infrastructures costs led by the introduction of this services are not covered yet, in addition the major challenges facing both consumers and bank with the current Algerian banking system all of which are signs that E-Banking in Algeria still at its early stages. All of that **confirmed the hypothesis H3.**

With that being said we can safely say that the introduction of electronic banking services into a banking system **does affect the profitability** of that bank in a negative way at least in the short term

Conducting this study led us to face some constraints that we could call it the limit of the study:

- The dependence of the result on the period subject of the study. Performing the same methods in different timeline may lead to different results
- The small size of the sample can give erroneous vision and inaccurate results, and the size of the used bank might also affect the results.
- The lack of information concerning E-Banking statistical numbers.

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Appendixes

Annexe 01 : BLIAN 2018-2019

1 BILAN

(En milliers de DA)

ACTIF	Déc. 2019	Déc-18
Caisse, banque centrale, trésor public, centre de chèques postaux,	431 208 241	337 316 817
Actifs financiers détenus à des fins de transaction	256	270
Actifs financiers disponibles à la vente	406 162 203	379 543 232
Prêts et créances sur les institutions financières	419 512 117	407 271 144
Prêts et créances sur la clientèle	2 044 508 426	1 806 662 078
Actifs financiers détenus jusqu'à l'échéance	14 043 819	14 043 819
Impôts courants - Actif	12 854 579	10 145 906
Impôts différés - Actif	751 736	691 309
Autres actifs	56 972 992	28 926 710
Comptes de régularisation	55 562 832	51 160 554
Participations dans les filiales, les co-entreprises ou les entités associées	27 620 374	23 761 261
Immeubles de placement		
Immobilisations nettes corporelles	22 698 704	22 680 606
Immobilisations incorporelles nettes	86 689	95 644
Ecart d'acquisition	-	
TOTAL DE L'ACTIF	**3 491 982 968**	**3 082 299 350**

PASSIF	Déc-19	Déc-18
Banque centrale	-	-
Dettes envers les institutions financières	454 327 409	243 452 166
Dettes envers la clientèle	2 103 524 686	1 982 925 888
Dettes représentées par un titre	22 641 228	18 685 076
Impôts courants - Passif	9 365 385	14 282 865
Impôts différés - Passif	537 603	537 377
Autres passifs	139 136 132	117 077 585
Comptes de régularisation	103 619 975	70 894 144
Provisions pour risques et charges	32 089 934	30 088 761
Subventions d'équipement-autres subventions d'investissements		
Fonds pour risques bancaires généraux	119 836 510	108 112 786
Dettes subordonnées	207 485 319	208 002 425
Capital	150 000 000	150 000 000
Primes liées au capital		
Réserves	114 406 150	90 573 966
Ecart d'évaluation	(3 876 986)	-7 991 301
Ecart de réévaluation	14 122 289	14 122 289
Report à nouveau (+/-)	5 703 139	5 703 139
Résultat de l'exercice (+/-)	19 064 195	35 832 184
TOTAL DU PASSIF	**3 491 982 968**	**3 082 299 350**

Source : https://www.bna.dz/fr/a-propos-de-la-bna/bna-en-chiffre-avec-les-bilans-pdf.html

BILAN Au 31 /12/ 2017

En milliers de DA

ACTIF	Déc-17	Déc-16
Caisse, banque centrale, trésor public, centre de chèques postaux	298 863 421	305 734 845
Actifs financiers détenus à des fins de transaction	250	238
Actifs financiers disponibles à la vente	265 053 415	788 082 331
Prêts et créances sur les institutions financières	277 338 267	166 797 057
Prêts et créances sur la clientèle	1 622 181 004	1 384 912 137
Actifs financiers détenus jusqu'à l'échéance	194 043 819	14 043 819
Impôts courants - Actif	11 176286	10 929 186
Impôts différés - Actif	611 969	715 320
Autres actifs	38 681 034	78 034 835
Comptes de régularisation	75 010 175	49 986 094
Participations dans les filiales, les co-entreprises ou les entités associées	23 741 477	22 813 283
Immeubles de placement		
Immobilisations nettes corporelles	21 791 299	21 150 516
Immobilisations incorporelles nettes	140 856	171 517
Ecart d'acquisition		
TOTAL DE L'ACTIF	2 828 633 272	2 843 371 17

