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**E-Banking in Algeria: reality and perspectives  
CNEP-Banque case study**

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**Abstract:**

Digital banks are currently considered a revolution across all countries of the world, as they are experiencing steady growth and major interest, due to their characteristics and advantages and the high-end services they provide in the countries that have adopted them, especially developed countries. The interest of all countries in the world to benefit from the fruits of this revolution stems from the restrictions of global financial interconnections and the inevitable mergers for countries that, for one reason or another, are outside of this context. On this basis, our research intervened to explain the introduction of these banks, their importance, and what needs to be done to achieve and generalize them. The study relied on a qualitative approach using documentary research, observation, and interviews.

The main concern revolved around the extent to which the approved digitization mechanisms have the capacity to lead to a total digitalization of banks in Algeria. The National Savings and Provident Fund - bank was invoked to determine the reality on the ground in Algeria and the prospects arising from it.

The results of the study showed that the use of these banks in Algeria faces many obstacles that prevent achieving the desired objective according to the approved strategic vision and respecting the desired timelines.

This inhibition or slowdown is due to several factors. the most important of which are electronic signature, the legislative and regulatory framework that is not very compatible with the work pace of the technical teams, who found themselves taking proactive measures without a legal and regulatory framework;

In addition, we can add the fear of change and resistance to it among some actors, and this confirms, on the one hand, the analyses of some theoretical studies and, on the other hand, denies what other studies see as a smooth transition from digitization processes to total digitalization without paying attention to external restrictions and constraints.

**Keywords:** Digitalization; Digitization; Digital bank; e-banking.

**Résumé :**

Les banques numériques sont actuellement considérées comme une révolution au niveau de tous les pays du monde, car elles connaissent une croissance stable et un intérêt majeur, et ce en raison de leurs caractéristiques et avantages et des services haut de gamme qu'elles fournissent dans les pays qui les ont adoptés, notamment les pays développés. L'intérêt de tous les pays du monde de bénéficier des fruits de cette révolution découle des restrictions des interconnexions financières mondiales et des fusions inévitables pour les pays qui, pour une raison ou une autre, sont en dehors de ce contexte. Sur cette base, notre recherche est intervenue pour expliquer l'introduction de ces banques, leur importance et de ce qu'il faut faire pour les atteindre et les généraliser. L'étude s'est appuyée sur une approche qualitative faisant appel à la recherche documentaire, à l'observation et à l'entretien.

La principale préoccupation tournait autour de l'étendue de la capacité des mécanismes de numérisation approuvés à déboucher vers une digitalisation totale des banques en Algérie. La Caisse National d'Epargne et de Prévoyance – Banque, a été invoqué pour déterminer la réalité du terrain en Algérie et les perspectives qui en découlent.

Les résultats de l'étude ont montré que le recours à ces banques en Algérie se heurte à de nombreux obstacles qui empêchent d'atteindre l'objectif souhaité selon la vision stratégique approuvée et de respecter les délais souhaités. Cette inhibition ou ralentissement est dû à plusieurs facteurs dont les plus importants sont la signature électronique, le cadre législatif et réglementaire peu compatible avec le rythme de travail des équipes techniques, qui se sont retrouvées à prendre des mesures proactives sans cadre légal et réglementaire. , et on peut y ajouter la peur, chez certains acteurs, au changement et de la résistance à celui-ci, et cela confirme, d'une part, les analyses de certaines études théoriques et, d'autre part, nie ce que d'autres études voient comme un une transition en douceur des processus de numérisation vers une digitalisation totale sans prêter attention aux restrictions et contraintes externes.

**Mots-clés :** Digitalisation ; Numérisation ; e-Banking ; banque digitale.

#### الملخص:

تعد البنوك الرقمية كثرة على مستوى كافة دول العالم بالوقت الراهن، حيث تعرف نموا واهتماما متزايدين، لما لها من مميزات ومزايا وما تقدمه من خدمات راقية بالدول التي تعتمد عليها وهي الدول المتقدمة على الخصوص. ان اهتمام كافة دول العالم بثمار هذه الثورة نابع من قيود الترابطات والاندماجيات المالية العالمية التي لا مفر منها بالنسبة للدول التي هي خارج هذا السياق لسبب أو لآخر، على هذا الاساس جاءت دراستنا بهدف التعريف بهذه البنوك وأهميتها وما يجب فعله في سبيل بلوغها وتعميمها. حيث اعتمدت الدراسة على المنهج النوعي باستخدام البحث الوثائقي، الملاحظة وإجراء المقابلة.

وقد كان الانشغال المفتاحي يتمحور حول ما مدى قدرة أليات الرقمنة المعتمدة في بلوغ الرقمنة الشاملة أو البنوك الافتراضية بالجزائر وقد تم الاعتماد على حالة الصندوق الوطني للتوفير والاحتياط ~ بنك للوقوف، على الواقع الميداني بالجزائر وأفاق بلوغ هدف الرقمنة الشاملة.

قد أظهرت نتائج الدراسة ان التوجه إلى هذه البنوك في الجزائر يواجه عراقيل عديدة تحول دون بلوغ الهدف المنشود بالتصور الاستراتيجي المعتمد وباحترام الأجال المرغوب فيها. هذا الكبح أو الابطاء يعود لعدة عوامل أهمها، التوقيع الالكتروني، الإطار التشريعي والتنظيمي غير الموائم لتوتيرة عمل الفرق التقنية التي وجدت نفسها تخطو خطوات استباقية دون تأطير قانوني وتنظيمي، ويمكن إضافة الخوف، لدى بعض الفاعلين من التغيير ومقاومته، وهذا يبرز، من جهة، تأكيد تحاليل بعض الدراسات النظرية ومن جهة أخرى، ينفي ما تراه دراسات أخرى من الانتقال السلس لعمليات الرقمنة نحو بلوغ الرقمنة الشاملة دون الاهتمام ببغض القيود الخارجية.

**الكلمات المفتاحية:** رقمنة، خدمات المصرفية إلكترونية، بنك الرقمي.

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## *List of abbreviations and acronyms*

<b>ABEF</b>	Association des Banques et des Etablissements Financiers
<b>ACDs</b>	Automated Cash Dispensers(GAB: Guichet Automatique Bancaire )
<b>ATMs</b>	Automated Teller Machines (DAB: Distributeur Automatique de Billets
<b>BADR</b>	Banque de l'agriculture et du développement rural
<b>BDL</b>	Banque de Développement Local
<b>BEA</b>	Banque Extérieure d'Algérie
<b>BNA</b>	Banque Nationale d'Algérie
<b>CIB</b>	Interbank Card / Debit Card
<b>CNEP-Banque</b>	Caisse Nationale d'Epargne et de Prévoyance-Banque
<b>CPA</b>	Crédit Populaire d'Algérie
<b>D.DIG</b>	Directorate of Digital
<b>E-Banking</b>	Electronic banking
<b>ENT</b>	Enterprise
<b>ENTs</b>	Enterprise (consultation)
<b>EPTs</b>	(TPE) Electronic payment Terminal
<b>M.Banking</b>	Mobile Banking
<b>PART</b>	Particular
<b>PERS</b>	CNEP staff (personnel)
<b>PRF</b>	Professional
<b>SATIM</b>	Société d'automatisation



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# ***INTRODUCTION***

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### Introduction

Humanity has already experienced two major revolutions and is currently going through a third one. The first revolution marked the transition from oral communication to writing, which allowed for the preservation and transmission of knowledge over long periods of time. The second revolution took place with the invention of the printing press, facilitating mass reproduction of texts and wider dissemination of information. Currently, we are living through the third revolution, characterized by the transition from the printed stage to the digital stage, where information is stored and shared in digital form. Some even envision an ultimate stage where virtual reality and other advanced technologies will transform our way of interacting with information and our environment.

Algeria, like several countries, does not escape this beautiful transformation that is becoming increasingly necessary, even unavoidable. Indeed, in recent years, Algeria has made significant progress in terms of digitization and modernization of the administration in general (non-commercial sector) and commercial services in particular. This reality has been translated into a renewed will of the public authorities, often confirmed in political discourse, especially since 2009 and this within the framework of the e-Algeria project, a project reflecting a strategic and global vision of the public authorities over a period of five years (until 2013). Regardless of the results obtained, this e-Algeria project remains, thus, as the triggering element of bank digitization in Algeria. Indeed, the promotion of remote banking services illustrates this new orientation

Banks have invested in the development of solid technological infrastructures, such as advanced computer systems and robust telecommunications networks. This would have enabled the establishment of online banking services and mobile applications, thus offering customers the ability to access their accounts and perform routine operations at any time and from anywhere.

The evolution of remote banking services in Algeria includes a wide range of features and services. Customers would be able to perform basic operations such as checking balances, transferring funds, paying bills, and managing bank cards online or via mobile applications. Additionally, some banks also offer more advanced services, such as online loan applications, remote account opening, and personalized financial management tools.

This evolution would provide numerous advantages for customers and banks in Algeria. Customers could benefit from greater convenience, increased accessibility to banking services,

## INTRODUCTION

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and faster processing times. Moreover, remote banking services would contribute, among other things, to improving financial inclusion by enabling more people to access financial services, particularly in remote or underserved areas by traditional bank branches.

### ➤ **Problem Statement:**

The digital transformation holds immense potential, but its impact on the banking sector remains to be seen. While increased digitization can streamline processes and enhance customer experience, the question arises: **will the adoption of Digitization in Algeria lead to a full digitalization of banks?**

From this main question, the following sub-questions are to be asked:

- 1) Is there a real beginning of digitalization at the level of Algerian banks?
- 2) What approach is being followed or should be followed in this digitalization?
- 3) Are there any particular constraints hindering the digitalization efforts?
- 4) Is there a real political will (legal basis) for digital banks in Algeria, at least in the long term?

### ➤ **The hypotheses:**

In order to address all of these inquiries, we have developed the following hypotheses, which will direct our research:

- 1) The digitalization of banking services seems well underway in Algeria through the few forms practiced in this area. the legal basis reflects the political will and thus the positive evolution of digitalization in Algeria.
- 2) The approach to digitizing banks in Algeria is part of a global digitization approach leading to an appropriate environment.
- 3) Bank digitalization in Algeria is facing a series of constraints, challenges and obstacles. Overcoming these remains a sine qua non condition for a seamless and unprejudiced launch.

### ➤ **Research topic:**

The research topic is mainly summarized as follows:

- The reality of the digitization of banking services in Algeria and the path taken so far;
- Obstacles, challenges and issues of digitization of banking services
- Prospects for achieving comprehensive digitization of the aforementioned services.

➤ **Research importance:**

The importance of the research is mainly explained by enriching the work in this topical field and showing perspectives in terms of available opportunities in the sense of fully realizing this digitalization.

L'importance de la recherche s'explique principalement par l'enrichissement des travaux dans ce domaine d'actualité et par la présentation de perspectives en termes d'opportunités disponibles dans le sens de la pleine réalisation de cette digitalisation.

➤ **The Research method:**

The method that we will use in our research will depend on two parts:  
The first: theoretical approach, it's about consultation of the various necessary documentation.  
The second: qualitative approach, based mainly on interview with staff and middle managers of CNEP Bank.

➤ **The objective of the study:**

The research objectives are summarized as follows:  
The path to digital banks: The purpose of this study is to investigate the entire process an institution goes through to become a digital bank. This investigation will focus on the essential elements of this shift, offering invaluable knowledge to both traditional banks and new businesses who are embarking on this path.  
Examining these critical areas, the study aims to offer a road map for building a successful digital bank. She will provide us with invaluable information about the opportunities and challenges ahead, as well as the knowledge and strategies that institutions need to succeed in the constantly changing digital banking landscape.

➤ **The expected results:**

- Demonstrate the feasibility of implementing this complete banking digitization through Algeria;
- We are building digitization in Algerian banks to reach almost full digital banks in the future.

➤ **Thesis Structure:**

This research is organized into three (3) distinct chapters:

- ❖ Chapter 1 conceptual framework: this chapter establishes the foundation for our research. It will begin with a comprehensive review of existing literature on similar themes. This review will provide context and highlight any gaps in current knowledge. Following the literature review, we will introduce a conceptual framework. This framework will define key concepts and establish the theoretical underpinnings of the research problem. It will act as a roadmap, guiding the reader through our study.
- ❖ Chapter 2 The Methodological framework: This chapter delves into the specific methods our employed to conduct our research. It will detail the chosen methodological approach. then will explain the specific research methods and tools used to gather Reliable data. Additionally, within this chapter, we will introduce the Directorate of monetic and digital on CNEP-Banque, where I completed my final-year internship. This will provide context for the data collection and analysis.
- ❖ Chapter 3 results and discussion: This chapter is the culmination the research. Here, we will present the results that I obtained through our data collection efforts. then we meticulously analyze and interpret these results, drawing connections to the literature reviewed and conceptual framework. This chapter will be where we answer of the research question(s) and contribute new insights to the field.

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**CHAPTER 01**

**CONCEPTUAL FRAMEWORK**

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A solid framework serves as the cornerstone of any successful analysis. This chapter will establish the theoretical foundation that will guide our inquiry.

### **Section 01: Literature review**

The topic of digital banks in all of its facets has been the focus of numerous in-depth theoretical discussions. Numerous scientific publications covering this topic are available.

Regarding our study, and in this chapter we have selected and organized a few papers that we believe are relevant.

Banks have realized that they don't need a digital strategy perse, but rather they need to incorporate digital into their strategies. Though the word "digital transformation" is older, "digitalization" is often used more frequently.(LAMIRAULT, 2017)

Digitalization" refers to something with a defined boundary, such a procedure or a task. The term "digital transformation" describes the significant shift toward a new paradigm that challenges established ideas, organizational structures, and practices in systematic institutions like states, enterprises, or communities (Sandrine Hirigoyen, 2022).

There are many factors that led to the digitization of the banking sector, as it did not happen randomly. (BOUACHERIA KEBIR ibtissem; SALHI Tarik, 2022).

For each and every one of the following:(Dias. Yousaf, Tabassum, 2020) It is essential to make financial investments in computer and telecommunications technology. to use online banking services.

As the system is implemented, there will be a significant increase in the number of users over time, which will boost banks' net profitability.

With the adoption of digital transactions, it has been demonstrated that innovation in banking services and products would boost banks' return on equity and return on assets.

The article of (د. سيد هارون جمعة عبدالحفيظ) in Egypt analyzes The Impact of Digitizing Banking Services on Promoting Financial Inclusion as follows:

The importance of financial services digitization for preserving control over the banking sector system was demonstrated by this study. The descriptive analytical method was used in this investigation, and the following conclusions were reached:

- First, as financial activity increases, the digitization of banking will become more active.
- Second, there is a morally sound positive correlation between increasing financial inclusion and digitizing banking services.

- Lastly, implementing digitalization in banks contributes to both consumer privacy and bank transparency. The study also showed that implementing financial services digitalization reduces infrastructure costs by eliminating the need to spend money building that infrastructure.

The study of (2020, سلمى بشاري) employed the structural analysis approach to examine the drivers and priorities for the growth of digitization in Algeria. The findings indicated that, of the 34 elements examined, 18 fundamental determinants govern the process of digitization. All of the criteria are included in three main groups that summarize the results: enhancing the standard of the technology sector, expanding the use of ICTs, and ultimately quickening the pace of technical advancement.

According to the report, the availability of a cutting-edge infrastructure for information and communication technology serves as the foundation for the growth and distribution of digitization.

The authors (TILEN GORENŠEK ANDREJ KOHONT, 2019) EURO-MEDITERRANEAN AREA; the researcher identified that The conceptual differences between digitization, digitalization, and digital transformation as follows:

- Digitization: The process of converting analog data to digital format.
- Digitalization: The use of digitization as a lever to achieve change in processes.
- Digital Transformation: The process of shifting organizations to new ways of working and thinking through the use of digital, social, mobile, and emerging technologies.

The section also discusses the concept of digital convergence, which is the result of digitalization. Digital convergence is characterized by the convergence of (digitized) media, which drives social and technical change in various domains of society.

And shows the importance of understanding these conceptual differences to study the impacts and consequences of digitalization at the level of society, organizations, and individuals. It also emphasizes the need for exploratory empirical research to make pragmatic predictions based on the research findings, as the rise of the digital economy and the effects of digitalization increase uncertainty and hinder long-term planning opportunities.

(Lyubov Anatolyevna;Tatyana Evgenievna;Sofya Anatolyevna and Oleg Anatolyevich, 2020) on Russia; examines how to define the concept of a digital bank, identify problems, and highlight advantages of digital technologies in the banking sector. The study is based on the theoretical and methodological work of Russian and foreign scientists, with a special focus on

Ronald Coase's theory of uniting people into production cooperatives. Research methods employed include modeling, analogy, and historical analysis.

The research results highlight that Digital technologies in the banking sector offer various advantages and address past problems. They enable quicker access to results, increase data sources for performance evaluation, and reduce the risk of data manipulation.

Digitalization involves converting information into digital form and automating routine operations, enhancing communication channels and efficiency.

Algeria's digitalization has advanced significantly in recent years thanks to the growth of the mobile internet industry. According to the most recent report from the Authority of Regulation the Post and Electronic Communications (ARPEC), until the third term of 2021, more than 45.30 million people in Algeria have subscribed to fixed internet (ADSL, FTTH, and 4G LTE/WiMAX) and mobile internet (3G and 4G). Algeria is currently at a crossroads in its digital transformation initiative since the internet and new technologies have had a significant impact on the country's banking industry and have given rise to a new breed of banks that are more customer-focused and smoother. (BOUACHERIA KEBIR ibtisseem; SALHI Tarik, 2022).

The term "e-banking" refers to the new name for the banking system; it describes the automated delivery of traditional and new banking products and services to customers through interactive and electronic communication channels. This service allows users to access their accounts, conduct transactions, and obtain information about financial products and services over a public or private network, such as the Internet. (IMOLA DRIGĂ, CLAUDIA ISAC, 2014).

