

ECOLE DES HAUTES ETUDES COMMERCIALES



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Master's degree in Commercial Sciences**

Specialty: Marketing Management

Title:

**Enhancing Customer Experience through the Development of
Banking Applications**

Case Study: BNP Paribas El Djazair

Submitted by:

BOUZELAK Oussama Abderrahmane.

Supervised by:

**Pr. BOUYOUCHEF Djamila,
Professor at EHEC.**

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Dedications:

I dedicate this humble work to the pillars of my life, my family whose unwavering support has carried me through every challenge.

To my beloved mother Saida, the light of my life, whose boundless love, sacrifices, and strength have shaped every step of my journey. You fought silently and selflessly to see me succeed, and without your presence, none of this would have been possible. May all my achievements be a reflection of your devotion.

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Abstract

This study examines the key factors that enhance customer experience (CX) in mobile banking, focusing on the Connexis Cash application by BNP Paribas El Djazaïr. It assesses how the relevance of features and overall user experience impact customer satisfaction and loyalty in a B2B context. Based on survey data, the findings highlight that secure, user-friendly, and functionally relevant applications are essential for driving satisfaction, encouraging continued use, and strengthening long-term customer relationships in an increasingly digital banking environment.

Keywords: Customer Experience, Banking application, Customer relationship, Digital Transformation, Customer Loyalty.

Résumé

Cette étude examine les principaux facteurs qui améliorent l'expérience client (CX) dans le domaine de la banque mobile, en se concentrant sur l'application Connexis Cash de BNP Paribas El Djazaïr. Elle évalue dans quelle mesure la pertinence des fonctionnalités et la qualité globale de l'expérience utilisateur influencent la satisfaction et la fidélité des clients dans un contexte B2B. À partir des données d'enquête recueillies, les résultats soulignent que des applications sécurisées, intuitives et fonctionnellement pertinentes sont essentielles pour favoriser la satisfaction, encourager une utilisation continue et renforcer les relations clients à long terme dans un environnement bancaire de plus en plus digitaliser.

Mots-clés : Expérience client, Application bancaire, Relation client, Transformation digitale, Fidélisation.

خلاصة

في مجال الخدمات المصرفية عبر الهاتف (CX) تتناول هذه الدراسة العوامل الرئيسية التي تعزز تجربة العملاء الجزائري. وتهدف إلى تقييم مدى تأثير مدى Connexis Cash التابع لبنك BNPPED المحمول، مع التركيز على تطبيق (B2B). ملاءمة الميزات وجودة تجربة المستخدم بشكل عام على رضا العملاء وولائهم في سياق الأعمال بين الشركات واستنادًا إلى بيانات الاستبيان، تبرز النتائج أن التطبيقات الآمنة، سهولة الاستخدام، وذات وظائف ملائمة تُعد ضرورية

Abstract

لتعزيز رضا العملاء، وتشجيعهم على الاستمرار في استخدامها، وتقوية العلاقات طويلة الأمد مع العملاء في بيئة مصرفية تشهد تحولاً رقمياً متسارعاً.

.الكلمات المفتاحية: تجربة العميل، التطبيق البنكي، العلاقة مع العميل، التحول الرقمي، ولاء العميل

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List of abbreviations:

- AES: Advanced Encryption Standard
- AI: Artificial Intelligence
- AML: Anti-Money Laundering
- API: Application Programming Interface
- APAC: Americas and Asia Pacific
- APP: Application
- ATM: Automated Teller Machines
- B2B: Business-to-Business
- BNCI: Banque Nationale du Commerce et de l'Industrie
- BNP: Banque Nationale de Paris
- BNPL: Buy Now Pay Later
- BNPP: BNP Paribas
- BNPPED: BNP Paribas El Djazaïr
- CD: Compact Disc
- CDN: Content Delivery Networks
- CIB: Corporate & Institutional Banking
- CJ: Customer Journeys
- CPBS: Commercial, Personal Banking & Services
- CRM: Customer Relationship Management
- CSAT: Customer Satisfaction Score
- CNEP: Comptoir National d'Escompte de Paris
- CSR: Corporate Social Responsibility
- CX: Customer Experience
- DVD: Digital Versatile Disc
- EMEA: Europe, the Middle East, Africa
- EPT: Electronic Payment Terminal
- ESG: Environmental, Social and Governance
- GDPR: General Data Protection Regulation
- GPS: Global Positioning System
- HQE: High Environmental Quality