En milliers de DA

PASSIF	Déc-17	Déc-16
Banque centrale	-	340 355 168
Dettes envers les institutions financières	158 992 098	195 741 959
Dettes envers la clientèle	1 834 455 739	1 673 844 881
Dettes représentées par un titre	16 428 533	14 245 846
Impôts courants - Passif	11 273 229	12 418 096
Impôts différés - Passif	536 812	535 633
Autres passifs	110 962 924	140 671 583
Comptes de régularisation	104 668 088	79 065 313
Provisions pour risques et charges	30 045 156	38 172 236
Subventions d'équipement-autres subventions d'investissements		
Fonds pour risques bancaires généraux	102 041 054	92 063 068
Dettes subordonnées	194 000 000	14 000 000
Capital	41 600 000	41 600 000
Primes liées au capital		
Réserves	178 987 219	155 567 323
Ecart d'évaluation	-5 169 755	-6 155 252
Ecart de réévaluation	14 122 289	14 122 289
Report à nouveau (+/-)	5 703 139	5 703 139
Résultat de l'exercice (+/-)	29 986 747	31 419 896
TOTAL DU PASSIF	2 828 633 27	2 843 371 17

HORS BILAN Au 31 /12/ 2017

En milliers de DA

ENGAGEMENTS	Déc-17	Déc-16
ENGAGEMENTS DONNES :	09 150 776	873 975 119
Engagements de financement en faveur des institutions financières	8 383 244	10 451 808
Engagements de financement en faveur de la clientèle	453 177 269	274 487 762
Engagements de garantie d'ordre des institutions financières	181 193 033	317 972 415
Engagements de garantie d'ordre de la clientèle	266 397 230	271 063 134
Autres engagements donnés		
ENGAGEMENTS REÇUS :	909 258 521	995 757 495
Engagements de financement reçus des institutions financières		
Engagements de garantie reçus des institutions financières	343 962 949	430 461 923
Autres engagements reçus	565 295 572	565 295 572

Bilan au 31 décembre 2016 En milliers de Dinars

ACTIF	Déc - 16
Caisse, banque centrale, trésor public, centre de chèques postaux.	305 734 845
Actifs financiers détenus à des fins de transaction	238
Actifs financiers disponibles à la vente	788 082 331
Prêts et créances sur les institutions financières	166 797 057
Prêts et créances sur la clientèle	1 384 912 137
Actifs financiers détenus jusqu'à l'échéance	14 043 819
Impôts courants - Actif	10 929 186
Impôts différés - Actif	715 320
Autres actifs	78 034 835
Comptes de régularisation	49 986 094
Participations dans les filiales, les co-entreprises ou les entités associées	22 813 283
Immeubles de placement	
Immobilisations nettes corporelles	21 150 516
Immobilisations incorporelles nettes	171 517
Ecart d'acquisition	
TOTAL DE L'ACTIF	2 843 371 178

PASSIF	Déc - 16
Banque centrale	340 355 168
Dettes envers les institutions financières	195 741 959
Dettes envers la clientèle	1 673 844 881
Dettes représentées par un titre	14 245 846
Impôts courants - Passif	12 418 096
Impôts différés - Passif	535 633
Autres passifs	140 671 583
Comptes de régularisation	79 065 313
Provisions pour risques et charges	38 172 236
Subventions d'équipement-autres subventions d'investissements	
Fonds pour risques bancaires généraux	92 063 068
Dettes subordonnées	14 000 000
Capital	41 600 000
Primes liées au capital	
Réserves	155 567 323
Ecart d'évaluation	-6 155 252
Ecart de réévaluation	14 122 289
Report à nouveau (+/-)	5 703 139
Résultat de l'exercice (+/-)	31 419 896
TOTAL DU PASSIF	2 843 371 178

Compte de résultats de l'exercice 2016

En milliers de Dinars	Déc - 16
+ Intérêts et produits assimilés	129 177 236
- Intérêts et charges assimilées	-27 955 586
+ Commissions (produits)	2 685 271
- Commissions (charges)	-81 443
+/- Gains ou pertes nets sur actifs financiers détenus à des fins de transaction	35
+/- Gains ou pertes nets sur actifs financiers disponibles à la vente	-468 723
+ Produits des autres activités	214 322
- Charges des autres activités	-12 287
PRODUIT NET BANCAIRE	103 558 825
- Charges générales d'exploitation	-22 787 304
- Dotations aux amortissements et aux pertes de valeurs sur immobilisations incorporelles et corporelles	-1 415 820
RESULTAT BRUT D'EXPLOITATION	79 355 701
- Dotations aux provisions, aux pertes de valeurs et créances irrécouvrables	-56 431 055
+ Reprises de provisions, de pertes de valeur et récupération sur créances amorties	20 965 730
RESULTAT D'EXPLOITATION	43 890 376
+/- Gains ou pertes nets sur autres actifs	
+ Eléments extraordinaires (produits)	
- Eléments extraordinaires (charges)	
RESULTAT AVANT IMPOT	43 890 376
-Impots sur les resultats et assimilés	-12 470 480
EXEDENT DES PRODUITS SUR LES CHARGES OU INSUFISANCE DES PRODUITS SUR LES CHARGES	31 419 896