According to (Ndlovu and Sigola, 2013), electronic banking refers to the provision of detailed and low-value banking products and services via an electronic means. Electronic banking is the provision of financial and market services through computerized communication and computation. These days, banks are shifting to distributing financial services across multiple channels using hybrid platforms.

It is no longer considered luxurious to integrate new communication and information technology into banking services. In many developing nations, particularly in Africa, online banking has been around for a few years.

The origins of electronic innovation in banking can be seen in the 1970s, as financial institutions began to become increasingly computerized (Pang, 1995). But ever since the automatic teller machine (ATM) was introduced in 1981, consumers have been able to see this

in plain sight. Since then, innovative banking has expanded thanks in part to technological advancements in the information technology and telecommunications sectors. The technology known as automated voice response (AVR) first appeared in the early 1990s. Banks could provide telephone banking for financial services by utilizing AVR technology. With more technological developments, banks were able to provide services via customer-owned and controlled personal computers at their convenience by utilizing Intranet proprietary software. However, corporate clients predominated over retail ones when it came to the use of these services. Constructed in the United States in 1995, the Security First Network Bank was the world's first online bank. Following that, a number of well-known banks—including Citibank and Bank of America—introduced online banking one after the other. (Sohail and Shanmugham, 2019).

The article of (Shilpan Vyas, ) in INDIA provides an overview of the impact of e-banking on traditional banking services. and with a descriptive approach which covers the following key points:

Internet banking (e-banking) is changing the banking industry, reducing the need for in-person branch visits; which is now the cheapest way of providing banking services.

This study examines Functions of E-Banking that include:

- Inquiry about account information such as balance and transaction history;
- Transfer of funds to another person's Credit Card in the same city;
- Transfer of funds between bank savings accounts, Credit Card accounts, and capital accounts in securities companies, with real-time balance inquiries;
- Foreign exchange transactions including trading, order cancellations, and inquiry about transaction information based on bank-provided exchange rates;
- B2C disbursement for real-time transfers and feedback on payments made on specific websites.

The personal e-banking system provides functions like inquiry about account details, fund transfers, securities accounts transfer, foreign exchange transactions, and B2C disbursement.

The authors (A. H. M. Saidul Hasan1 et al., 2010) examined adoption of e-banking in Bangladesh; the main objectives on the article are:

- to shed light on the concept of e-banking;
- To examine the present status of existing e-banking in Bangladesh;
- To know the adoption of e-banking in Bangladesh context.

The study has been done mainly based on primary and secondary sources of data or information.

## CHAPTER 01 : CONCEPTUAL FRAMEWORK

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The first is an exploratory research based on secondary data obtained through the Net, books and related journals. Secondly, survey questionnaire was administered.

to empirically assess the level of adoption of e-banking in Bangladesh including different publications: Bangladesh Institution of Bank Management Bank for International Standard Working Papers International and local Publications Different seminar papers Information from Internet UNCTAD and WTO publication.

for Data collection procedure as follows:

- Primary data sources: Primary data has been collected from Dhaka based some selected banks e.g. Eastern Bank Ltd, Dutch Bangla Bank Ltd. in the year of 2003. These banks are considered as the private commercial banks and foreign banks respectively. Primary data collections are done by the interviewing method with proper questionnaire.
- Secondary data sources: Secondary data has been collected from different publication material and web site as well as the books and material from different libraries, the hand note of the various seminar and research related to the issue are taken into account that includes the library of BIBM, BANBASE, Science Laboratory, DCCI library.

The secondary data have been also collected from research material of the following sources; DBBL–Products and Software, EBL–Survey Report, IBA–Feasibility Report, WTO/UNCTAD–Secret of e-commerce.

The results of the quantitative research on e-banking adoption in Bangladesh showed that male respondents were more interested in online banking than females, with a growing number of female respondents. Young people and those with higher monthly incomes showed more interest in Internet usage. Issues faced in banks included queue problems and telephone line hassles. Most respondents were not willing to pay monthly fees for services. The study involved 150 respondents and used SPSS for statistical analysis.

The qualitative research identified various financial risks associated with e-banking, including operational risks (e.g., security, system design), customer misuse risks, legal risks (e.g., money laundering), strategic risks, reputation risks, credit risks, market risks, and liquidity risks. These risks highlight the challenges and potential vulnerabilities that financial institutions may face when adopting e-banking service.

All of (AININ Sulaiman; LIM C.H and Alice WEE, ) examined the PROSPECTS AND CHALLENGES OF E-BANKING IN MALAYSIA 2005; the research provide insights into e-banking adoption in Malaysia. They cover the evaluation of local bank websites, demographic profiles of e-banking users, e-banking activities, and the relationship between adopters and

demographic variables. The study found that e-banking adopters perceive it as convenient, with most users conducting transactions from home or office. Younger individuals, higher earners, and those in higher positions show higher adoption rates. The research methodology involved website evaluations, surveys, and statistical analyses to understand e-banking adoption patterns and user behaviors.

The study on e-banking adoption in Malaysia utilized a methodology that involved evaluating local bank websites, conducting surveys, and performing statistical analyses to understand adoption patterns and user behaviors.

The study population consisted of e-banking adopters in Malaysia, with findings showing higher adoption rates among younger individuals, higher earners, and those in higher positions. Demographic variables like age, job level, and salary were significantly associated with e-banking adoption, while gender, marital status, and education showed no significant relationship. Most users found e-banking convenient for conducting transactions, with a majority using basic banking facilities like balance inquiries and savings accounts. The study highlighted the influence of peers, family, and advertisements on e-banking adoption.

The research found that e-banking adopters in Malaysia perceive e-banking as a convenient and efficient way to conduct transactions, with a majority using basic banking services like balance inquiries and savings accounts. The study also revealed that younger individuals, higher earners, and those in higher positions showed higher adoption rates. Most users conduct e-banking activities from their homes or offices. Additionally, the research highlighted the influence of peers, family, and advertisements on e-banking adoption.

The study of (Jiaqin Yang and Li Cheng, ) determine comparative study between China and the USA on e-banking services, focusing on young consumers. It aims to investigate the attitude, acceptance, usage frequency, concerns, and satisfaction towards current e-banking services among young consumers in both nations.

The study involves a comparative investigation of e-banking services between China and the USA, focusing on young consumers. It aims to analyze the demographic information, e-banking usage history, and frequency among participants in both countries. The study also explores reasons preventing non-users from adopting e-banking, highlighting differences in awareness and usage between the two nations. Additionally, the research delves into factors influencing future e-banking development, such as internet accessibility and customer satisfaction, with managerial implications discussed for future research.

The research population consists of young consumers in China and the USA, focusing on their e-banking usage history and frequency. The study includes e-banking users and non-users, analyzing demographic information and reasons preventing non-users from adopting e-banking.

Differences in awareness and usage between the two nations are highlighted, providing insights into future e-banking development factors like internet accessibility and customer satisfaction. The comparative study on e-banking services between China and the USA reveals that there is Factors like fast internet accessibility and user-friendly interfaces play significant roles in both countries. Developing a modern it infrastructure with high internet accessibility is crucial for future e-banking development, along with patience in customer satisfaction and increased promotional efforts to encourage frequent e-banking usage for success;

The awareness and usage of m-banking services differ between China and the USA. More Chinese respondents (30%) are aware of m-banking services compared to about 20% of American respondents. Chinese customers show a more positive attitude towards using m-banking services than US customers, possibly due to limited experience with new banking channels and a more widespread use of cell phones in China. In contrast, US customers are more reluctant to switch from traditional e-banking services to m-banking services.

The authors(Henny Medyawati 1, Marieta Christiyanti 2 and Muhammad Yunanto 3, s.) exposed a research study focuses on e-banking adoption using the Technology Acceptance Model (TAM) in BEKASI city. It examines various variables like computer self-efficacy, computer experience, relevance, security, privacy, screen design, perceived ease of use, perceived usefulness, attitude toward using, and acceptance of e-banking.

The research populations in the study on e-banking adoption using the Technology Acceptance Model (TAM) include customers from major banks in Bekasi City like Bank Mandiri, BCA, BRI, Bank Danamon, and BNI.

The study conclude indicate that various factors like experience with computers, relevance, security, privacy, screen design, and perceived ease of use significantly impact the ease of use and usefulness of e-banking. Additionally, perceived ease of use influences the attitude toward using e-banking, which in turn affects the real usage and acceptance of e-banking

The article of (Allie V Agustin;Hernila P Tabigne.) determines the Effectiveness of E-Banking services of private bank Philippines , focusing on accessibility, accuracy, and convenience for customers. The study aims to quantify the current provision of electronic services by major retail banking organizations in the UK and the Republic of Ireland, exploring

areas like innovation and market views. The study found that most e-banking users rated accessibility, accuracy, and convenience of the private bank's E-banking services as "very effective".

The researchers utilized a descriptive research method to assess the effectiveness of E-banking services of a private bank, focusing on accessibility, accuracy, and convenience for customers. Researchers targeted 30 respondents using stratified sampling, including traditional banking customers, E-banking customers, and banking staff.

It examines the efficacy of the private bank's electronic services, emphasizing accessibility, precision, and convenience.

With an extremely demanding average rating of 4.58, depositors think that full electronic services for withdrawals, outages, and payments are excellent. Additionally, it offers correct transaction information and provides a positive evaluation of the completed electronic services.

As a result, they made the decision to be content with the availability of electronic services, which help shorten transaction times and include payment simplicity and an introduction to the bank's goods and services.

The research of (Saviour Lusaya1, 2018) examined The Challenges of Adopting the Use of E-Banking to the Customers: The Case of Kasama District Banking Customers of the Kasama District in Northern Province of Zambia. The study used a descriptive research design and collected quantitative and qualitative data from a sample of 50 banking customer respondents from the Kasama district.

The study population consisted of banking customers from the Kasama district. The sample size was based on the premise that a number of customers have similar characteristics in terms of social-class as most of these civil servants and private businesses.

The key results of the study include:

- 58% of the respondents were using e-banking services, while 42% were not.
- The study found that education level had a statistically significant influence on e-banking usage, with higher education levels corresponding to greater usage of e-banking services.
- The availability of e-banking information was found to be a key factor influencing e-banking usage, as the study found a dependence between e-banking usage and availability of e-banking information.

The research also found that e-banking usage was not dependent on concerns for personal security.

The main challenges to adopting e-banking identified were the availability and cost of e-banking services.

Overall, the article provided insights into the factors influencing the adoption and use of e-banking services by customers in the Kasama district of Zambia.

(Dr. CHAREF Leila, 2017)The objective of the research discussed in the article is to present the current situation of E-banking in Algeria and the new electronic services offered by Algerian banks. The study aims to address the state of E-banking in Algeria, which despite being a significant revolution in the financial sector, is still considered to be in a primitive state 1. The research methodology involved an exploratory study on the current status of E-banking in Algeria, with information gathered from various sources such as books, scientific articles, reports, and official websites of Algerian banks.

The research method used in the study involved an exploratory approach to examine the current state of E-banking in Algeria. Information for the literature review was collected from various sources like books, scientific articles, and reports, while details about E-banking in Algeria and the services offered by Algerian banks were primarily sourced from the official websites of different Algerian banks.

The population of study: The document mentions that there are approximately 40 million inhabitants in Algeria, with a portion of Algerians already holding a bank account 8.

The study highlights the current state of E-banking in Algeria, emphasizing that despite being a significant revolution in the financial sector, E-banking in Algeria is still considered to be in a primitive state. The research aims to address the situation of E-banking in Algeria and the new electronic services provided by Algerian banks.

### **An Overview of the Literature Review Showing the Gap:**

In summary, the studies highlight the digitization of banking services, its drivers, advantages, conceptual differences, and the growth of digitalization in Algeria's banking sector.

The text also covers the definition, origin, key functions, adoption trends, and potential risks/challenges related to the implementation and use of e-banking services by financial institutions and customers.

The studies analyzed e-banking adoption models, influential factors, and challenges in different countries (Malaysia, China, USA, Indonesia) using methodologies such as website evaluations, surveys, technology acceptance models, and statistical analyses.

And they analyzed the effectiveness, adoption challenges, current state, and services related to e-banking in different countries like the Philippines, Zambia, and Algeria, using methods such as descriptive research, surveys, exploratory studies, and website/report analysis.

### **Section 02: traditional and digital banks**

Any successful analysis needs a strong framework as its base. The theoretical framework that will direct our investigation will be established in this section. It will utilize accepted ideas and theories, offering a critical perspective that will allow us to look at banks and Algerian banking system, as we will be able to pinpoint important elements and make connections between them, and ultimately more profound comprehension by building this framework.

#### **1 Banks and Algerian banking system:**

This will examine the Algerian banking system's organizational structure and the many kinds of banks that operate there.

##### **1-1 Banks**

Banks can have a conceptual definition as it can have a legal definition.

##### **1-1-1 Conceptual Definition:**

According to Smith (1776), banks play an important role at the microeconomic level. They are the place of the regulation mechanism of the credit offered. They are a central link, because they must play an essential role of assessor and monitor borrowers.

As stated by J.V. Capul and O. Garnier, a bank is a certain kind of business that accepts deposits from its clients (individuals or businesses), handles their payment methods (credit cards, checks, etc.), and extends loans to them.(CAPUL.J.V et GARNIER.O, 1994).

"Banks are regarded as companies or establishments which make a habitual profession of receiving from the public in the form of deposits or otherwise a fund which they use on their behalf in financial operations,"(CAUDMINE G and MONTIER J, 1999).

Banks are establishments that focus on the issuance and exchange of currency. They oversee deposits, gather client savings, make loans, oversee payment methods including bank cards and check books, and provide financial services. They support the state's efforts to combat human trafficking and guarantee the traceability of financial transactions;

As a financial institution, the bank acts as a middleman between individuals in the economy who have too much cash and those who don't. The bank's primary role was to act as a conduit between the public treasury and publicly traded corporations. (Wikipedia.)

### **1-1-2 Legal definition:**

Generally speaking, a bank is defined as a vital financial institution that receives deposits, makes loans, and provides customers with payment options. The Algerian definition of a bank does not deviate from the norm. But this latter has changed as a result of many regulations that have influenced public authorities' decisions; This evolution can be summarized as follows:

As per the provisions of Law No. 86-12 of August 19, 1986, any credit establishment that operates for its own account and holds a regular professional title is considered a reputable bank. Its primary functions include collecting funds from third parties that deposit them, regardless of their duration and form; extend credit, regardless of duration, carry out transactions in compliance with relevant laws and regulations, exchange and outside business operations, guarantee payment method management, carry out the placement, subscription, purchase, management, storage, and sale of mobilized value and all financial products, and generally provide advice, assistance, and other services aimed at easing client activity.

As to the law of January 12, 1988, "a bank is a morally-charged commercial entity possessing capital, subject to this status, to the principles of financial autonomy and accounting equilibrium."

the Algerian economy's shift from a planned to a market economy led to a different definition of banks, and as per the law 90-10 of April 1990: The banking industry comprises ethical individuals who perform standard professional functions, primarily those outlined in Articles 110–113 of Law No. 90-10 of April 1990 pertaining to money and credit ( لقانون رقم 10/90 الخاص بالبنقده والقرض ).

Essentially, banking operations involve receiving public funds, credit operations, providing payment methods to customers, and overseeing those resources.

### **1-2The Algerian Banking system:**

Since Algeria gained its independence, the country's banking system has seen significant changes. These changes are closely related to both economic and ideological decisions. Following an administrative phase, Algeria experienced a remarkable opening starting in 1988

(the events of October 5, 1988), which was capped off by the country's first money and credit laws. This marked the beginning of a true reform that has never stopped changing the banking and financial landscape to conform to international standards and requirements.

### **1-2-1 The regulatory framework of the banking system:**

The financial and monetary system in Algeria has advanced remarkably. Actually, this system has undergone two very significant phases (LACHACHI. M., 2017):

- The first, during which it was closed off to the outside world under the managed economy regime;
- The second, during which it attempts to reopen its doors to the outside world, albeit at the risk of becoming somewhat dependent on outside institutions.

Put another way, Algeria's financial industry has seen a significant transformation in recent years as a result of the country's shift to a market economy.

Algeria is gradually transitioning from a monoband system—where the government, which disburses credit to inefficient and loss-making public firms through state commercial banks—to a modern financial system that is based on market forces. Political, economic, and social developments have led to the structural and prerogative changes that have defined the banking industry.

This is how the establishment of new, specialized banks and the amendment of the regulatory texts governing banks (law No. 86/12 of 08/19/86 dealing to the banking regime and credit) led the public authorities to strengthen the sector.(La loi no 86-12 relative au régime des banques et du crédit.).

Last but not least, the ongoing economic changes, which date back to 1988, have led to the adoption of a number of laws, such as statute 90/10 of 04/14/1990 concerning credit and currency.(لقانون رقم 10/90 الخاص بالنقد والقرض).

The Algerian government has been implementing economic reforms for nearly 20 years with the goal of converting the country's planned economy to a market economy. This framework

perfectly captures the monetary and financial form that was introduced in 1990 with the enactment of the law relating to money and credit (the **LMC of 04/14/1990**).