List of abbreviations

- ID: Identity Document
- IMF: International Monetary Fund
- IOS: iPhone Operating System
- IPS: Investment & Protection Services
- ISO: International Organization for Standardization
- IT: Information Technology
- KYC: Know Your Customer
- MFA: Multi-Factor Authentication
- NFC: Near Field Communication
- NPS: Net Promoter Score
- PC: Personal Computer
- P2P: Peer-to-Peer
- PSD2: Payment Services Directive 2
- QR: Quick Response
- QES: Qualified Electronic Signature
- ROI: Return on Investment
- SDLC: Software Development Life Cycle
- SES: Simple Electronic Signature
- SMC: Sustainability, Marketing & Communication
- SME: Small and Medium-sized Enterprises
- SMS: Short Message Service
- SSL: Secure Sockets Layer
- UI: User Interface
- UX: User Experience
- 2FA: Two-Factor Authentication

SUMMARY

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General Introduction:

In the current and rapidly evolving digital world, the realm where technology seeps into all facets of day-to-day life have become an everyday phenomenon. This ubiquity of technology is particularly evident within the financial sector, as the current digital revolution is changing traditional paradigms at an unparalleled speed. The rise of fintech companies that compete against the incumbent lending practices, and the extensive use of blockchains as means of safe and secure transactions, are examples of the widespread changes taking place within the financial world.

At the heart of this revolution of change are the banks, which in the past relied on physical infrastructures and traditional service models. However, the advent of the digital world required re-evaluation of operating models and customer engagement approaches within banking organizations. The imperative of staying relevant in an era marked by an increasing number of digitally literate customers and the arrival of innovative digital products and solutions pressured financial organizations to turn to digitalization and hence gave birth to digital banking, neobanks, and phygital solutions.

Within this ever-changing environment, banking apps have become must-haves in consumer engagement, bridging the gap between people and the complex world of financial services. From simple banking features to high-end personal money management software, these apps are now indispensable to many users, ensuring convenience, accessibility, and personalization. Their role goes beyond the performance of simple transactions; these apps are important drivers of consumer loyalty, enhancing engagement, and enriching the consumer experience.

In this context, our focus is directed toward the theme: **"Enhancing Customer Experience through the Development of Banking Applications."**

The objective of this study is to explore how the optimal development of mobile banking applications can significantly improve the customer experience.

In pursuit of this objective, we will seek to answer the following question: **"To what extent does the efficient development of banking applications drive improvements in the customer experience?"**

In response to this question, we will consider the following points:

- Can the relevance of Connexis Cash's features strengthen the customer relationship?
- Can a great customer experience drive customer loyalty?

To address this series of questions, we will seek to verify the hypotheses proposed as follows:

Hypothesis 01: The relevance of Connexis Cash's features can strengthen the customer relationship.

Hypothesis 02: A great customer experience drives customer loyalty.

The reasons for choosing this topic are explained by the following elements:

The decline in physical branch visits, driven by the accelerated digitalization of banking services, has prompted BNP Paribas France to close numerous branches. This trend, reflecting shifting customer behaviors, is also influencing BNP Paribas El Djazaïr, which is now prioritizing its banking application. To effectively meet customer expectations in this digital-first landscape, a focus on customer experience is paramount. This survey aims to provide the necessary insights into customer needs and preferences.

Our passion as marketing students lies in understanding consumer behavior. This experience with "Connexis Cash" presents a unique opportunity to delve deeply into customer motivations, needs, and expectations concerning digital banking solutions. By conducting a thorough field survey, we aim to provide data-driven insights that will contribute directly to the "Connexis Cash" squad, enabling us to propose effective improvement strategies.