HORS BILAN AU 31 décembre 2016

En milliers de Dinars	Déc - 16
ENGAGEMENTS	
ENGAGEMENTS DONNES :	873 975 119
Engagements de financement en faveur des institutions financières	10 451 808
Engagements de financement en faveur de la clientèle	274 487 762
Engagements de garantie d'ordre des institutions financières	317 972 415
Engagements de garantie d'ordre de la clientèle	271 063 134
Autres engagements donnés	
ENGAGEMENTS REÇUS :	995 757 495
Engagements de financement reçus des institutions financières	
Engagements de garantie reçus des institutions financières	430 461 923
Autres engagements reçus	565 295 572

Source : https://www.bna.dz/fr/a-propos-de-la-bna/bna-en-chiffre-avec-les-bilans-pdf.html

Bilan au 31 décembre 2014 En milliers de Dinars

ACTIF	Déc - 14
Caisse, banque centrale, trésor public, centre de chèques postaux.	318 233 779
Actifs financiers détenus à des fins de transaction	212
Actifs financiers disponibles à la vente	230 569 742
Prêts et créances sur les institutions financières	55 145 087
Prêts et créances sur la clientèle	1 831 665 625
Actifs financiers détenus jusqu'à l'échéance	14 032 319
Impôts courants - Actif	12 678 581
Impôts différés - Actif	643 381
Autres actifs	39 924 437
Comptes de régularisation	77 806 314
Participations dans les filiales, les co-entreprises ou les entités associées	17 467 981
Immeubles de placement	
Immobilisations nettes corporelles	22 190 068
Immobilisations incorporelles nettes	261 760
Ecart d'acquisition	-
TOTAL DE L'ACTIF	2 620 619 286

PASSIF	Déc - 14
Banque centrale	
Dettes envers les institutions financières	162 789 197
Dettes envers la clientèle	1 742 545 916
Dettes représentées par un titre	18 698 362
Impôts courants - Passif	9 958 741
Impôts différés - Passif	389 090
Autres passifs	288 693 599
Comptes de régularisation	91 192 610
Provisions pour risques et charges	23 990 196
Subventions d'équipement-autres subventions d'investissements	
Fonds pour risques bancaires généraux	68 044 201
Dettes subordonnées	14 000 000
Capital	41 600 000
Primes liées au capital	
Réserves	106 245 349
Ecart d'évaluation	2 862 137
Ecart de réévaluation	14 122 289
Report à nouveau (+/-)	5 703 142
Résultat de l'exercice (+/-)	29 784 457
TOTAL DU PASSIF	2 620 619 286

Compte de résultats de l'exercice 2014

En milliers de Dinars	Déc - 14
+ Intérêts et produits assimilés	111 560 106
- Intérêts et charges assimilées	-24 588 757
+ Commissions (produits)	1 785 268
- Commissions (charges)	-47 262
+/- Gains ou pertes nets sur actifs financiers détenus à des fins de transaction	19
+/- Gains ou pertes nets sur actifs financiers disponibles à la vente	265 133
+ Produits des autres activités	132 073
- Charges des autres activités	-
PRODUIT NET BANCAIRE	89 106 580
- Charges générales d'exploitation	-15 871 056
- Dotations aux amortissements et aux pertes de valeurs sur immobilisations incorporelles et corporelles	-1 325 244
RESULTAT BRUT D'EXPLOITATION	71 910 280
- Dotations aux provisions, aux pertes de valeurs et créances irrécouvrables	-74 801 315
+ Reprises de provisions, de pertes de valeur et récupération sur créances amorties	42 787 301
RESULTAT D'EXPLOITATION	39 896 266
+/- Gains ou pertes nets sur autres actifs	
+ Eléments extraordinaires (produits)	
- Eléments extraordinaires (charges)	-153 068
RESULTAT AVANT IMPOT	39 896 266
-Impots sur les resultats et assimilés	-9 958 741
EXEDENT DES PRODUITS SUR LES CHARGES OU INSUFISANCE DES PRODUITS SUR LES CHARGES	29 784 457

HORS BILAN AU 31 décembre 2014

En milliers de Dinars	Déc - 14
ENGAGEMENTS	
ENGAGEMENTS DONNES :	1 201 719 003
Engagements de financement en faveur des institutions financières	25 797 563
Engagements de financement en faveur de la clientèle	328 584 847
Engagements de garantie d'ordre des institutions financières	568 253 621
Engagements de garantie d'ordre de la clientèle	279 082 972
Autres engagements donnés	
ENGAGEMENTS REÇUS :	1 096 270 618
Engagements de financement reçus des institutions financières	
Engagements de garantie reçus des institutions financières	530 975 045
Autres engagements reçus	565 295 573

Source : https://www.bna.dz/fr/a-propos-de-la-bna/bna-en-chiffre-avec-les-bilans-pdf.htm

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