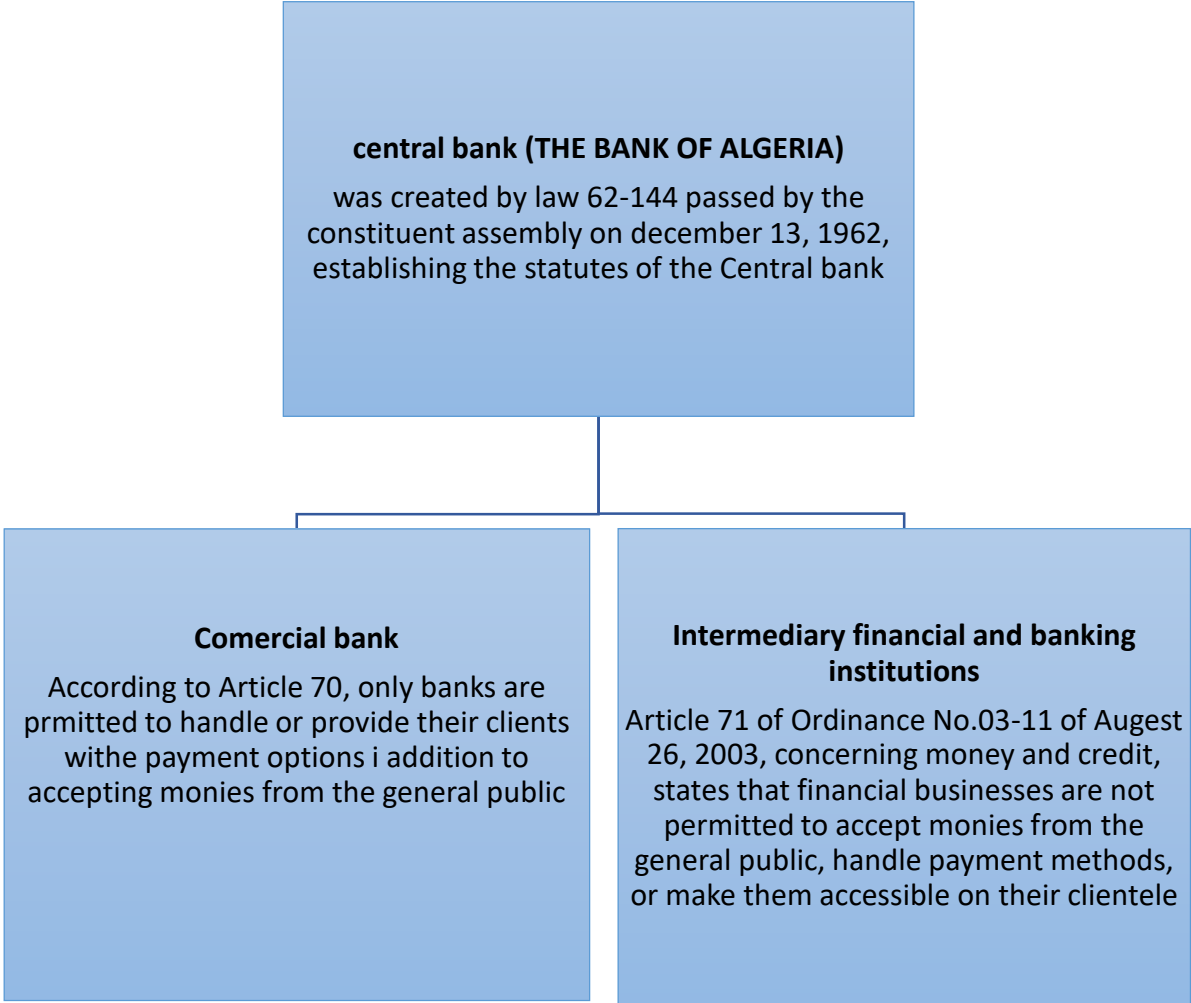
It is regarded as fundamental because it brought about significant changes that were not brought about by earlier legislation, but rather by the codify of customs that were occasionally based on antiquated writings, some of which predates independence or political outcomes. of decision-making centralization under the planned economy's framework.

### **1-2-2 Definition:**

Every bank that operates in a country is referred to as part of the "banking system". This includes all banking activities, especially those involving the issuance of credit.; The organization in charge of monetary policy is the central bank; At the top of the pyramid-shaped banking system is the central bank. It expresses the institutions, regulations, and laws that make up this system and control how banks operate.

**The following component part chart illustrating the banking system's composition:**

**Figure 1: the banking system's composition**



**Source: developed by us from official data (bank websites)**

**1-2-3 The Algerian banking system's organizational structure:**

It is important to note that the organisation, which dates back to the early 1990s, has undergone significant updates. These include changes to the roles of the CNEP, which is now a bank, the BAD, which is now a financial institution, Khalifa Bank, and BCIA Bank, which are no longer part of the new banking and financial landscape in Algeria, among other levels.

It's vital to remember that the Algerian banking industry currently consists of the Bank of Algeria (central bank), 20 commercial banks, 9 financial institutions, 5 offices of large international banks' representation, a value exchange, a clearing society responsible for depositor functions, a society for the automation of interbank transactions and money (SATIM), and an association of banks and financial institutions (ABEF), with approximately

1200 branches spread across the country, a concentration in the north, and a 99% share of public banking agencies.(République Algérienne Démocratique et Populaire & Services du Premier Ministre).

### **A) Algeria central bank (BANK OF ALGERIA):**

A central bank is a type of government organization that is usually tasked with setting monetary policy, overseeing commercial banks, and offering financial services. They are designed to act as a safety net against financial crises and are essential for keeping the nation's currency stable, averting inflation, and lowering unemployment.

The roles and responsibilities of central banks are generally classified into three categories, despite the fact that they vary greatly:

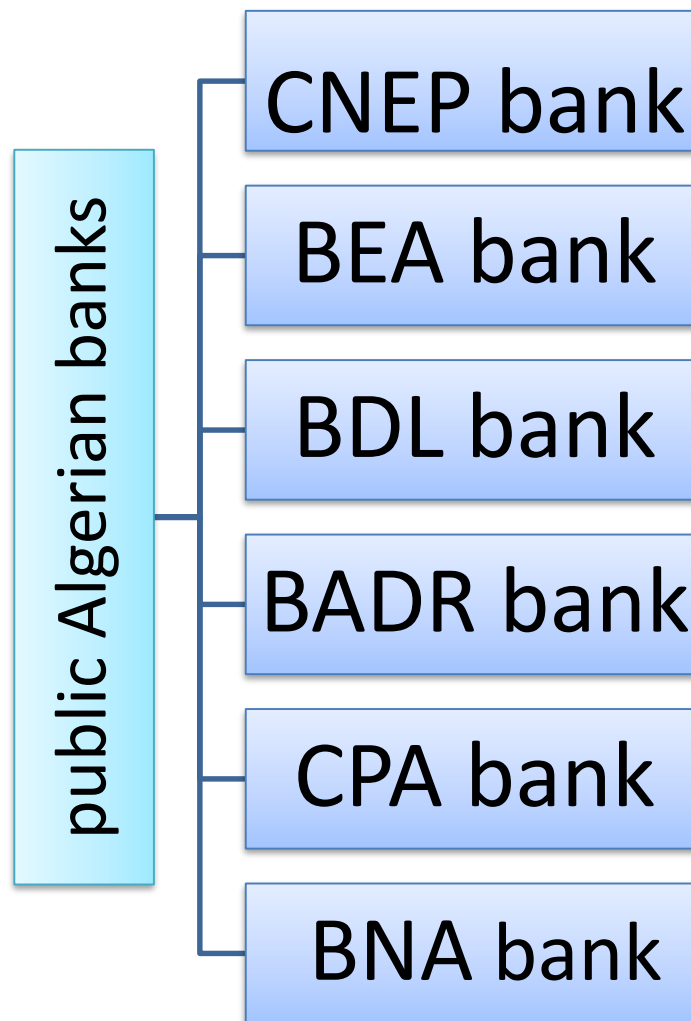
- Initially, creating money and determining bond and loan interest rates. Central banks, which oversee a country's monetary policy, have the authority to accelerate or decelerate economic growth. They frequently cut interest rates to promote growth, industrial activity, and consumer spending while raising them to stifle inflation and growth.
- Second, among other measures, banks utilize reserve requirements, deposit guarantees, and capital requirements to control member banks. Reserve requirements specify how much money banks can lend to consumers and how much cash they must maintain. Along with lending money and offering services to the government and state banks, they also keep foreign exchange reserves.
- Lastly, under certain conditions, the central bank provides emergency lending to the government, commercial banks, and other organizations.

### **B) Public Bank:**

The six Algerian public banks are: (CPA), Algerian National Bank (BNA), Algerian Bank Outside (BEA), Local Development Bank (BDL), Algerian Bank for Rural Development (BADR), and CNEP-Bank (CNEP-Banque). Following the passage of the Money and Credit Law, these publicly traded banks that had not been founded prior to 1990 were required to operate in accordance with the provisions of this law; therefore, the approval of the Money and Credit Council was essential.

It should be noted that a seventh public bank has recently (2023/2024) been created: it is the Algerian Housing Bank (la Banque Algérienne de l'habitat), formerly CNL: (caisse nationale de logement).

*Figure 1. Public Algerian Banks*



**Source:** developed by us from official data (bank websites)

**C) The Algerian private bank:**

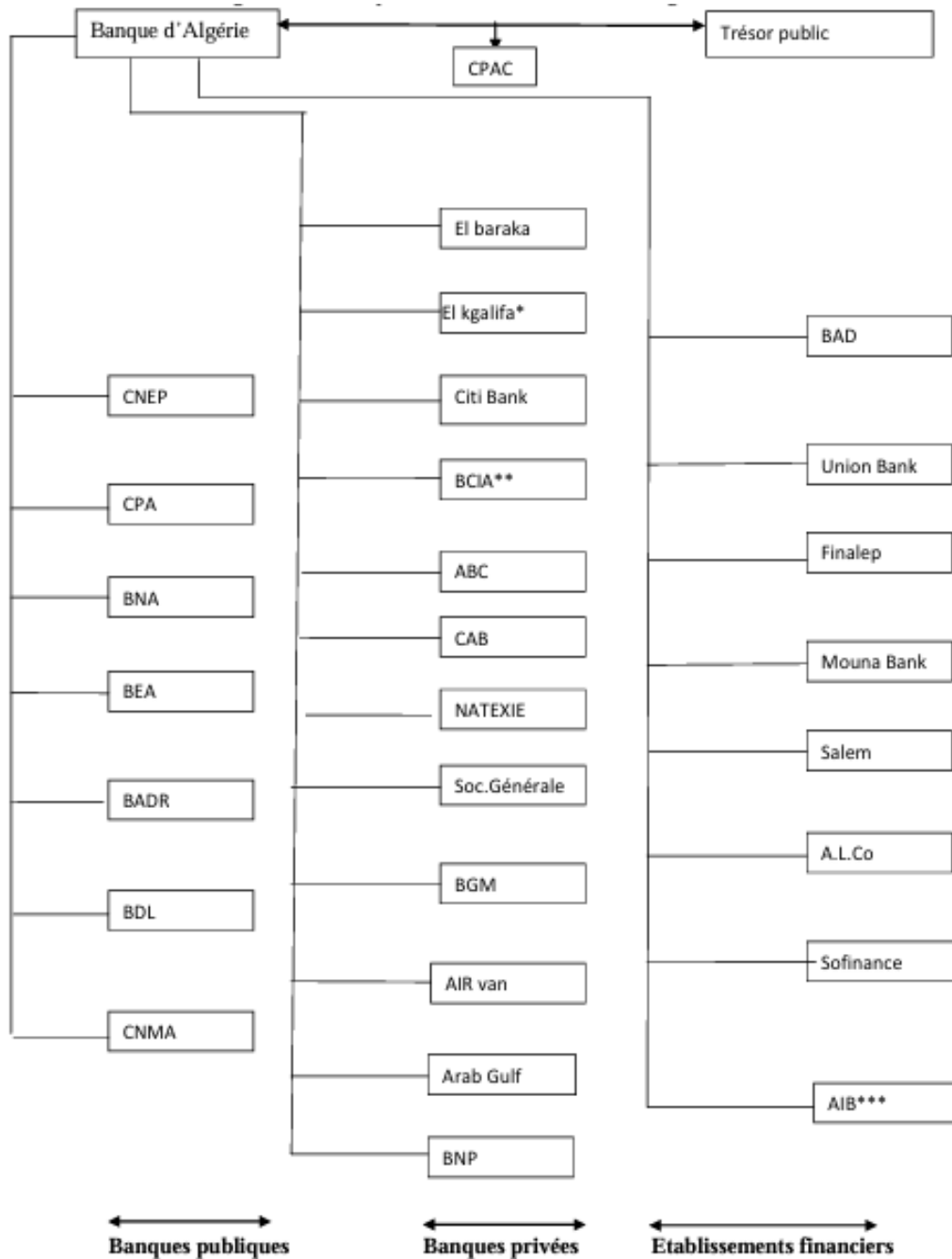
On April 14, 1990, the new money and credit law (n° 90-10) was established, allowing the creation of private national and international banks.

A private bank is a specialised financial entity that can operate independently or with the support of a banking network. A senior portfolio management specialist oversees the funds of investors who offer varying degrees of services. It concerns the management of financial assets and portfolio management services in all cases, including certain special cases.

Real estate investments that include individualised services according to the client's needs or situation: These banks provide services to a limited number of customers and charge a fee for

those services.(République Algérienne Démocratique et Populaire & Services du Premier Ministre.).

**Figure 2 :Organization of the current Algerian banking and financial system  
(the first generation of reforms-LMC of 14.4.1990)**

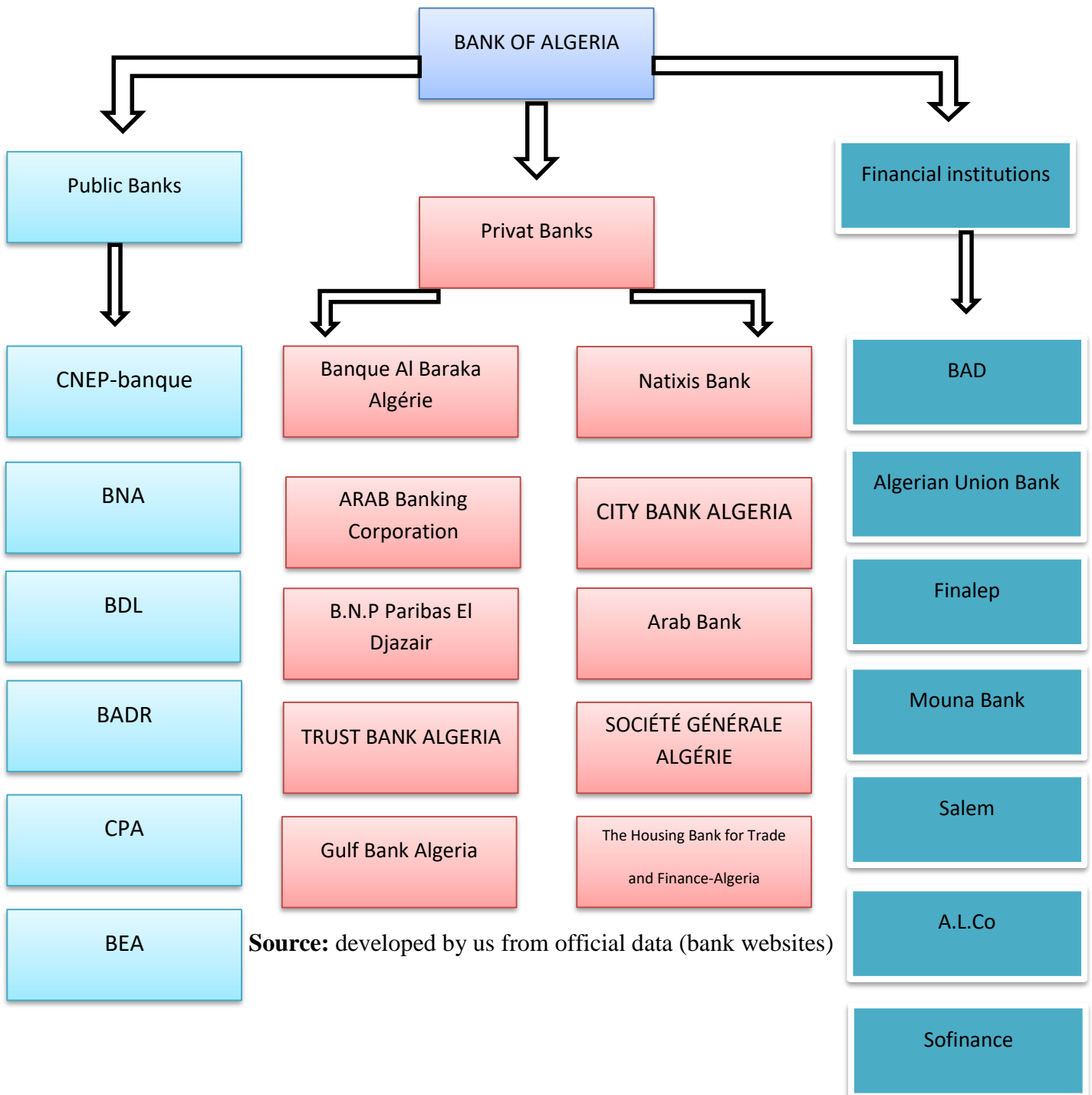


Source : Le système bancaire Algérien, de ABDELKARIM Naas. Page 284

**(BCIA/EL KHALIFA)** These two banks were shut down by government authorities as a result of exceeding, breaking, and violating the applicable regulations.

Figure 3 : Organization of the current Algerian banking and financial system

(the second generation of reforms-LMC of 14.4.1990)



### 2- From the E-banking to digital bank

The transition from e-banking to digital banks will be examined in this part, along with its major distinctions.

#### 2-1 E-banking:

A range of banking services, including account checks, transfers, and purchases of financial products, are referred to as "e-banking" or "online banking" and are made available using electronic technology, namely the internet. (*Le E-Banking remplace-t-il la banque traditionnelle ou la complète-t-il.*)

Also referred to as virtual, online, internet, net, or web banking, is a method of comprehending financial transactions over the Internet; as a result, users can access and conduct a variety of financial and non-financial transactions using the electronic payment system without having to go to a financial institution's branch.