This research employed a mixed-method approach, integrating both synthetic and analytical techniques to comprehensively explore the customer experience within the "Connexis Cash" banking application.

Initially, a thorough literature review was conducted, drawing from academic journals, industry reports, and relevant digital resources to establish a theoretical foundation. Concurrently, an observational phase was undertaken within BNP Paribas El Djazaïr, engaging with experts in

banking application development. These expert consultations provided critical contextual insights, shaping the research focus and informing the study's trajectory.

To further deepen our understanding of the "Connexis Cash" ecosystem, a qualitative study was implemented, centered on in-depth interviews. Specifically, a semi-structured interview was conducted with the project manager of "Connexis Cash", yielding valuable insights into the bank's strategic vision for the application and facilitating the formulation of pertinent research hypotheses. This qualitative phase was designed to complement the broader analytical approach.

Subsequently, a quantitative research phase was executed, involving a survey distributed over a 30 days period. This survey garnered responses from 60 companies, representing the target of BNP Paribas El Djazair customers who are active users and even inactive of the "Connexis Cash" application.

The objective of these surveys was to explore several key dimensions related to the Connexis Cash banking application provided by BNPPED. Firstly, the study seeks to assess the frequency of usage, with particular attention to how often clients engage with the application. Secondly, it aims to evaluate the perceived relevance of the application's features in supporting day-to-day banking operations.

Furthermore, the research investigates how the effective development of digital banking applications contributes to delivering a superior customer experience. In this context, the study highlights the importance of intuitive design, functionality, and security in fostering user satisfaction.

A central part of the analysis focuses on measuring overall customer satisfaction with the Connexis Cash application, allowing for the identification of strengths and areas for improvement.

Lastly, by examining the relationship between user experience and customer loyalty, the study aims to propose strategic recommendations that enhance the performance of the application and reinforce client engagement and retention.

This thesis is divided into three chapters. Chapter one establishes the context for banking applications by discussing digitalization in banking, their impact on banking models, and the financial services offered through mobile applications. It also addresses the key design considerations for these applications, including performance, feature set, and interface usability.

Chapter two explores the concept of customer experience, its importance for banks, and the key elements for its success. It also details best practices, digital customer experience, and enabling technologies. Additionally, this chapter examines customer relationship management, including its importance and the strategies used to build and maintain customer relationships.

Finally, Chapter three starts with the presentation of the group BNP Paribas, BNPPED and the department, with a highlight on the methodology of research concluding with practical data details documenting this research and the field study that uses quantitative methods. This quantitative part, using survey data from users of "Connexis Cash", aims to provide understanding of their experiences, motivations, and expectations of the application. By leveraging the data, not only can these recommendations be made but it also allows for phasing to be recommended for BNP Paribas El Djazaïr based on data-driven analysis. These suggestions will focus their app development on user-friendly designs while optimizing advantageous aspects of it and making the interface as intuitive as possible, ultimately transforming technological advancements into better customer experiences. Additionally, by psychological analysis of survey results, BNP Paribas El Djazaïr will understand what customers want, thus leading to improvements that matter to customers and would increase their overall satisfaction.

Chapter 1: Presentation of the Banking Applications

This chapter, comprising three sections, offers a comprehensive analysis of Banking Applications. Section one will introduce the fundamental aspects of banks and their activities. Section two will examine the transformative journey of banks towards digitalization and its implications. Section three will focus on the strategic conception and development of banking applications, including functionality selection and interface design.

Section 1: The Banking sector

This section seeks to provide a thorough understanding of traditional banking by examining its historical development, defining the concept of a bank, outlining the range of services it offers, and analyzing its critical role within the economy.

1. Introduction to the banking sector:

To gain a comprehensive understanding of the banking sector, it is essential to examine its origins, trace its historical evolution, and explore its definition from both economic and legal perspectives.