E-banking, also referred to as (Inter) net banking, web banking, or online banking, is the acronym for "internet bank". (s. d.-a) Therefore, using an electronic tool, such as a computer, to perform various banking activities is known as electronic banking or electronic banking. E-banking facilitates account access, fund transfers from one account to another, securities information, fund transfers to third-party accounts, bill payment, and other functions. The many options enable users of these services to save a significant amount of time. (s. d.-b).

Online banking, often known as e-banking, is described as "a system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website or mobile app." (John Egan, 2024).

#### 2-1-2 E-Banking services : (Lydia MEZIANI).

- Internet Banking.
- (GAB).
- WAP Banking
- SMS Banking
- M-Banking

**Note that additional details will be provided later (about the various digital services).**

### **2-1-3 Advantages and disadvantages of E-Banking:**

The Rise of E-Banking: A Double-Edged Sword Electronic banking (e-banking) has revolutionized the financial landscape, offering both advantages and disadvantages for both banks and customers.

#### **A) Advantages of E-Banking:**

For banks, e-banking presents a strategic opportunity. It fosters innovation, enhances their reputation as tech-savvy institutions, and helps them retain existing customers. Moreover, it allows them to attract new customers beyond geographical limitations, expand their service offerings, and ultimately, become more competitive. Additionally, e-banking can lead to cost reductions through streamlined processes.

From a customer's perspective, e-banking offers a wealth of benefits. It saves them valuable time by enabling them to manage their finances anytime, anywhere through multiple channels. Additionally, e-banking can potentially lower costs associated with traditional banking activities.

#### **B) Disadvantages of Electronic Banking:**

However, e-banking also presents challenges. One major hurdle is the lack of interoperability between banks' systems, which can create friction for customers trying to conduct transactions across different institutions. Traditional banking systems may also pose a challenge, as they may not be readily adaptable to the demands of e-banking. The initial cost of implementing e-banking systems can be significant, and some institutions may lack the expertise or research and development resources necessary to create robust platforms. Furthermore, a critical gap may exist in understanding the specific needs of different segments of society in adopting e-banking services. Additionally, the social and economic implications of widespread e-banking adoption may not be fully evaluated, potentially creating challenges for those who are unable or unwilling to participate in the digital financial world.

### **2-1-4 Algeria's increase in the use of electronic banking:**

Algeria's Rise in E-Banking (A Promising Shift with Room for Growth).

Algeria's banking sector is witnessing a growing trend towards electronic banking (e-banking). This shift presents a promising future for both financial institutions and consumers, but challenges remain.

### **A) Factors Driving Growth:**

**Government Initiatives:** The Algerian government recognizes the potential of e-banking to promote economic activity and financial inclusion. They are actively pushing for the development of a robust digital infrastructure and e-payment systems.

**Mobile Penetration:** Algeria boasts high mobile broadband connectivity, a key driver for mobile banking adoption. This allows for convenient access to banking services on the go.

**Modernization Efforts:** Banks in Algeria are increasingly offering online banking platforms and mobile banking apps, providing customers with a wider range of services at their fingertips.

### **B) Benefits of E-Banking in Algeria:**

- **Increased Convenience:** E-banking allows for 24/7 access to account information, bill payments, and money transfers, saving time and effort compared to traditional bank visits.
- **Improved Efficiency:** Online transactions streamline banking processes, reducing operational costs for banks and potentially leading to lower fees for customers.
- **Enhanced Financial Inclusion:** E-banking can reach geographically dispersed populations and those who may not have easy access to physical bank branches.

### **C) Challenges to Overcome:**

- **Limited Adoption:** While on the rise, e-banking usage in Algeria remains lower than the regional average. This indicates a need to bridge the digital divide and address potential user concerns.
- **Security Concerns:** Building trust in the security of online transactions is crucial for wider adoption. Banks need to invest in robust cybersecurity measures and educate customers on safe e-banking practices.
- **Digital Literacy:** Spreading digital literacy will empower Algerians to navigate e-banking platforms confidently, maximizing the benefits of these services.

## **2-2 Mainly definitions**

And by converting to the digital bank, we will need to manage the following concepts:

Digital, digital transformation, digitalization, and digitization, as well as the differences between them.

### 2-2-1 Digital:

The term "Digitalization" originates from an IT Anglicization that denotes numericalization.

Thus, the term "Digitalization" refers to the process of recording on a digital medium. It comes from the word "Digitalize" plus the suffix "-ation." Because of this, the word "nummérization" is appropriate. (Christophe Nobili, 2017).

Digitalization is the process of converting an object, tool, procedure, or profession into an electronic code in order to replace it and improve its performance. The digital transformation started at the very beginning of the internet. Emails have replaced letters, online forums have replaced salons, and e-commerce websites have replaced physical stores. We now live in a world of more and more efficient digitalization, as seen by automated cash registers, automated response systems, and social media communication.

Digitalization is now a natural phenomenon that combines the advent of the internet with everyday technological advancements.(Définition de la digitalisation, ses avantages et ses outils, 2017).

### 2-2-2 Digital transformation

The changes associated with digital technology are first classified into three categories:

- disintermediation (the removal of middlemen made possible by digital technology),
- dematerialization (the replacement of material media by IT files),
- And automation (the mechanical replication of a series of actions using a program).(David Fayon, 2018).

Ettien and Peron (2018) state that identifying, mobilising, and arranging resources to move from one place to another is another aspect of digital transformation. It should be noted that training is a part of transformation, and that individuals undergoing any kind of change must have a strong commitment to change management.(Ettien, Peron, 2018).

Bos defines digital transformation as “the adoption of easily accessible technological skills that transforms the organization’s responsiveness to market changes”.(JOACHIM HEINZ, 2018).

"A revolution in procedures, automation, and process simplification can be characterised as digital transformation. Digitalization is a sector of value creation and commercial opportunities, leading to an acceleration and optimisation of internal exchange flows as well as those between the bank and its clients or partners."

### 2-2-3 Digitalization

Digitalization is the process of converting an object, tool, procedure, or profession into an electronic code in order to replace it and improve its performance.

The digital transformation started at the very beginning of the internet. Emails have replaced letters, online forums have replaced salons, and e-commerce websites have replaced physical stores. We now live in a world of more and more efficient digitalization, as seen by automated cash registers, automated response systems, and social media communication. Digitalization is now a natural phenomenon that combines the advent of the internet with everyday technological advancements. (*Définition de la digitalisation, ses avantages et ses outils*, 2017).

### 2-2-4 Digitization :

The Financial services sector is changing as a result of digitization. The main forces behind this process are the rapid advancements in information technology and the fusion of these technologies with new electronic services, such as crowdinvesting services or online banking marketplaces, via devices like smartphones and tablet PCs. Similar to how value chains in other industries, like the media or travel industry, underwent radical transformation, these developments not only make new business processes possible, but they also give rise to entirely new business models and even point to a complete alteration of the banking value chain (J., Narula, N., & Ali, R, 2017).

The process of transferring analogue records into digital representation is called digitization. It is sometimes referred to as digitalization, scanning, or digital imaging. Text-based documents, images, maps, microfilm, analogue audio, video, and film can all be converted to digital formats using this technique.

Additionally, it encodes an item in digital form, which is simply a sequence of numbers. An analogue, continuous signal is converted into a digital, discontinuous signal.

-Keep in mind that digitization and digital transformation are two distinct processes. Among the elements of digital transformation are system and process modifications to expedite the production of all records and their capture into born-digital format.

Analogue record digitization can be a component of a broader digital transformation strategy, but it is not the same as digital transformation on its own.

### OBVIOUSLY DIGITALIZATION RELIES ON DIGITIZATION

Additionally, we shall define two key concepts in the history of modern banks in this section: fintech and neobank.

#### *A) Fintech:*

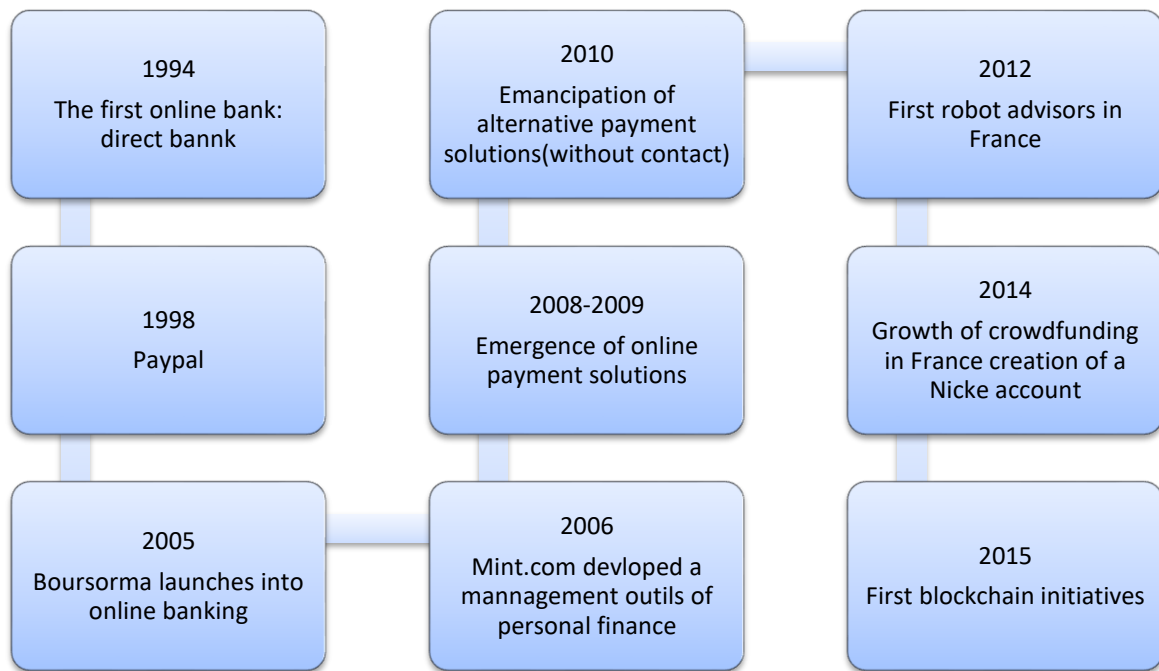
The terms "finance" and "technology" are combined to form the umbrella word "FinTech." It alludes to the creative companies that reimagine banking and financial services.

Through technology. Over the past ten years, these phenomena have grown significantly and drawn an increasing number of investors. The Financial Stability Board defines Fintech as technological advancements in the financial services that can lead to the creation of new products, applications, business models, or processes that have a significant impact on the financial institutions, markets, and methods of delivering financial services.(Bechet, Coulomb, & Dauvergne, 2018).

Fintechs, which are organisations that combine finance and technology, are those that use digital technologies to provide banks, enterprises, and consumers with new financial services. (VINCENT DUTOT& CHARLES PEREW).

FinTech is an abbreviation combining the terms financial and technologies or financial technologies. The field of FinTech in the broad sense brings together all companies implementing innovative solutions aimed at improving or rethinking the financial sector. (*Fintech*).

Figure 4: short France historical example



Source: (VINCENT DUTOT& CHARLES PEREW)

**B) Neobank:**

By definition, a bank is a chartered financial organization with permission to accept deposits, disburse loans, and offer additional financial services including safe deposit boxes, wealth management, and currency exchange (Barone 2020). A Neobank is not a bank. Neobanks are not "challenger banks" however, as a challenger bank is a smaller, more inventive retail bank that is also chartered and founded with the goal of competing with larger, more established national banks for business (Lexico2020).

Neobanks, on the other hand, are a type of fintech that rely on partnerships with chartered banks to make it easier for them to provide their financial services.

Furthermore, despite the fact that many of them collaborate with megabanks to insure their financial products, they are typically more agile and open than their rivals.

In December 2020, research by Exton Consulting, a strategy and management consulting firm for the financial services sector based in Paris, France, found there were 256 neobanks worldwide.(Stephanie Walden and MITCH strohm, 2021).

### 2-3 Digital bank:

Our lives have gone digital we are now a click away from shopping and dining and our banking system has done just the same digital banks also known as Neo banks or virtual banks provide retail banking services online through mobile phones and customers no longer have to visit a physical branch the idea isn't as modern as we might think (Financial Services Development Council, 2020).

#### 2-3-1 Definition:

The digitalization of banks and the digitalization of processes are challenges that have a profound impact on our modern economies. All actors are concerned. These revolutions are profoundly changing the way we understand the banking profession(Nicolas DENIS, 2019).

To put it simply, a digital bank is one that conducts business online and offers its clients services that were previously exclusive to bank branches.

Digital banking involves the digitization of all traditional banking products, processes, and activities to serve customers through online channels.(Alex Malyshev, 2023).

Digital banks might require a specific license or authorization from the Bank of Algeria to operate legally.

#### 2-3-2 The advantages and disadvantages of digital banking:

##### A) Advantages

Digital or remote banks provide their customers with a number of benefits. here are a few of the main advantages:

- **Accessibility and convenience:** As long as a client has an Internet connection, remote banks enable them to access their accounts and conduct financial transactions at any time and from any location. This makes it unnecessary to physically move to a banking institution and makes handling personal funds simple.
- **Availability round the clock, seven days a week (24h/24, 7D/7):** Remote banking services are continuously available, allowing customers to conduct financial transactions outside of regular business hours. This is especially useful for people with irregular schedules or those who are employed.
- **Reduction in fees:** Since they do not need to maintain a large number of physical branches, remote banks typically have lower operating costs than traditional banks. This frequently

translates into lower banking costs for customers, such as lower account maintenance or transaction fees.

- **Competitive rates:** Remote banks are frequently able to provide more enticing interest rates on savings accounts, loans, and investment products. Their online model allows them to cut costs and pass these savings forward to customers in the form of competitive rates.
- **Online tools and features:** Online banks frequently provide their clients with online tools and features to help them manage their funds more effectively.
- **Reinforced security:** Remote banks typically implement advanced security measures to safeguard their clients' financial information. To ensure the confidentiality and privacy of online transactions, this may involve using tight security protocols, data encryption, and two-factor authentication.
- **Online customer care:** Remote banking institutions frequently provide online customer support through live chat, email correspondence, or phone calls.

### **B) Disadvantages (Oussama AICHOURE, Janvier 20 23)**

The new technology by banks adoption comes with some operational risks that should be considered, despite the fact that it offers significant advantages.

- **Growing threat to customer security and fraud risks:** As more customer data is accessed through digital platforms, there may be more vulnerabilities to data breaches and cyberattacks. Strong security measures must be implemented by banks in order to safeguard sensitive customer information and reduce fraud risks.
- **Infrastructure shortcomings:** The implementation and upkeep of complicated technological systems can be difficult and require specialized technical knowledge. Infrastructure failures, such as server pannes or service interruptions, can cause disruptions to banking operations and harm the institution's reputation.
- **Affirmation of the individual client relationship:**  
Putting too much emphasis on digital interactions may alienate customers who value in-person banking relationships. The banks need to strike a balance between maintaining a high standard of personalized and effective customer care and the effectiveness of digital platforms.

### **2-3-3 Digitalization and its effects on banks:**

Digital effects on traditional banking in several ways.

Traditional banks will disappear completely and the number of bank branches and employees will decrease; the Traditional banks will expand their digital applications because competition will increase.

### **2-3-4 The reasons behind banks' digital transformation are as follows:**

The rise in power of digital in the banking industry is due to a number of factors. (*La montée du digital, une nécessité pour le secteur bancaire.*).

- The subprime crisis of 2008: banks were forced to quickly transform themselves in order to avoid a severe crisis whose consequences would be uncontrollable, as they were no longer able to obtain sufficient margin or income to finance their structural costs while also building up the necessary reserves and capital. As a result, banks have been directed into a new growth avenue: the digital (Bernard Roman et & Alain Tchibozo, 2017).
- The competition from new entrants and the shift in customer expectations presents opportunities as well as challenges for traditional banks; The entry of new players into the banking industry, who frequently come from the technology sector, upends the status quo and forces established banks to reinvent themselves. The innovative offerings, user-friendly digital interfaces, and simplified procedures of these newcomers—often referred to as "neobanks" or "fintechs"—attract clients;

### **In response to this growing competition, traditional banks face several challenges:**

- Tailor their offering to the needs of the customer: Today's customers are more connected and demand seamless, personalised, and always-available banking experiences. The banks need to update their offerings by adopting agile and customer-focused approaches from newcomers.
- Investing in technological innovation: Traditional banks must make significant investments in emerging technologies like artificial intelligence, blockchain, and cloud computing in order to compete with neobank. This will enable them to lower costs, increase operational efficiency, and create innovative goods and services.

- **Strengthening client confidence and security:** One of the main concerns for clients is data protection and cybersecurity. To gain and maintain the trust of their clients, banks must demonstrate their commitment to data security and confidentiality.
- **Rethink the client relationship model:** The customary relationship between banks and their customers is changing. Customers are looking for more proactive and personalised engagement. Banks need to change their relationship-building strategies by using customer data and relying more on digital channels of contact.

The emergence of new rivals and shifting consumer expectations bring opportunities and difficulties for established banks.

Not only can banks adapt to the competition, but they can also grow in this new financial environment by quickly using new ideas.

### **2-3-5 Importance of Digital Transformation in Banking Industry:**

Banking permeates every aspect of customers' daily lives, whether it's checking balances, making online purchases, or securing loans. Modern customers demand a seamless Omnichannel experience and intuitive service. The proliferation of fintech startups and Neobanks has intensified pressure on traditional banks to either innovate or risk losing market share. *(Digital Transformation in Banking Sector: Benefits, Challenges, Trends & More, 2024)*

### **2-3-6 The goals of the digital transformation of Banks:**

The Driving Force Behind Bank's Digital Revolution are a **Multifaceted Transformation**; The financial landscape is undergoing a seismic shift, driven by a digital transformation sweeping across the banking sector. This transformation isn't a singular pursuit, but rather a multi-pronged approach with several key goals:

- **Convenience at Your Fingertips:** Providing 24/7 access to banking services through mobile apps, online platforms, and AI-powered chatbots. Gone are the days of limited banking hours
- **Effortless Banking:** Streamlining processes for everyday tasks like account management, bill payments, and money transfers, making them faster and more user-friendly.