1.1 The history of the bank sector:

1.1.1 Historical foundations of banking:

the historical roots of banking, starting with the "tavla" system in ancient Greece where early bankers facilitated currency exchange and lending based on trust. It then highlights the pivotal role of Florentine merchants in Renaissance Italy as prototypes for modern banks. Despite technological advancements, fundamental bank management questions remain consistent throughout history. This exploration aims to illuminate the understudied period of banking

before 1800, revealing how early banks with limited capital operated, ultimately providing crucial context for understanding the evolution of today's complex banking system.¹

1.1.2. Historical Evolution of Banking Systems:

Ferguson further elucidates the evolution of banking through a transformative period marked by the innovations of Renaissance Italy, where merchant banks pioneered credit facilities and advanced financial instruments. The subsequent surge in commercial activities during the Industrial Revolution spurred the development of centralized banking institutions and established regulatory frameworks that continue to shape financial systems today. In the modern era, technological breakthroughs have catalyzed the digital transformation of banking, with the advent of electronic funds transfers and mobile banking applications dramatically reshaping customer interactions. This continual innovation demonstrates how banking has evolved from its ancient origins into a sophisticated system geared toward efficiency, security, and customer-centric service².

1.1.2.1. Definition of the banking concept:

1.1.2.2. The definition of a bank:

A bank is a financial institution licensed to accept deposits from the public, provide loans, and offer an array of financial services such as payment processing, currency exchange, and wealth management. Banks act as intermediaries by channeling funds from savers to borrowers, thereby contributing to credit creation and facilitating everyday transactions that support economic activity and growth³.

According to the Oxford English Dictionary, the meaning of bank is “*An institution that invests money deposited by customers or subscribers, typically pays interest on deposits, and usually offers a range of other financial services, including making payments when required by customers, making loans at interest, and exchanging currency; a building occupied by such an institution*”⁴.

¹ C Challoumis, N Eriotis: Evolution of banking systems: A comprehensive historical analysis. Journal of Contemporary Research in Business, Economics and Finance, 2025. pp.1-2

² Ferguson, N. The Ascent of Money: A Financial History of the World. Penguin Books, 2008, pp 38-80

³ Mishkin, F. S., & Eakins, S. G. Financial Markets and Institutions (7th ed.). Pearson, 2012, p. 7.

⁴ https://www.oed.com/dictionary/bank_n3 visited 09 avril 2025 at 16:33.

1.1.2.3. The economic definition of a bank:

Economically, a bank is defined as a financial intermediary that plays a central role in mobilizing and allocating resources. It accepts deposits from savers providing them a safe, liquid storage facility and then transforms these deposits into loans and investments for borrowers.

In doing so, a bank facilitates credit creation and the efficient allocation of capital, which in turn supports economic growth. This process, often described using the money multiplier concept, highlights the bank's function in increasing the money supply by lending out a portion of deposited funds while keeping only a fraction as reserves.

In effect, banks help channel surplus funds toward productive investments, support payment systems, manage liquidity, and contribute to overall financial stability⁵.

2. The activity of the bank:

Banks engage in a range of activities that are vital for the smooth functioning of the economy. Here are some of the key activities according to Choudhry:

- **Accepting Deposits**

The core business of banks is taking deposits from individuals, organizations, and institutions. This activity involves offering various types of deposit accounts, current, savings, and fixed deposits to provide customers with a safe place to park their money. Deposits are also the principal source of funds that banks, in turn, transform into investments and loans.

- **Extending Loans**

Another core banking activity is lending credit through the advancement of loans to the public and business organizations. It entails providing mortgages, personal loans, business loans, and other credit facilities that stimulate economic growth. Banks realize

⁵ Mishkin, F. S., & Eakins, S. G. Op.cit, pp 14-15.

interest income through lending out the deposits they hold, which constitutes a major chunk of their profitability.

- **Payment and Settlement Services**

Another highly critical activity that banks perform is facilitating payments and settlements. It entails clearing transactions checks, electronic fund transfers, and electronic payments so money flows smoothly from accounts domestically as well as internationally. These services facilitate the day-to-day operations of business firms and consumers and allow economic liquidity.

- **Investment and Treasury Services**

Excess funds are invested by banks and they have their own portfolios as a function of treasury activities. Banks also offer investment services such as asset management and advisory services to institutional and individual customers. Through such operations, banks offer market liquidity and help the clients maximize the financial returns.

- **Foreign Exchange Services**

International investment and trade operations require conversion and settlement of numerous currencies. Banks make foreign exchange facilities by making currency conversion, hedging exchange risk, and enabling cross-border payment possible. Foreign exchange services are imperative to enable global financial transactions and ensure smooth trading procedures.

- **Agency and Custodial Services**

Banks also act as the agent of their customers by providing specialist services such as trustee services, security custodianship, and estate and trust administration management. Such activities enable secure administration and asset transfer, and enhance the overriding security and reliability of bank services⁶.

⁶ Choudhry, M. Modern Banking: Theory and Practice. John Wiley & Sons, 2018, P 48.

These activities convey how banks act as financial intermediaries and provider services, promoting economic growth, financial stability, and smooth market operations. Each activity not only has a specific function in the financial system but also reinforces the bank's overall ability to meet its customers' financial needs.

2.1. Banks as Catalysts for Economic Activity:

At the heart of every thriving economy are banks—those trusted institutions that bring life to our financial system so let's delve into the pivotal roles banks play in the economy:

Mobilization and Allocation of Capital

Banks serve as intermediaries between savers and borrowers, collecting deposits from individuals and businesses and channeling these funds into loans for consumers, entrepreneurs, and corporations. This process not only facilitates personal and business investments but also drives economic growth by ensuring that capital is allocated to its most productive uses. The International Monetary Fund (IMF) emphasizes that banks are essential in pooling funds and lending them to those in need, effectively supporting economic activities⁷.

Facilitating Payment Systems

They are integral to the payment infrastructure of an economy. They provide mechanisms for individuals and businesses to conduct transactions, such as checking accounts, electronic funds transfers, and credit card services. This facilitation of payments ensures the smooth exchange of goods and services, which is fundamental to economic stability and growth. According to the IMF, banks act as intermediaries in the payment system, helping economies exchange goods and services for money or other financial assets⁸.

⁷ https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Banks?utm_source accessed on 12 avril 2025 at 19:10.

⁸ https://biz.libretexts.org/Bookshelves/Business/Introductory_Business/Book%3A_Introduction_to_Business%28_Lumen%29/04%3A_Financial_Markets_and_System/4.03%3A_Role_of_Banks?utm_source accessed on 12 avril 2025 at 19:30.

Implementation of Monetary Policy

Banks play a crucial role in the transmission of monetary policy set by central banks. Through mechanisms like adjusting interest rates on loans and deposits, banks influence economic variables such as inflation, consumption, and investment. By responding to policy changes, banks help central banks achieve macroeconomic objectives, including price stability and sustainable economic growth.

Risk Management and Financial Stability

Banks contribute to financial stability by managing various risks through diversification and adherence to regulatory standards. They assess creditworthiness before lending, maintain capital reserves, and follow prudent risk management practices. These measures help prevent financial crises and protect depositors' interests. The IMF notes that banks improve credit quality by lending to a diversified pool of borrowers, thereby enhancing the resilience of the financial system.

Support for Economic Development

Beyond their financial functions, banks support broader economic development by financing infrastructure projects, small and medium-sized enterprises (SMEs), and innovation initiatives. By providing the necessary capital for these endeavors, banks stimulate job creation, technological advancement, and overall economic progress. The IMF highlights that banks' lending activities are vital for economic development, as they provide funds to those who need them, fostering growth and innovation⁹.

banks are foundational to economic health, performing roles that extend beyond mere financial transactions. Their functions in capital allocation, payment facilitation, policy implementation, risk management, and economic development underscore their indispensable position in fostering a robust and dynamic economy.

⁹ https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Banks?utm_source accessed on 12 avril 2025 at 19:40.

Section 2: The digitalization of the banking sector

This section explores the transformation of traditional banking into digital banking. It begins with an historical perspective on the evolution of digital banking, followed by an overview of digitalization. It then examines the key components of digitalization, the range of digital banking services, and the various distribution channels used by modern banks.