- Personalized Banking Solutions: Tailoring products and services to individual needs and preferences; Imagine receiving targeted financial advice and recommendations based on your unique circumstances.
- Engaging with Your Finances: Creating a more interactive banking experience through gamification and educational tools. Learn as you manage your money, making financial literacy more accessible.
- Boosting Operational Efficiency:
  - The Power of Automation: Automating repetitive tasks like data entry, loan processing, and customer service inquiries frees up human resources for more complex matters.
  - Streamlined Workflows: Optimizing internal processes to expedite turnaround times and reduce operational costs. This means faster service for you and a more efficient bank overall.
  - Data-Driven Decisions: Harnessing the power of data analytics to gain valuable insights into customer behavior, identify operational bottlenecks, and make informed decisions that benefit both the bank and its customers.
- Securing a Competitive Edge:
  - Innovation as the Key Differentiator: Offering cutting-edge financial products and services like digital wallets, contactless payments, and AI-powered financial planning tools sets innovative banks apart.
  - Embracing Technological Advancements: Staying ahead of the game by adopting emerging technologies like blockchain and artificial intelligence allows banks to provide unparalleled service and security.
  - Retaining and Attracting Customers: Creating a superior customer experience is key to not only retaining existing customers but also attracting new ones, particularly those who value seamless and digital banking solutions.
  - Adapting to Evolving Needs: The digital transformation is also about responding to the changing needs of customers who increasingly expect a frictionless and digital banking experience.

In essence, the digital transformation of banks is about creating a more customer-centric, efficient, and innovative financial services industry. It's a win-win scenario for both banks and their customers, paving the way for a more secure, accessible, and personalized banking experience for the future.

### **2-3-7 The different digital services proposed for Banks:**

#### **➤ Bank Web sites :**

Online banking platforms provide customers with secure access to their bank accounts through a web browser. These websites offer a range of services, including:

Account management: Checking account balances, transferring funds, and paying bills.

Financial transactions: Making online payments, setting up automatic payments, and initiating money transfers.

Customer service: Contacting bank representatives through online chat or email.

Financial tools: Accessing financial calculators, budgeting tools, and investment information.

#### **➤ SMS Banking :**

SMS banking allows customers to perform basic banking transactions using text messages sent to their mobile phones. This convenient service typically enables:

- Account balance inquiries: Checking account balances and recent transactions.
- Bill payments: Making payments for utilities, credit cards, and other recurring bills.
- Money transfers: Transferring funds between linked accounts.
- Account alerts: Receiving notifications about account activity, such as low balances or fraudulent transactions.

#### **➤ Email Banking :**

Email banking provides customers with the ability to manage their finances through email notifications and secure online portals. These services often include:

- Account statements: Receiving electronic statements via email.
- Transaction alerts: Getting notified about account activity, such as deposits, withdrawals, and payments.
- Marketing and promotional offers: Receiving information about new products, services, and special offers.

- Customer support: Communicating with bank representatives through email for assistance or inquiries.

### ➤ **ATMs :**

Automated Teller Machines (ATMs) are self-service kiosks that allow customers to access their bank accounts without visiting a branch. ATMs typically offer a variety of functions, including:

- Cash withdrawals: Dispensing cash from linked accounts.
- Account balance inquiries: Checking account balances and recent transactions.
- Deposits: Depositing cash or checks into linked accounts.
- Transfers: Transferring funds between linked accounts.
- PIN changes: Modifying ATM access PINs.

### ➤ **Debit Cards and Credit Cards:**

Debit and credit cards are plastic payment cards that allow customers to make purchases and access cash from their bank accounts. They differ in how funds are accessed:

- Debit cards: Directly deduct purchases from linked checking accounts.
- Credit cards: Allow borrowing money that must be repaid with interest.

### ➤ **Call Center :**

Bank call centers provide telephone-based customer service for inquiries, transactions, and troubleshooting. Representatives can assist with:

- Account management: Helping with account setup, changes, and inquiries.
- Financial transactions: Processing payments, transfers, and other financial activities.
- Problem resolution: Addressing issues like lost or stolen cards, unauthorized transactions, and account errors.
- Product information: Providing details about bank products, services, and fees.

### ➤ **Digital Branch (L'agence digitale) :**

Digital branches are virtual banking locations accessible through a dedicated website or mobile app. They offer many of the same services as traditional branches, including:

- Account management: Opening new accounts, managing existing accounts, and updating personal information.
- Financial transactions: Making payments, transfers, and loan applications.

- Customer support: Chatting with online representatives or scheduling video banking appointments.
- Financial advice: Receiving personalized financial guidance and investment recommendations.

### ➤ **Mobile Banking Apps:**

Mobile banking apps allow customers to manage their finances on the go using their smartphones or tablets. These apps typically provide:

- Account access: Checking balances, viewing transactions, and transferring funds.
- Bill payments: Scheduling and making payments for bills and utilities.
- Mobile check deposit: Depositing checks using the device's camera.
- ATM locator: Finding nearby ATMs and branch locations.

### **The Interbank Monetary Network (RMI)**

- The Automated Bill Distribution Network (DAB)
- The Electronic Payment Terminal Network (TPE)

## **2-3-8The distinction between traditional banks and digital banks:**

There are actually a number of differences between how a traditional bank and an online bank operate. Considering that the bank is a tool that you use on a daily basis, the following the primary differences between the two types of banks:

### **A) Traditional Bank:**

Traditional banks, with their physical branches and established presence, have long been the cornerstone of the financial landscape. While online banking has gained significant traction, traditional banks continue to offer a distinct set of features and services that appeal to many customers. Let's explore the key characteristics of traditional banking.

- **Fees:** Traditional banks typically have higher fees associated with their services, including monthly account maintenance fees, ATM fees, and transaction fees. These fees can add up over time, especially for those who use banking services frequently.
- **Customer Service:** Traditional banks offer the personalized touch of a dedicated advisor who can provide in-depth financial advice and assistance. However, customer service hours

may be limited to regular business hours, and communication channels are often restricted to phone or email.

- **Operation:** Traditional banking offers both in-person and remote services. Customers can visit physical branches to interact with bank representatives, deposit cash or checks, and handle complex transactions. Additionally, online and mobile banking platforms provide convenient access to account information and basic banking tasks.
- **Welcome Offers:** Traditional banks may offer welcome promotions or incentives to attract new customers. These offers vary by bank and may include lower fees, introductory interest rates, or other perks.
- **Security:** Traditional banks have a long history of safeguarding customer funds and employ robust security measures to protect against fraud and unauthorized access. These measures include physical security at branches, data encryption, and fraud detection systems.
- **Accessibility:** Traditional banking offers physical accessibility through its network of branches, making it convenient for those who prefer face-to-face interactions or need in-person assistance. However, branch hours and locations may not be suitable for everyone's schedule or needs.
- **Additional Considerations:** Traditional banks often provide a broader range of financial services beyond basic banking, such as:
  - **Wealth management:** Investment advice, portfolio management, and retirement planning services.
  - **Insurance:** Property, casualty, life, and health insurance products.
  - **Lending:** Mortgages, home equity loans, auto loans, and personal loans.

### **B) Digital bank:**

- **Affordability:** One of the most attractive aspects of online banking is its cost effectiveness. Many online banks offer low or even non-existent fees compared to traditional banks. This can translate into significant savings over time, especially for those who frequently use banking services.
- **Customer Service:** While online banking doesn't provide the personal touch of a dedicated advisor, it excels in offering extended customer support hours and multiple communication

channels. You can reach customer service representatives via phone, email, chat, or even social media, ensuring you have access to assistance when you need it.

- **Operation:** Online banking operates entirely digitally, eliminating the need to visit physical branches. This flexibility allows you to manage your finances from anywhere, at any time, using a computer or mobile device.
- **Welcome Offers:** To attract new customers, online banks often provide generous welcome offers, including high introductory interest rates or cash-back rewards. These incentives can help you make the most of your switch to online banking.
- **Referral Programs:** Many online banks offer referral programs that reward both you and the friend you refer for opening an account. These programs can provide additional financial benefits and encourage you to share your positive online banking experience with others.
- **Security:** Online banking platforms employ robust security measures to protect your financial information. These measures include encryption, multi-factor authentication, and fraud detection systems, ensuring that your money is safeguarded.
- **Accessibility:** Online banking is highly accessible, available through multiple devices, including computers, smartphones, and tablets. This convenience allows you to manage your finances on the go, fitting seamlessly into your busy lifestyle.
- **Additional Benefits:** In addition to the core features mentioned above, online banking often offers additional benefits, such as:
  - **Mobile check deposit:** Deposit checks directly into your account using your mobile device's camera.
  - **Real-time account monitoring:** Track your account activity and balances in real-time.
  - **Personal finance tools:** Access budgeting tools, financial calculators, and other resources to help you manage your money effectively.

**2-3-9 the difference between: Digital bank; traditional bank and Neobank:**

We will display the following differences in a table: Digital bank; traditional bank and Neobank

***Table 1the difference between the Digital bank; traditional bank and Neobank***

	Traditional bank	Digital bank	Neobank
Physical Branches	Extensive network of physical branches	No physical branches	No physical branches
Services Offered	Wide range of financial services, including checking and savings accounts, loans, wealth management, insurance	Primarily core banking services (accounts, transfers, bill pay) with potential for additional features	Primarily core banking services, often focusing on specific customer segments or innovative features
Underlying System	Established infrastructure, may involve legacy systems	Builds its own digital infrastructure	Relies on partnerships with established banks or fintech companies for core banking functions
Customer Service	Dedicated advisors available in person and through phone/email	Customer service primarily through online channels (chat, email)	Customer service primarily through online channels (chat, email)
Fees	Typically higher fees, including monthly maintenance fees and transaction fees	May have lower fees or fee structures based on usage	Often have low or no fees, focusing on transparency
User Experience	Focus on in-person interactions with online banking as an add-on	User-friendly online and mobile app experience	User-friendly mobile app experience, often prioritizing design and gamification
Innovation	Focus on established products and services	May offer some innovative features but not known for disruption	Often known for innovation and offering new financial products and services

**Source:** developed by us from official data (bank websites)

### 2-3-10 Key Differences Between E-Banking and Digital Banks

Here's a breakdown of the key distinctions:

#### **A) E-Banking:**

- **Definition:** E-banking, also known as online banking, allows customers to access and manage their traditional bank accounts remotely through web platforms or mobile apps. (Investopedia)
- **Functionality:** E-banking typically offers core banking services like account information access, fund transfers, bill payments, and sometimes mobile check deposits.
- **Underlying System:** E-banking operates as an extension of existing brick-and-mortar banks. It utilizes the bank's infrastructure and adapts traditional services to an online environment.
- **User Experience:** E-banking platforms may mirror the look and feel of the bank's physical branch website, prioritizing functionality over a cutting-edge design.
- **Innovation:** E-banking focuses on improving existing services through online accessibility. It may offer some new features but doesn't typically disrupt the core banking model.

#### **B) Digital Banks:**

- **Definition:** Digital banks are entirely online financial institutions that operate without physical branches. They offer a complete digital experience for managing finances.
- **Functionality:** Digital banks can offer a wider range of services than e-banking, including checking and savings accounts, loans, investment products, budgeting tools, international transfers, and more. They may integrate with other financial services like bill pay and peer-to-peer payments.
- **Underlying System:** Digital banks build their own infrastructure and technology from the ground up, focusing on a digital-first approach. They are not limited by the legacy systems of traditional banks.
- **User Experience:** Digital banks prioritize a user-friendly and intuitive mobile app experience. They often emphasize a sleek design, gamification elements, and real-time financial insights.
- **Innovation:** Digital banks are known for their innovative approach. They leverage technology to offer new features and services that may not be available through traditional banks, constantly evolving and adapting to customer needs

### **2-3-11 Instances of internationally operationally successful digital bank models:**

As an addition to support our research; here are some examples of successful digital bank models operating globally, each with their own unique approach:

- Nubank (Brazil): Known for its focus on mobile-first design and innovation. Nubank offers a wide range of financial products and services, including checking and savings accounts, credit cards, personal loans, and investment products. They have a strong emphasis on user experience and financial education.
- Chime (USA): This digital bank targets the underbanked and millennials. Chime offers fee-free banking with features like early access to direct deposits and mobile check deposits. They focus on transparency and building trust with a customer segment that may have had negative experiences with traditional banks.
- N26 (Germany): A Pan-European digital bank known for its sleek design and focus on international banking capabilities. N26 offers multiple currency accounts, free international money transfers, and integrated budgeting tools. They cater to a tech-savvy customer base who travel frequently.
- Revolut (UK): This challenger bank is known for its low-cost international money transfers and multi-currency accounts. Revolut offers a variety of financial products, including debit cards, currency exchange, stock trading, and cryptocurrency services. They appeal to a global audience with their focus on borderless finance.
- Ally Bank (USA): This established online bank, originally a subsidiary of a traditional bank, has become a leader in the digital banking space. Ally offers competitive interest rates on savings accounts, a user-friendly online platform, and a 24/7 customer service hotline. They provide a strong alternative to traditional banks with a focus on online convenience and competitive rates.

The digital banking landscape in the Middle East is still evolving, but there are some successful models emerging in the region:

- Liv. by Emirates NBD (UAE): This digital bank, launched by a traditional bank (Emirates NBD), offers a fully digital experience with a focus on millennials and Gen

Z. Liv. boasts a user-friendly mobile app with features like instant account opening, gamified financial management tools, and personalized spending insights.

- Mashreq Neo (UAE): Another digital bank from a well-established institution (Mashreq Bank). Mashreq Neo focuses on convenience and speed, offering quick account opening, instant transfers, and a variety of financial management tools within their mobile app. They target a broad audience seeking a seamless banking experience.
- Saudi British Bank (SABB) – mobile app (Saudi Arabia): While not a fully digital bank, SABB has a highly successful mobile app that offers a wide range of functionalities. Customers can manage accounts, make payments, invest, and access customer service entirely through the app. This demonstrates the success of strong digital offerings within traditional banks in the region.
- Yaqeen Capital (Saudi Arabia): This is a Sharia-compliant digital investment platform offering a unique model in the Middle East. Yaqeen allows users to invest in a variety of Sharia-compliant financial instruments through their mobile app, catering to a specific segment of the market.
- Stc pay (Bahrain): This digital wallet solution from a telecom operator (stc Bahrain) allows users to make payments, send and receive money, and access basic financial services. It's a good example of how non-traditional financial institutions are getting involved in the digital banking space.

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## **Chapter 02**

**the methodological framework and the  
organizational Context**

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In this chapter, we will delve into the methodological approach employed for conducting our study, encompassing the instruments utilized for gathering and analyzing the collected information. However, before delving into the chapter's content, we will first establish a clear understanding of research methodology and the specific methodological framework that guided our research endeavor.

Research methodology is an essential element of any rigorous research. It provides a solid framework for the collection, analysis, and interpretation of data, thus contributing to the credibility and value of the research findings (*Mixed methods research*, 2007).

### **Section 01: The methodological framework**

This section explains the technique and research design that were used to conduct the study, along with the reasons for the selection of a particular research design. Additionally, the type of study data, data gathering methods, and instruments are highlighted in this part. Finally, appropriate data analysis methodologies are explained.

#### **1- Research approach:**

The constructivist epistemological perspective used in this study is consistent with the qualitative research methodology. According to constructivism, experiences and interactions between people within social contexts build knowledge. By using this method, researchers hope to get insight into the individualised meanings and interpretations that people give to their experiences and the phenomena they are studying.

A flexible and participatory research strategy, comprising methods like focus groups, questionnaires, and interviews, is the foundation of qualitative research. Semi-structured interviews and document analysis were the main techniques used in this study to obtain data.

#### **2- The reason of choosing the qualitative method in our research:**

There are several compelling reasons why a qualitative research method might be the most suitable choice for your study focused on the electronics and digital management department.

- **Understanding Experiences and Perceptions:** Qualitative methods excel at uncovering the lived experiences and perceptions of employees within the department. Interviews, for instance, would allow you to explore how employees feel about work processes, challenges, and technological implementations. Numbers can't capture these rich narratives.

- **Exploring Complexities:** The world of electronics and digital management is likely full of complexities and nuances. Qualitative methods allow you to delve deeper into these complexities, uncover underlying meanings, and explore the "why" behind employee behaviors or decisions.
- **Generating New Insights:** Qualitative research is particularly valuable in uncovering new and unexpected themes that may not be readily apparent through quantitative data. In-depth interviews can lead to surprising discoveries and generate new research questions for future exploration.
- **Understanding Context:** Quantitative methods often focus on isolated variables. Qualitative methods, on the other hand, allow you to understand the context in which things happen. Interviews and focus groups can reveal the broader organizational culture, team dynamics, and communication patterns that influence employee experiences in the department.  
  
By choosing a qualitative method, you gain a deeper understanding of the human element within the electronics and digital management department, providing richer insights than just numbers alone.

### **3- Data collection tools:**

In this research, data was collected from secondary sources which include official journals, reports and existing documents in the monetic and digital direction; also interviews, diaries, review of testimonies.

#### **a) Documentary sources:**

As far as our research work is concerned, we have touched on several sources (books, review articles, theses, websites, other documents at the internship level) to obtain information that will be useful to us in this study.

#### **b) Observation:**

"In addition to [Documentary sources], [observation] proved to be invaluable throughout our time at the organization. It allowed us to collect a substantial amount of data and analyse it.

c) **The interviews:**

Interviews are a powerful research tool that delve deeper than surface-level statistics. Unlike quantitative methods that focus on numbers, interviews unveil the "why" behind the "what". They allow researchers to explore the rich tapestry of human experience by gathering rich, qualitative data. This data isn't confined to numerical responses, but rather unlocks the world of concepts, thoughts, and personal stories.

The interview questions were open-ended and semi-structured to allow the interviewees to provide responses and thoughts using their own words. The selection of the questions was aimed at findings answers to the research questions.

**4- Selection of interviewees and the structure of the interview guides:**

The questions were chosen according to the above problem and in order to give elements of an answer to our problem.

The main purpose of the first interview with the senior manager is to obtain information on the strategy, the roadmap, the state of play or the progress made and the prospects.

As for the second interview addressed to Department Head, it is mainly oriented towards technical achievements, procedures, processes and statistics.

**Table 2: Summary overview of the general interview outline**

<b>phase</b>	<b>Objet</b>	<b>People concerned</b>
<b>The first part</b>	Piloting, strategie, obstacles, constraints, and perspectives	The first responsable of the structure
<b>The second part</b>	Techniques, procedures, and processes realized; figures	The Department Head of Digital

**Source: Prepared by our treatment**

Each interview lasted around tow (2) hours and was conducted in French. I meticulously recorded the process using handwritten notes, which I subsequently meticulously expanded upon in English. The format of the interview was as follows:

❖ **Introduction:**

✓ Greeting:

Introducing myself (the interviewer) to the Director.

- Explaining to the Director that I am doing a project of final thesis of e-banking in Algeria reality and perspective and can the reality of e-banking in Algeria lead to a full digital bank
- Ask the interviewee to read the manifesto carefully before the interview.

✓ Confidentiality:

All information collected during the course of this project will only use for research purposes.

✓ Study identifier:

I will not use your name or any other identifying information and everything that you say will only use for research purposes.

❖ **Themes:**

for the Themes it split into two level

**Level 1:**

- 1- The importance: For CNEP bank, does digitalization fall within a strategic choice of the bank, or is it part of a global (national) strategy?
- 2- We have noticed that substantial work is being done. What is the status of the implementation of the different realizations?
- 3- Does this colossal work comply with an appropriate and specific legal and regulatory framework?
- 4- What approach is followed in this digitalization process at your prestigious institution?
- 5- Are there any particular constraints hindering the commendable efforts made in this context?
- 6- Is the business environment suitable for this large-scale operation?
- 7- Are you satisfied with the work already accomplished in this context, and what are the main short-term prospects?

**Level 2:**

- 1- How is the work organized (procedures, processes, motivations behind the choice of different products, target audience...)?
- 2- What are the achievements? Can you provide some figures?
- 3- Are there any obstacles to the progress of things in this area?
- 4- Could this human resources situation lead to some resistance to change?
- 5- What is the general level of customer satisfaction?
- 6- Do you have a schedule or timeline (dates line) showing and determining the evolution of the technical digitalization process?

**5- Population and Sampling:**

This study focuses on a specific population of sixteen (16) employees working within the electronics and digital management department.

and by choosing The exact sample which will serve as the physical basis for the interview in our case, we will target the senior manager and the department head, Sample size estimated by two (2) High-level Executive.

**Section 02: the organizational Context**

**First: Presentation of CNEP BANK**

We will first go over a brief introduction to the bank and then talk about getting to know the bank's Digitalization and Monetics Directorates.

CNEP bank:

Established in 1964, the CNEP's objective was to collect unemployment benefits on the basis of the Caisse de Solidarité des Departments et des Communes d'Algérie (CSDCA) network. In 1997, she becomes a CNEP-Banque.

The CNEP-Banque continues to preserve this expertise. Additionally, she aims to finance real estate loans to individuals, real estate advertising, financing businesses (lease, roulement

funds, etc.), and services related to the housing industry (study bureaus, property maintenance companies, etc.).

The CNEP-Banque has a network made up of 223 offices spread around the country. Additionally, the CNEP-Banque is present at the postal network level for household exchanges.

## **Second: Presentation of the Digital Directorate**

### **1) Reporting**

The Digital Directorate, abbreviated as "D.DIG", reports hierarchically and functionally to the Monetics and Digital Division "DIV/MD".

### **2) Missions of the directorate of the Digital:**

The head of "D.DIG" has the following main missions:

- Lead the bank's transition to digital banking and ensure its development;
- Participate in the development of the digital strategy;
- Implement the digital strategy through periodic action plans;
- Develop, manage and monitor remote banking channels, including e-banking, m-banking and SMS-banking;
- Conduct regular digital monitoring;
- Stimulate innovation;
- Carry out and monitor digitalization and remote banking projects;
- Ensure functional administration of the various digital service solutions;
- Provide the bank's customers with remote banking assistance and support services;
- Manage the Directorate's budget;
- Within the framework of current regulations, proceed with the acquisition and maintenance of assets falling within its area of competence;
- Prepare the Directorate's periodic activity reports.

### **3) Organization:**

"D.DIG" is structured as follows:

- The Digital Development and Innovation Department "D.D.I. D".
- The Digital Services Operations Department "D.E.S. D".
- The Monetics Customer Relationship Management Center Department "C.R.C.M".

### **4) Department Missions:**

#### ➤ Digital Development and Innovation Department "D.D.I. D"

The main missions of the Head of the Digital Development and Innovation Department are:

- Develop remote banking activities in line with the digital strategy.
- Design and initiate, in collaboration with competent structures, new remote channels and digital services.
- Ensure the implementation and monitoring of digital and remote banking projects.
- Handle incidents and recommendations for improvements reported by the Digital Services Operations Department.
- Conduct national benchmarking studies.
- Conduct regular national and international technology monitoring.
- Stimulate innovation and new technologies in the digital field.
- Prepare the Department's periodic activity reports.

#### ➤ Digital Services Operations Department "D.E.S. D"

The main missions of the Head of the Digital Services Operations Department are:

- Manage and monitor remote banking channels.
- Ensure functional management of the various remote banking solutions.

-Ensure proper understanding of requests from customers and branches and forward them to "D.D.I. D" for handling.

-Monitor the daily activity of the various services.

-Handle requests and complaints from customers through branches, "C.R.C.M", bank structures and external organizations.

-Assist branches and customers in using the various remote services.

-Prepare the Department's periodic activity reports.

➤ **Monetics Customer Relationship Management Center Department "C.R.C.M"**

The main missions of the Head of the Monetics Customer Relationship Management Center Department are:

-Handle customer complaints received through the call center.

-Prioritize handling customer complaints requiring first-level processing.

-Transfer complaints received at the call center to the relevant services for processing.

-Inform customers contacting "C.R.C.M" about the bank's new products and services.

-Promote the bank's new products and services through outbound calls.

-Establish daily reporting of complaints handled by "C.R.C.M".

-Prepare the Department's periodic activity reports.

### **Third: Presentation of Monetics and Payment Means Directorate**

#### **1) Reporting**

The Monetics and Payment Means Directorate, abbreviated as "D.M.M. P", reports hierarchically and functionally to the Monetics and Digital Division "DIV MD".

#### **2) Missions The Monetics and Payment Means Directorate:**

The main missions of the head of "D.M.M. P" are:

-Ensure the development of monetics and payment means activities;

- Initiate, develop and steer projects related to monetics and payment means;
- Ensure the application of interbank standards for monetics and payment means processing by branches and relevant central structures;
- Assist branch users in the field of monetics and payment means;
- Handle the "Acquisition" aspect by managing points of acceptance such as ATMs, bank teller machines, electronic payment terminals and virtual payment terminals;
- Handle the "Issuance" aspect through card issuance activities regardless of their intended functionalities;
- Within the framework of current regulations, proceed with the acquisition and maintenance of assets falling within its area of competence;
- Ensure the maintenance and proper functioning of the network of devices (ATMs, teller machines, payment terminals and other card acceptance systems) in collaboration with branches and service providers;
- Participate, in collaboration with relevant structures, in covering risks related to monetics and payment means operations, particularly regarding authorizations, processing anomalies, objections, disputes, claims and fraud;
- Report fraud cases to the relevant bank structures and authorized external organizations;
- Monitor customer complaints related to monetics and payment means;
- Manage the Directorate's budget;
- Ensure compliance with specific procedures defined by the Monetics Economic Interest Group "GIE Monétique" regarding the organization and processing of this function;
- Represent the bank at interbank meetings in the field of monetics and payment means;
- Prepare the Directorate's periodic activity reports;

### **3) Organization**

"D.M.M. P" is structured as follows:

- The Monetics Back Office Department "D.B.O.M".
- Monetics Processing Service.
- Fraud and Monetics Claims Processing Service.
- The Monetics Front Office Department "D.F.O.M".
- Withdrawal Acceptance Point Management and Monitoring Service.
- Payment Acceptance Point Management and Monitoring Service.
- The Scriptural Payment Means Department "D.M.P. S".
- Operations and Branch Assistance Service.
- Payment Means Claims Processing Service.

#### **4) Department missions:**

##### **❖ Monetics Back Office Department "D.B.O.M"**

The main missions of the Head of the Monetics Back Office Department are:

- Manage and monitor the different cards throughout their life cycle, particularly in the ordering, issuance, renewal and usage phases.
- Design new monetics products and services in collaboration with competent structures.
- Ensure functional management of the Monetics solution.
- Assist branch users in the field of monetics.
- Monitor regulatory developments in the field of monetics.
- Monitor interbank exchanges related to monetics, particularly the processing of monetics disputes within the framework of intra and interbank procedures.
- Ensure the proper functioning of the card management process which consists of:
  - Identifying needs in terms of monetics equipment and media;

- Managing cards from ordering to delivery to the customer for initial orders, renewals, replacements in case of loss or theft, PIN reissues or parameter modifications;

-Prepare the Department's periodic activity reports.

➤ Missions of the Fraud and Monetics Claims Processing Service:

The main missions of the Head of the Fraud and Monetics Claims Processing Service are:

-Process monetics claims from the bank's customers.

-Process interbank monetics claims in both issuance and acquisition.

-Ensure rigorous and ongoing monitoring of monetics fraud alerts.

-Ensure compliance with monetics fraud management rules established by "GIE-Monétique".

-Prepare periodic reports on the processing of monetics claims and disputes.

-Prepare periodic monetics fraud reports.

➤ Missions of the Monetics Front Office Department "D.F.O.M":

The main missions of the Head of the Monetics Front Office Department are:

-Ensure the implementation of the deployment and installation plan for ATMs, teller machines, payment terminals and any other bank card or electronic payment acceptance system;

-Monitor and supervise bank card acceptance points and ensure that ATMs, teller machines, payment terminals and web merchants are kept operational;

-Ensure the proper functioning of automated and digital spaces;

-Ensure the proper functioning of ATM, teller machine and payment terminal supervision solutions;

-Determine functional needs for the acquisition of bank card acceptance systems, including ATMs, teller machines, payment terminals and monetics media;

-Update management and functional control rules for monetics products and services as well as bank card acceptance systems for ATMs, teller machines, payment terminals and web merchants;

-Prepare the Department's periodic activity reports.

❖ Missions of Services under "D.F.O.M":

➤ Missions of the Withdrawal Acceptance Point Management and Monitoring Service:

The main missions of the Head of the Withdrawal Acceptance Point Management and Monitoring Service are:

-Monitor the installation of ATMs and teller machines by service providers.

-Monitor and supervise the operation of ATMs and teller machines.

-Ensure functional management of ATM and teller machine supervision solutions.

-Report out-of-service ATMs and teller machines to service providers and ensure they are put back into operation.

-Assist branches in the management of ATMs and teller machines.

➤ Missions of the Payment Acceptance Point Management and Monitoring Service:

The main missions of the Head of the Payment Acceptance Point Management and Monitoring Service are:

-Monitor, in collaboration with the Commercial Directorate, the commercialization of payment terminals and web merchants.

-Monitor the installation of payment terminals carried out by service providers.

-Supervise and monitor the operation of payment terminals.

-Ensure the functional management of payment terminal supervision solutions.

-Report out-of-service payment terminals to service providers and ensure they are put back into operation.

-Monitor the integration of web merchants into the interbank payment platform.

-Assist branches in the management of payment terminals and web merchants.

❖ Missions of the Scriptural Payment Means Department "D.M.P. S":

The main missions of the Head of the Scriptural Payment Means Department are:

- Manage and monitor the use of scriptural payment means.
- Provide functional assistance to all users operating on the tele-compensation system, particularly in case of processing anomalies and bilateral exchanges with local banks in accordance with interbank regulatory provisions.
- Ensure functional management of the tele-compensation solution.
- Monitor and ensure the application of interbank standards for mass payment instrument processing by all branches and relevant central structures.
- Ensure compliance with specific procedures established by the Interbank Pre-Compensation Center "CPI" regarding the organization and processing of tele-compensation.
- Ensure the updating of the bank and branch directory on the mass payment system.
- Handle payment means claims submitted by branches, relevant bank structures, as well as external institutions and organizations.
- Monitor checkbook orders.
- Participate, in collaboration with relevant structures, in covering risks related to payment means.
- Prepare the Department's periodic activity reports.

➤ Missions of the Operations and Branch Assistance Service:

The main missions of the Head of the Operations and Branch Assistance Service are:

- Monitor the use of scriptural payment means, namely checks, wire transfers, direct debits and trade bills.
- Ensure functional management of the tele-compensation solution.
- Assist branch users in the management of payment means and the use of the tele-compensation solution.

-Monitor checkbook orders from the bank's customers.

-Update the bank and branch directory at the tele-compensation system level

➤ Missions of the Payment Means Claims Processing Service:

The main missions of the Head of the Payment Means Claims Processing Service are:

-Process intra-bank claims related to payment means.

-Process interbank claims related to payment means in both directions (outgoing and incoming compensation), and monitor their transmission to the relevant bank.

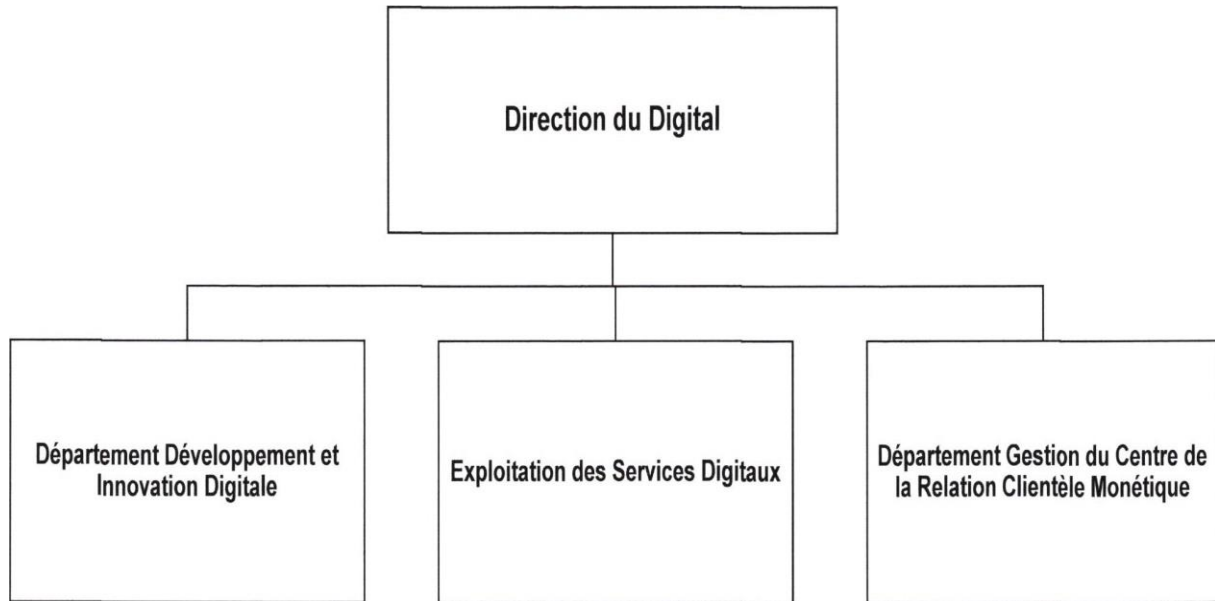
-Collect from branches, central structures and the Interbank Pre-Compensation Center "CPI" the necessary information for processing claims.

-Order the regularization of transactions after processing.