1. Historical perspective on the evolution of digital banking:

The journey toward digital banking began well before the internet became ubiquitous. In the 1960s and 1970s, banks started harnessing mainframe computers to automate internal processes, which marked the very first steps toward digital transformation. The introduction of Automated Teller Machines (ATMs) in the 1970s revolutionized banking by allowing customers to withdraw cash and perform basic transactions without visiting a branch. These pioneering technological strides not only increased operational efficiency but also introduced the critical concept of self-service, setting the stage for further innovations.

As Skinner explains, these early breakthroughs laid a vital foundation by bridging traditional banking practices with emerging technological possibilities, ultimately opening the door to the digital revolution in financial services.¹⁰

2. Overview of digitalization:

2.1. Definition of digitalization:

Digitalization is a multifaceted and multidimensional concept that has been dealt with in various words throughout history. It generally involves the integration of digital technology into everyday life through digitizing everything within reach. This transition takes up digital tools and platforms to recreate business models, society's organization, and organizational processes.

For instance, Khomyakova (2019) clarifies digitalization as a process that aims to change processes, provided that digital technologies are incorporated actively in social, economic,

¹⁰ Skinner, C. Digital Bank: Strategies to Launch or Become a Digital Bank. Oxford University Press, 2014, P 20.

medical, and other spheres of human life, but conceptually reforming the manner information is used, saved, and exchanged.¹¹

Likewise, SpringerLink's publication defines digitalization as the capacity to enable exchanges of services among market actors to generate value and organize a society by bringing about business models, processes, products, projects, and services that are software-solution-driven¹².

Further, an article published in the Journal of Product Innovation Management defines digitalization as a process through which the socioeconomic environment is being transformed through phases of adoption, use, and application of digital artifacts¹³.

Briefly, digitalization consists of adopting and incorporating digital technology into social activities and economic structures, triggering evolutionary changes in how information is managed, how service is performed, and value added.

2.2. the key components of digitalization:

Digital transformation is thus described as a combination of automation, dematerialization, and the restructuring of intermediary processes. These three categories of effects interact with one another and are mutually reinforcing.

2.2.1. Portability:

Portability is the capability of data, applications, and services to be moved seamlessly across different platforms, devices, or organizational environments without losing functionality, format fidelity, or security controls. In practice, it enables individuals and companies to transport their digital assets customer databases, configuration settings, software instances from one vendor or infrastructure to another, reducing lock-in, fostering interoperability, and giving users true control over their information¹⁴.

¹¹ https://www.academia.edu/98592577/Approaches_To_The_Definition_Of_The_Term_Digitalization?utm_source visited on 17 avril 2025 at 09:53.

¹² https://link.springer.com/chapter/10.1007/978-3-658-39094-5_1?utm_source accessed on 17 avril 2025 at 10:05.

¹³ Maria Gradillas, Llewellyn D. W. Thomas : Distinguishing digitization and digitalization: A systematic review and conceptual framework. Journal of Product Innovation Management, 2025.

¹⁴ Westerman, G., Bonnet, D., & McAfee, A. Leading Digital: Turning Technology into Business Transformation, 1st ed. Harvard Business Review Press, 2014, pp. 46–56.

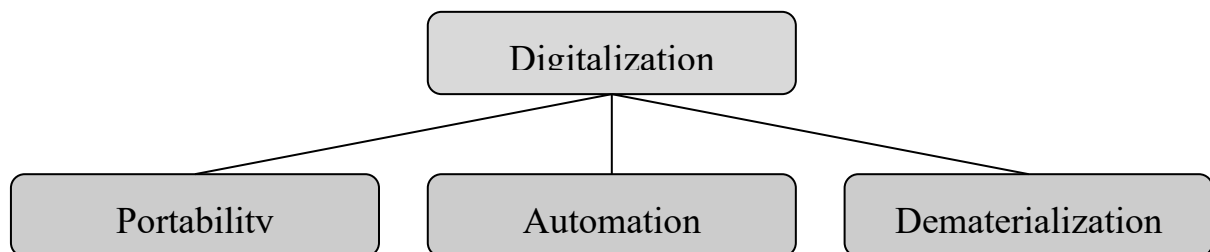
2.2.2. Automation:

Automation employs hardware and software including robotics, intelligent agents, and algorithmic decision engines to perform routine, rule-based tasks with minimal human intervention. By substituting manual work such as data entry, invoice processing, or repetitive control loops with automated workflows, organizations achieve higher throughput, more consistent quality, accelerated cycle times, and the ability to scale operations without commensurate increases in headcount¹⁵.