-Establish periodic reports on the processing of claims related to payment means

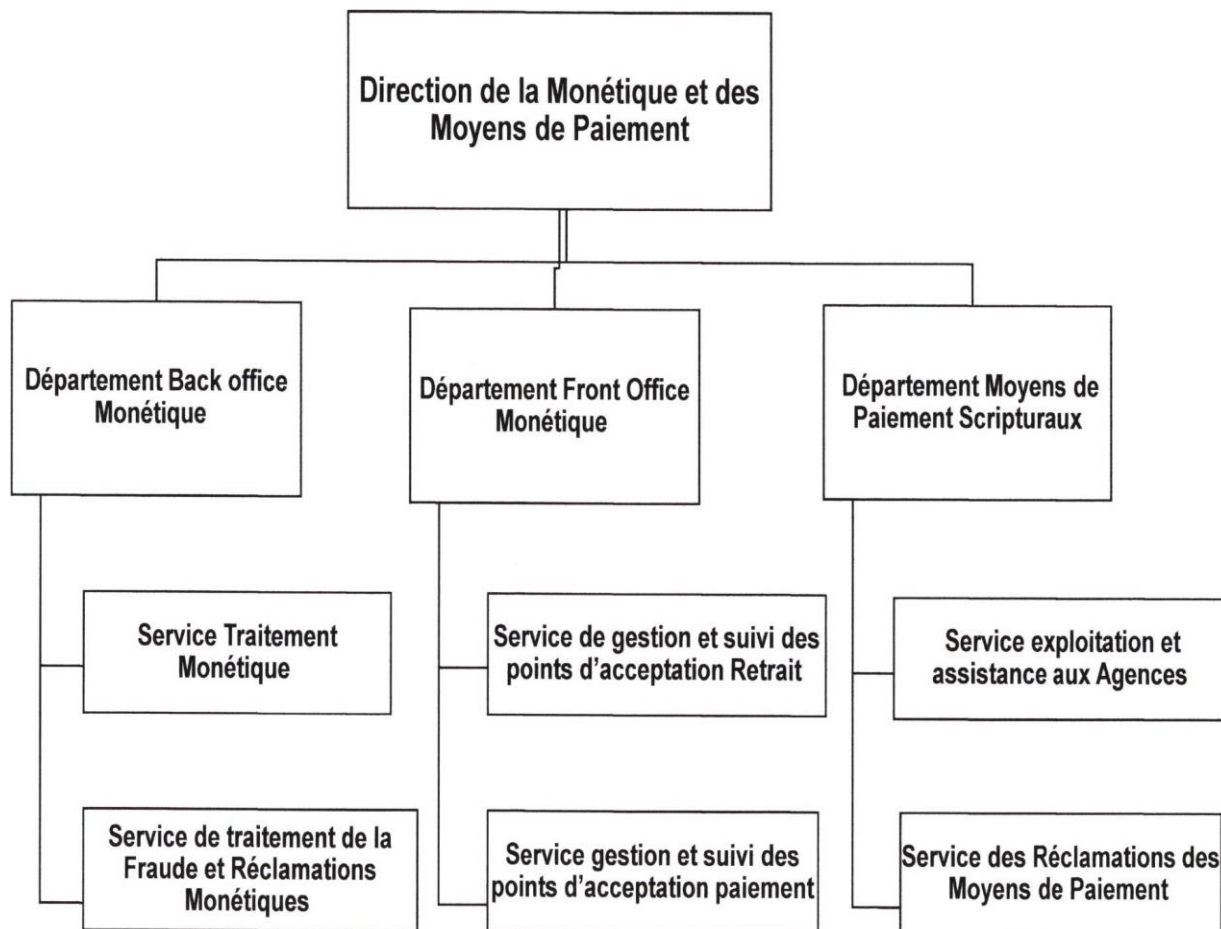
-Process claims related to checkbook orders.

**Figure 5** *The organisational chart of The Monetics and Payment Means Directorate:*



**Source : Direction du digital-CNEP Banque**

**Figure 6: The organisational chart of The Monetics and Payment Means Directorate:**



Source : Direction du Digital-CNEP Banque

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*Chapter 03*

*Results and discussion*

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The obtained results, conclusions, or deductions are covered in this fourth and final chapter. It is intended that these talks will go on as appropriate and confirm the accuracy of the findings based on the documentary sources that are now available at the Directorate of CNEP.

Ultimately, we provide a response to the study questions along with a few observations and suggestions.

### **Section 01: Results**

Like other banks, CNEP-banque has embarked on a modernization process by introducing digitalization in management, in addition to other information and communication technology (ICT) tools, at a relatively rapid pace.

This willingness has been expressed by the launch of major projects in this field, through the creation of steering and technical structures, and the mobilization of significant human and material resources. However, these efforts are faced with realities that must be taken seriously and considered as constraints to be managed or barriers to be removed.

The main results of this qualitative study can be summarized through two main axes as follows:

The first presents the results obtained from the interviews conducted with the aforementioned managers, while the second axis refers to the results obtained from the previously mentioned documentary sources.

#### **1-Results from interviews:**

##### **Level 1**

- The importance: For CNEP banque, does digitalization fall within a strategic choice of the bank, or is it part of a global (national) strategy?

Digitalization is part of a strategic choice for both our bank and a global or national vision. Modernizing services is imperative to meet customer expectations and maintain, or even improve, the competitiveness of our bank. But this digital transformation is also part of the government's objectives to develop financial and banking inclusion on a national scale.

- We have noticed that substantial work is being done. What is the status of the implementation of the different realizations?

CNEP-banque quickly embraced this new direction, which clearly explains the progress made so far. As for the implementation of the different solutions or products, this follows a logic of graduality and transition, but above all an internal implementation phase first, to ensure good performance prior to external implementation.

- Does this colossal work comply with an appropriate and specific legal and regulatory framework?

Of course, this large-scale project falls within a strict legal and regulatory framework, under the supervision of the national banking and monetary authorities. We ensure compliance with all standards in force regarding security, data protection, and anti-money laundering efforts. We can cite, for example, (Law 18-07 on the protection of individuals in the processing of personal data which came into force on August 10, 2023), as well as Law No. 05-01 of February 6, 2005, amended and supplemented by Law No. 23-01 of February 7, 2023, on the prevention and fight against money laundering and terrorist financing, etc.

It should be added that texts are intervening and will intervene as the digitalization operation evolves on a national scale. We are, therefore, facing a flexible and dynamic legal environment or one in the finalization phase.

- What approach is followed in this digitalization at your prestigious institution?

Our approach is based on a detailed action plan with successive phases. We first strengthened our technical infrastructures and integrated a new core banking system. We are then progressively deploying the various digital services for individuals and businesses, starting with mobile banking. In parallel, we are training our teams and adapting our internal processes, as mentioned.

- Are there any particular constraints hindering the commendable efforts made in this context?

The main constraints are, first of all, technological, with digital infrastructures still limited in some regions, and also human, with a real need to support our staff and customers towards these new uses.

It is worth adding that the legal basis remains a prerequisite and thus a major constraint to the progress of things. We can cite, for example, the issue of electronic signature which is an issue

that goes beyond the will of the bank. It is a common concern that concerns all actors and stakeholders.

- Is the business environment suitable for this large-scale operation?

Overall, the business environment is conducive, with strong demand from the population for this type of innovative service. But this remains insufficient for the moment. We estimate that with the acceleration of implementation crowned by an adequate and determined legal basis, the need will improve further, habits will change and the integration of all parties in this process will eventually take place progressively until reaching an appreciable level of satisfaction for all parties.

- Are you satisfied with the work already accomplished in this context, and what are the main short-term prospects?

We are satisfied with the progress made, while remaining aware of the road ahead. In the short term, our priorities are the launch of our mobile application for individuals, the deployment of e-banking for professionals, as well as the dematerialization of several key processes.

## **Level 2**

- How is the work organized (procedures, processes, motivations behind the choice of different products, target audience...)?

Regarding the organization of work and progress in our digitalization strategy, we consider it opportune to emphasize the following:

- The organization is based on a dedicated project team that coordinates the efforts of the various Departments (digital, IT, marketing, branch networks, etc.). We have mapped all the key processes to be digitized and set up well-defined procedures to ensure a harmonized deployment.

- The choice of digital products and services is guided by careful listening to the needs of our different customer segments. For individuals, we first target the most popular mobile and online services (transfers, account inquiries, loan simulations). For professionals and businesses, we prioritize the digitization of day-to-day operations and remote banking.

- What are the achievements? Can you provide some figures?

In figures, we currently have more than 250,000 customers registered on our recently launched mobile banking services. Our new e-banking platform for businesses already has nearly 5,000 active users. And more than 80% of our lending processes are now dematerialized in the back-office.

- Are there any obstacles to the progress of things in this area?

The main obstacles or challenges are deployment in poorly connected areas. Added to this is the training of employees and support for customers who are less comfortable with digital.

- We have humbly noted the commendable efforts made in the implementation framework, particularly internally, where you emphasize training. Could this human resources situation lead to some resistance to change?

The success of any organization or work relies on training, especially during transition phases to a new situation. Our bank is no exception to this golden rule of continuous training, improvement and retraining of executives and technicians. If this aspect is neglected, it could lead to or generate resistance to change, but this is not the case for our bank.

- What is the general level of customer satisfaction?

According to our latest survey, nearly 75% of customers say they are satisfied with our new digital services. But we aim to do even better by continuously expanding our offering. It should be noted that with regard to this survey, the 25% of our customers who did not respond did not express any dissatisfaction either.

- Do you have a schedule or timeline showing and determining the evolution of the technical digitalization process?

Our main short-term deadlines are the launch of the online account opening functionality by the end of 2024, as well as the integration of digital lending modules for businesses and individuals by mid-2025.

**2- the documentary results:**

Following an examination of the CNEP Bank's submitted documents, a series of findings were discovered, and they are as follows:

**First: the strategy**

Regarding the way taken to create the digital bank, the CNEP Bank stood out as having the best plan. It is divided into internal and external components and follows its own strategy; this demonstrates the Bank's strength.

**CNEP bank strategy:**

A strategic plan for the bank 2023–2025 has been implemented by CNEP-Banque, which prioritises digital and views it as a strategic domain of activity (DAS).

In the same context, the bank's general direction will review the organisation of the bank and create a division made up of two directions that is solely focused on marketing and digital.

In order to implement this strategic plan, a digital strategy has been established using a route map made up of multiple actions divided into two main axes, namely:

The internal axe aims to digitise and optimise the bank's internal job processes.

The external account's customer-focused approach aims to provide customers with a wide range of digital services, enabling them to enjoy a new banking experience with greater autonomy and accessibility at all times.

The bank's digital strategy has enabled the following acts to stand out:

Here is a paragraph rewritten in English for the "Internal" section:

**For the internal axis**, the initiatives include integrating all aspects of the bank on the T24 CORE Banking system; implementing reporting, business intelligence (BI and RPA) solutions; establishing business workflows; implementing business electronic document management systems (GED); setting up a human resources information system (HRIS); implementing a procurement and inventory management system; establishing a management control information system; implementing asset-liability management (ALM) solutions; and implementing anti-money laundering (AML) measures.

**For the external axis**, the initiatives include implementing e-banking, mobile banking, and SMS banking services; establishing a call center; setting up the CNEP-Market platform; digitizing banking operations; implementing workflows with partners; setting up a toll-free

number; establishing an FAQ system; integrating and managing complaints and grievances on the web and mobile platforms; enabling online account opening; facilitating online account pre-opening; enabling online financing requests; providing online credit simulations; and implementing electronic Know Your Customer (e-KYC) processes.

**Second: The realizations**

- ❖ **Mobile Banking:** Owing to the fact that the mobile channel is the most popular in Algeria, with a penetration rate of 100%, CNEP-Banque launched the mobile application with the aim of making its services available to all customers via a different channel, namely the WEB channel.

The mobile application enables access to all of the e-banking services available with a single client subscription.

- ❖ **SMS Banking:** The following SMS are available to customers:

- Transactional SMS (guichet, virement, and money transfer operations)
- Authentication SMS (CNEP-Connect; online payment)
- SMS for news and publicity.

These remote banking services are offered to customers via many channels (web, mobile, and SMS) under the business name CNEP-CONNECT.

- ❖ **Website Institutional:** A global revamp of the bank's institutional website for the year 2023 that has easy-to-use navigation, a customer discussion area, and dynamic product and service presentations. Additionally, the website offers access to the bank's many platforms, including CNEP-Market, online banking, remote banking, credit simulation, and travel insurance.

- ❖ **Credit simulations online:** The online simulation of the entire range of credits offered to individuals by the bank is a service that may be accessed through institutional websites, e-banking, and mobile banking.

- ❖ **CNEP - Market:** Website designed to sell homes completed within the framework of the Promotion Immobilière Directe (PID) to clients of the CNEP-Banque.

- ❖ **Pre-opening an online account:** This service enables the appointment of an account opening for individuals, professionals, and businesses of all stripes, following the completion of all online forms (eKYC).
- ❖ **Online financing request:** This service allows you to schedule a time to deposit a credit dossier for individuals, professionals, or businesses of any kind after completing a simulation and reading through all of the online forms.
- ❖ **E-banking:** Developed internally, e-banking was first introduced at the CNEP-Banque level in 2004 and allows for the consultation of D-1 account soldes.

A new Web solution was implemented in 2018 that allows for instantaneous interface with the SI. In terms of functionality, this system saw updates in 2022 and 2023. She makes the following services possible:

- Using real-time data to review historical accounts and warriors;
- Managing cards and consulting card operations in real-time;
- prompt assistance regarding credit;
- Instant transfers;
- Instant transfers with multiple bits executed in EDI format.

Credit simulation, geolocation of agencies, advertising, and password alteration are some of the uses.

**Table 3 Statistics of e-banking**

<i>pack /year</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>
<i>ENT+</i>	<i>0</i>	<i>0</i>	<i>4</i>	<i>15</i>	<i>44</i>
<i>PRF+</i>	<i>0</i>	<i>11</i>	<i>27</i>	<i>55</i>	<i>116</i>
<i>PERS</i>	<i>0</i>	<i>2382</i>	<i>3115</i>	<i>4263</i>	<i>5438</i>
<i>PART</i>	<i>0</i>	<i>19935</i>	<i>63574</i>	<i>176738</i>	<i>329405</i>
<i>ENTS</i>	<i>0</i>	<i>184</i>	<i>432</i>	<i>887</i>	<i>1561</i>
<i>PRT+</i>	<i>0</i>	<i>894</i>	<i>2320</i>	<i>5131</i>	<i>10354</i>
<i>PROF</i>	<i>0</i>	<i>1044</i>	<i>2193</i>	<i>4368</i>	<i>7720</i>
<i>Total</i>	<i>0</i>	<i>24450</i>	<i>71665</i>	<i>191457</i>	<i>354638</i>

**Source : Direction du Digital**

❖ Automated Teller Machines (ATMs)

**Table 4** *Statistics of Automated Teller Machines (ATMs)*

	2019	2020	2021	2022	2023
Zone Urbaine	143	144	147	150	154
Zone Rurale	5	5	5	5	5
Total	148	149	152	155	159

Source : Direction du Digital

❖ Automated Cash Dispensers (ACDs)

**Table 5** *Statistics of Automated Cash Dispensers (ACDs)*

	2019	2020	2021	2022	2023
Zone Urbaine	1	11	22	26	30
Zone Rurale	/	/	/	/	/
Total	1	11	22	26	30

Source : Direction du Digital

❖ CIB and CE Cards (Debit/Credit Cards)

**Table 6** *Statistics of CIB and CE Cards (Debit/Credit Cards)*

	2019	2020	2021	2022	2023
CIB	11787	13642	16209	38424	50727
CIB Islamique	/	/	2535	2901	8823
CE	1169140	/	100451	102586	101944

Source : Direction du Digital

❖ **Electronic Payment Terminales (EPTs)**

**Table 7: Statistics of Electronic Payment Terminals (EPTs)**

	2019	2020	2021	2022	2023
TPE	90	270	731	978	126

Source : Direction du Digital

Since the introduction of the MARHABA bundle (acounte+card+CNEP-Connect), there has been a significant change in the number of people signing up for online banking services.

- ✓ Enrollment as of March 31, 2024: 365 282, 5% growth over three months
- ✓ Transaction During the first quarter of 2024:

**Table 8: E-payement statistics**

Transaction	Balance transfers	Interbank transactions.	Interbank transactions
Total	1322	2746	2320

Source : Direction du Digital

During the first quarter of 2024, the banc saw the following changes:

- ✓ Conventional CIB card 17453 for a total parc of 165 911
- ✓ Epargne Cards 21 713 for a total parc of 1 497 124;
- ✓ Islamic Cards 3990 for a total parc of 15 896.
- ✓ 198 TPE installed for a total of 3466 parcs
- ✓ 04 DAB installed for a total of 191 DAB/GAB in the parc
- ✓ Automatically opening the second spot to reach 25 places
- ✓ 02 Operational Web Merchants

**Section 02: Discussion of the results and Hypothesis Verification**

The discussion section should include:

The justification of the results obtained, in other words (what do these results mean?)

As well as their comparison with those of other researchers cited in the literature review. this discussion also remains an appropriate framework to properly verify the hypotheses.

**Sub-questions:**

**- Is there a real beginning of digitalization at the level of Algerian banks?**

According to what we have seen and confirmed at the practical internship level, there is indeed a beginning of digitalization of banking services in Algeria, even if the movement remains timid compared to other countries. Most major banks currently offer basic mobile banking and e-banking services. However, adoption by customers remains limited. This lack of enthusiasm from customers highlights the need to conduct a broad awareness campaign, even training, by mobilizing all stakeholders and key players: Government, parliament, civil society, texts...

**- What is the process being followed in this digitalization?**

The approach followed seems quite pragmatic, starting with the establishment of robust technical infrastructures (core banking, networks, security) before gradually deploying digital services, first for the simplest operations. Customer support and team training are also prerequisites, as confirmed by certain studies. An additional effort in this direction remains inevitable to ensure the healthy evolution of the operation.

**- There are certain obstacles that oppose the costly efforts made in this framework?**

The main constraints are infrastructural (networks, equipment), regulatory (legal framework to be perfected), and cultural (resistance to change from customers and staff). The lack of digital expertise in banks can also slow down projects. The cost of investments also represents a significant challenge.

Moreover, the main additional efforts guaranteeing success should be directed towards managing major risks, such as:

- Operational risk related to security, system design...
- The risk of misuse by customers,
- Legal risk such as money laundering,
- Strategic, reputational, credit, market, and liquidity risk.

A simple comparison with certain countries in terms of obstacles related to digital banking services, according to the literature review, reveals that each country may encounter different

difficulties in other countries. This is linked to the global environment. In Bangladesh, queues, telephone line problems, and reluctance to pay monthly fees constitute obstacles. As for the United States, customers are more reluctant to switch from traditional online banking services to m-banking.

**- Does there exist in Algeria a political will (legal anchoring) concerning digital banks?**

There seems to be a real political will to encourage the digitalization of the banking sector in Algeria, as evidenced by the recent adoption of new regulations on digital banking, cybersecurity, e-signature, etc. the issue of electronic signatures represents a major obstacle to the complete digitization of the Algerian banking sector. In the absence of a solid legal framework, online transactions and contracts remain legally vulnerable. It is essential that the Algerian authorities quickly adopt clear and secure legislation on electronic signatures, aligned with international standards and best practices.

Indeed, a more comprehensive legal framework remains necessary to remove the very last legal and regulatory barriers. According to certain studies (literature review), the necessary legal and regulatory arsenal in this matter must be coherent and in block, any defragmentation of this framework will end up emptying it of its consistency and thus moving it away from its objectives.

Based on the foregoing, in addition to what has already been developed throughout this research work, the hypotheses are well aligned with the results of our research:

H1 - The first is largely confirmed both for its practical and legal aspects.

H2 - The second is strongly confirmed by our observation of a pragmatic and global approach.

H3 - The third is strongly confirmed, with a detailed list of obstacles and challenges that correspond exactly to this hypothesis.

These hypotheses have effectively guided our research, allowing us to explore and validate each crucial aspect of banking digitalization in Algeria.

**The main question of the research:**

*Will the adoption of Digitization in Algeria lead to a full digitalization of banks?*

Research on the digital analysis of the Algerian banking sector, including our in-depth investigation of the CNEP-Banque, is leading to a definitive answer to this topic.

On the one hand, there are encouraging signs indicating that Algeria's embrace of digitization could effectively result in a fully digitalized banking industry. Our empirical study is especially insightful because all of the interviewees confirmed that e-banking, or online banking, has played a significant role in this shift. Furthermore, documentary sources have confirmed that e-banking serves as a gateway to the digital banking world and is an integral element of this process.

The optimistic viewpoint is reinforced by worldwide comparison data. For instance, the widespread adoption of mobile banking in China suggests that a technologically savvy populace is capable of swiftly embracing advanced digital banking services. Additionally, in Malaisie, the effect of advertisements and couples plays a significant role in adoption, suggesting that cultural sensitivity may speed up digitalization.

However, our research has also identified two significant roadblocks that could prevent this change. First, the infrastructure challenges: Our study emphasises the need for strong technical infrastructures, ranging from core banking to network security. Extensive research conducted in Bangladesh and Zambia has shown that issues like hold files and unreliable phone lines can significantly hinder adoption.

Second, the barriers that are both legal and cultural: while our research indicates that Algeria is genuinely intending to implement new laws, it also emphasises the need for a more comprehensive legal framework. For instance, the issue of electronic signatures continues to be a significant barrier. Research conducted in China and the United States has also shown that a significant barrier to change is resistance to change among both staff and clients.

Other challenges that have been identified include high investment costs, a lack of digital skills in banks, and operational and legal risks. these challenges are not exclusive to Algeria; studies conducted in Bangladesh and India have also revealed related concerns.

Our study proposes a methodical and progressive approach to overcome these obstacles, starting with strengthening the infrastructure before gradually implementing digital services in tandem with training and support. this approach seems consistent with the successful experiences reported in other countries.

In conclusion, even though Algeria's embrace of digitalization has a genuine potential to lead to a fully digitalized banking sector, this outcome is not guaranteed. It will depend on the nation's ability to overcome the identified regulatory, cultural, and infrastructure barriers in a systematic and coherent manner. Our research and cross-national studies provide a roadmap and invaluable lessons for this journey, but success will require ongoing commitment and adaptation from all parties involved in the Algerian banking sector.

### **Maproad proposal:**

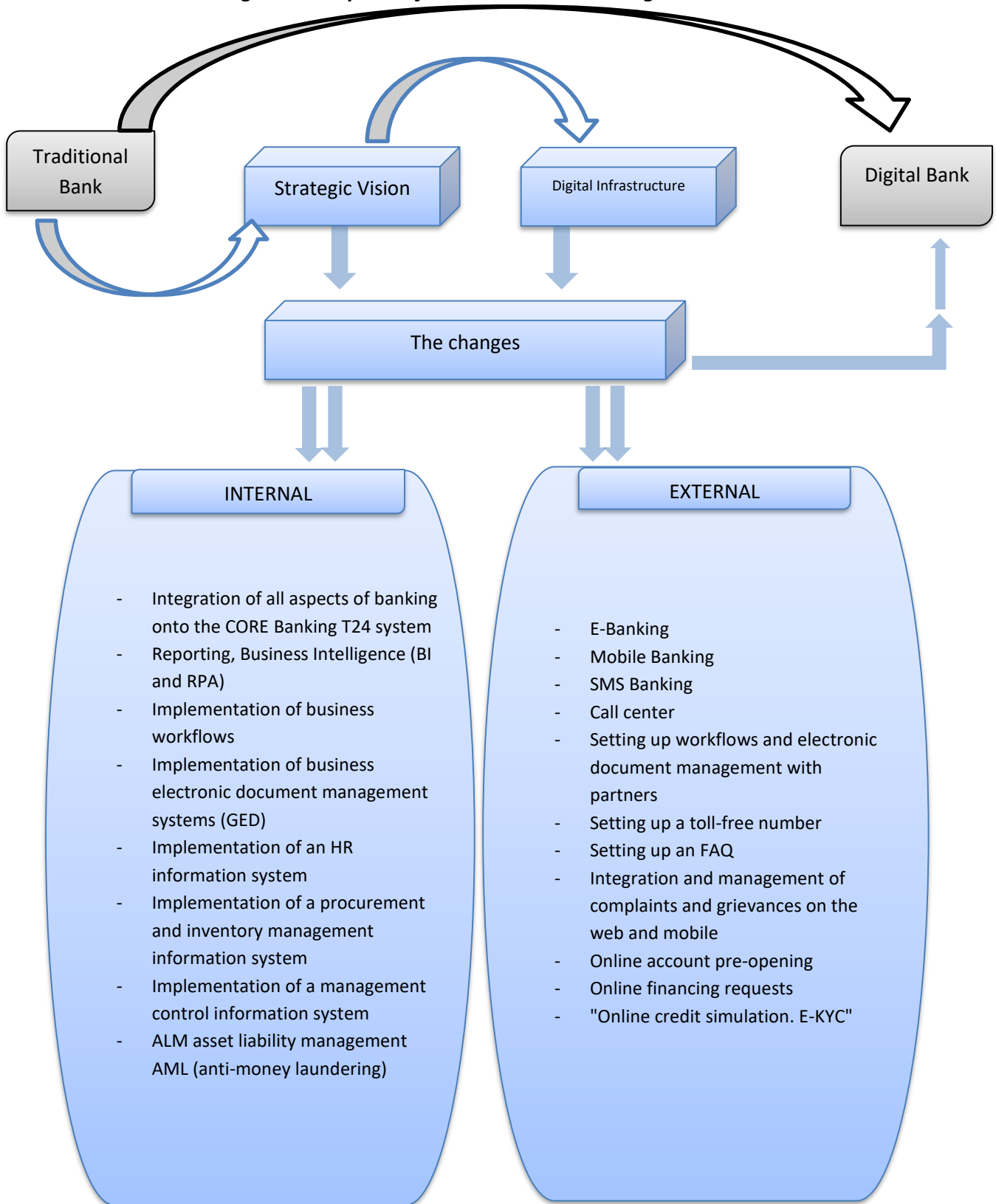
The process of transformation calls for strong leadership, a clear strategic vision, and aggressive change management at all levels.

Regarding the digital transformation of the banking industry, in the digital age, it is no longer an option but rather a need. According to our study on the CNEP-Banque, this process is impeded in Algeria but continues to face several challenges. In this context, it is essential to take a holistic and structured approach in order to transition from a traditional bank to a fully digital bank.

The diagram we propose provides a simplified yet comprehensive path map, identifying the fundamental elements of this change. It draws inspiration from best practices worldwide while taking into account the unique characteristics of the Algerian setting, such as the difficulties associated with infrastructure, the regulatory framework, and resistance to change.

This visual representation shows that banking digitization goes beyond merely implementing technological tools. It requires a thorough examination on all fronts, from the strategic vision to human resources, and from client experience (on the outside) to internal processes. The diagram also demonstrated the interdependence of these components, showing that each piece's strength and harmonious alignment are essential to the success.

Figure 7: Map road from traditional to a Digital bank



Source: Our treatment under supervision of the first responsible of the digital and monetics division

Ultimately, this schematic might act as a practical guide for Algerian banking cadres, providing an overview of all the crucial steps to be taken. It serves as a reminder that the digital transformation is a journey rather than a destination, requiring ongoing involvement, ongoing adaptation, and a clear vision for Algeria's banking future.

**CONCLUSION**

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*Conclusion*

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### **Conclusion:**

In conclusion, it is worth recalling that the objective of our study revolves mainly around **examining the potential adoption of a fully digital bank in Algeria, referring to the case of CNEP-Bank as a practical example**. To better understand this issue, it was timely and necessary to consult the literature on the subject.

The few studies consulted that have addressed the issue of digital banking in Algeria have explored this subject from a general point of view and have focused on a single aspect of this revolution, namely e-banking. These previous studies (literature review) were unable to emphasize the possibilities, or even the path towards a fully digital bank. This research has tried to fill this gap identified through the literature, by attempting to know, determine, and explain, in particular, the political and technical barriers and obstacles that have opposed this path, and to propose a roadmap leading to the achievement of what we call a fully digital Bank.

A theoretical and conceptual mix has been mobilized to better understand the various related phenomena in their entirety and complexity, which prompted us to ask interesting and coherent subsidiary questions. Thus, a qualitative methodological approach was adopted to meet the research objective and subsidiary questions related to the central question.

Furthermore, the analysis of data collected through semi-structured interviews with the Director of Electronic Banking and Digital at CNEP-Bank, as well as his main technical collaborators, aims to clarify the process of implementing digital banking, the problems encountered during the execution of this task, and the path traveled.

It should be recalled that this data collected during the interviews has been consolidated and reinforced by the solid documentary and informational sources existing within this Digital and Electronic Banking structure.

This research has allowed us, among other things, to conclude, on the one hand, the existence of a number of obstacles or constraints that are synthesized, mainly, as follows:

- Fear and resistance to change, both internally and externally (staff and customers);

## CONCLUSION

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- The technical structures mobilized require qualitative reinforcement;
- The legal anchoring, reflecting political will, remains slow and timid compared to remarkable technical achievements;
- The issue of electronic signature that remains posed;
- Cultural and dogmatic obstacles;

And on the other hand, we have been able to form a general idea on the ways and paths to take to overcome the cited obstacles and go straight to the goal towards achieving this objective which is the totally digital bank, which can only contribute to the social and economic development of the country and thus to the well-being of citizens. Another major challenge to be addressed, and not to be neglected, in terms of this digitization of banking and finance services, is the gradual and progressive banking of the informal sector, which will undoubtedly improve the gross national income and thus the incomes of citizens.

In sum, and by way of response to the central problem, there are encouraging signs indicating that Algeria's adoption of digitization could indeed lead to a fully digitized banking sector. Our empirical study is particularly enlightening as all respondents confirmed that online banking, or e-banking, has played an important role in this change. Moreover, documentary sources have confirmed that online banking serves as a gateway to the digital banking world and is an integral part of this process. This optimistic finding is reinforced by global comparison data. For example, the widespread adoption of mobile banking in China suggests that a tech-savvy population is capable of quickly adopting advanced digital banking services. Additionally, in Malaysia, the effect of advertising and couples plays an important role in adoption, suggesting that cultural sensitivity can accelerate digitization.

However, our study has, among other things, identified two major obstacles that could prevent this change. First, infrastructure-related challenges: our study underscores the need for robust technical infrastructure, ranging from basic banking services to network security. In-depth research conducted in Bangladesh and Zambia has shown that issues such as blocked files and unreliable telephone lines can significantly hinder adoption.

## CONCLUSION

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Secondly, the legal and cultural obstacles already mentioned: while our study indicates that Algeria truly intends to implement new laws, it also underscores the need for a more comprehensive legal framework. For example, the issue of electronic signatures continues to be a significant obstacle. Research conducted in China and the United States has also shown that a major obstacle to change is the resistance to change from staff and customers.

It should be noted that other challenges have been identified, including high investment costs, lack of digital skills in banks, and operational and legal risks. These challenges are not unique to Algeria; studies in Bangladesh and India have also revealed related concerns.

Our study proposes a methodical and gradual approach to overcome these obstacles, starting with strengthening infrastructure before gradually implementing digital services in tandem with training and support. This approach seems consistent with successful experiences reported in other countries.

In summary, while Algeria's adoption of digitization has real potential to lead to a fully digitized banking sector, this outcome is not guaranteed. It will depend on the country's ability to systematically and consistently overcome the identified regulatory, cultural, and infrastructural obstacles. Our research and studies on the issue provide a roadmap and lessons that could be useful for this journey, but success will require ongoing commitment and adaptation from all parties involved in the Algerian banking sector.

Limitations and perspectives of the research:

This research, like any other research, has encountered certain constraints and limitations, on the one hand, and it has opened the door to other problems or other subjects in close relation, these are:

### **1- Research limitations:**

Although this study has allowed a better understanding of the challenges related to banking digitization in Algeria, it has certain limitations. Firstly, it focused on a single institution, CNEP-Bank, while other Algerian banks might face different obstacles. Secondly, the analysis was mainly based on interviews with managers, thus offering an internal but potentially biased viewpoint. Integrating external perspectives, such as those of customers or independent

## CONCLUSION

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experts, could have enriched the results. Finally, due to the qualitative nature of the study, the results are not generalizable to the entire Algerian banking sector.

### **2- Research perspectives :**

This research opens the way to several future lines of investigation. It would be interesting to conduct a comparative study between different Algerian banks to identify best practices and common challenges. A quantitative approach, through surveys of a large sample of customers, would assess their level of preparation and willingness to adopt digital banking services. In addition, an in-depth analysis of the regulatory and legal framework surrounding electronic signatures and financial inclusion would be valuable in understanding their impact on digital transition.

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**APPENDIX AN INTERVIEW QUESTIONS  
FOR THE DIRECTOR OF THE  
ORGANISATION AND HIS STUFF**

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## **THE NATIONAL HIGHER SCHOOL OF MANAGEMENT ENSM, KOLEA**

**Student: HORRI Lydia Ichrak**

As part of the end-of-study memoir project for obtaining the Master's degree from the National Higher School of Management (ENSM), E-Government option, we have proceeded to develop an interview guide containing two levels of questions, aimed at examining the reality of achieving the goal of fully digitized banks and this following the adoption of e-Banking in Algeria.

### **Interview Questions**

It is worth recalling that the questions for this interview are divided into two levels, a first level reserved for the primary person in charge of the digitization and digitalization operation within CNEP-Banque (mainly managerial and strategic questions), while the second level concerns the Department Head of Digital (technical and operational questions).

#### **Level 1:**

- 1- The importance: For CNEP bank, does digitalization fall within a strategic choice of the bank, or is it part of a global (national) strategy?
- 2- We have noticed that substantial work is being done. What is the status of the implementation of the different realizations?
- 3- Does this colossal work comply with an appropriate and specific legal and regulatory framework?
- 4- What approach is followed in this digitalization process at your prestigious institution?
- 5- Are there any particular constraints hindering the commendable efforts made in this context?

6- Is the business environment suitable for this large-scale operation?

7- Are you satisfied with the work already accomplished in this context, and what are the main short-term prospects?

### **Level 2:**

1- How is the work organized (procedures, processes, motivations behind the choice of different products, target audience...)?

2- What are the achievements? Can you provide some figures?

3- Are there any obstacles to the progress of things in this area?

4- Could this human resources situation lead to some resistance to change?

5- What is the general level of customer satisfaction?

6- Do you have a schedule or timeline (dates line) showing and determining the evolution of the technical digitalization process?



## ÉCOL NATIONAL SUPERIEUR DE MANAGEMENT - ENSM, KOLEA

**Etudiante : HORRI Lydia Ichrak**

Dans le cadre du projet de mémoire de fin d'études pour l'obtention du diplôme de Master de l'École Nationale Supérieure de Management (ENSM), option E-Gouvernement, nous avons procédé à l'élaboration d'un guide d'entretien contenant deux niveaux de questions, visant à examiner la réalité de l'atteinte de l'objectif des banques entièrement numérisées et cette suite à l'adoption de l'e-Banking en l'Algérie.

### **Questions de l'Interview :**

Convient-il de rappeler que les questions de cette interview se répartissent en deux niveau, un premier niveau réservé au premier responsable de la structure chargée de l'opération de numérisation et de digitalisation au sein de la CNEP-Banque (question d'ordre managérial et stratégique surtout), quant au deuxième, il concerne le Chef de département du Digital (questions d'ordre technique et opérationnel).

#### **Niveau 1 :**

- 1- L'importance : la digitalisation, pour la CNEP banque, s'inscrit-t- elle dans un choix stratégique de la banque, ou dans une stratégie globale (nationale) ?
- 2- Nous avons constaté qu'un travail substantiel est en train de se réaliser. Quand est-il pour la mise en œuvre de la différente réalisation ?
- 3- Ce travail colossal, répond-t-il à un cadre juridique et réglementaire approprié et spécifique ?
- 4- Qu'elle est la démarche suivie dans cette digitalisation au niveau de votre prestigieux établissement ?
- 5- Existient-t-ils des contraintes particulières opposant les efforts louables fournies dans ce cadre ?

6- L'environnement des affaires convient-t-il à cette opération d'envergure ?

7- Etes-vous satisfait du travail déjà parcouru dans ce cadre et qu'elles sont les principales perspectives à court terme ?

**Niveau 2 :**

1-Comment le travail est organisé (les procédures, les processus, les motivations du choix des différents produits, public ciblé...) ?

2-Qu'elles sont les réalisations ? pouvez-vous donner des chiffres ?

3-Existe-t-ils des obstacles quant à l'évolution des choses en la matière ?

4-Est-ce que cette situation de ressources humaines pourrait engendrait une sorte de résistance au changement ?

5-Quel est le niveau de satisfaction des clients, en générale ?

6-Avez-vous un calendrier ou un échéancier (dates line) montrant et déterminant l'évolution du processus technique de digitalisation ?