2.2.3. Dematerialization:

Dematerialization is the reduction or complete elimination of physical materials in products and processes by substituting intangible, digital, or service-based alternatives. It manifests when printed manuals become online knowledge bases, CDs and DVDs give way to streaming media, or ownership models shift from buying physical goods to subscribing to cloud-based services. This decouples economic growth from resource extraction and waste generation, supporting sustainability by lowering per-unit material and energy footprints¹⁶.

Figure 1: The three components of digitalization



Source: AUTISSIER David, MOUTOT Jean-Michel. «Le changement agile». Paris Dunod, 2015, p. 41

¹⁵ Schwab, K. The Fourth Industrial Revolution. Crown Business, 2016, pp. 73–85..

¹⁶ Petrides, D., Papacharalampopoulos, A., Stavropoulos, P., & Chryssolouris, G. “Dematerialization and Environmental Sustainability: Challenges and Rebound Effects.” *Procedia CIRP*, 72, 2018, pp. 845–849.

3. The new types of banks:

3.1. The digital bank:

A digital bank is a financial institution that is built on a digital-first architecture using cloud-native core banking, real-time data analytics, and API-driven integrations to deliver the complete range of deposit, lending, payment, and advisory services through online and mobile channels, with little or no reliance on physical branches¹⁷.

By integrating robust cybersecurity measures, regulatory compliance, and scalable cloud infrastructures, digital banks ensure data privacy and reliability while supporting global reach and seamless updates¹⁸.

3.2. The neobank:

Neobanks are entirely digital financial institutions that deliver the full range of banking services, deposits, payments, lending, and advisory exclusively via mobile and online platforms, without any brick-and-mortar branches, leveraging API-driven partnerships with licensed banks for regulatory compliance.¹⁹

According to Alam, a neobank is a type of direct bank that operates exclusively using online banking without traditional physical branch networks, challenging incumbent banks by offering user-centric interfaces, lower fees, and rapid feature deployments.²⁰

3.3. The phygital bank:

Phygital banking is the holistic convergence of digital channels and physical branches into a single, seamless customer journey where digital self-service kiosks, mobile apps, and remote

¹⁷ King, B. *Bank 4.0: Banking Everywhere, Never at a Bank* (1st ed.). Wiley, 2018, pp. 3–5.

¹⁸ Chauhan, S., Akhtar, A., & Gupta, A. Customer Experience in Digital Banking: A Review and Future Research Directions. *International Journal of Quality and Service Sciences*, 14(2), Vol. 14 No. 2, 2022.

¹⁹ Chishti, S., & Barberis, J. *The FinTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries* (1st ed.). Wiley, 2016, pp. 30–31.

²⁰ Alam, M., Zhang, Y., & Kumar, S. “Descriptive Approach of Neo-Banking System: Conception, Challenges and Global Practices.” *International Journal of Business and Technology Management*, 5(2), 1–18, 2023, pp. 2–3.

advisory tools sit alongside in-branch experiences to deliver consistent, contextual financial services²¹.

4. Digital Transformation Strategies in Banking:

4.1. Establishing a Digital Culture:

Digital Masters do not just deploy new instruments; they instill a culture of continuous experimentation, data-driven decision, and cross-functional collaboration. This culture shift in which all are enabled and responsible for digital innovation is the 'how' that transforms digital investments into strategic leverage²².

In a recent experiment with local Indonesian banks, researchers concluded that digital organizational culture characterized by open communication, shared digital goals, and employee autonomy directly influenced transformation success. Banks where front-line employees were motivated to propose and pilot new digital products had much greater adoption rates and less agonizing process overhauls. This points to the fact that technology itself can't drive change but has to be augmented with a culture open to digital as the norm, and not an exception²³.

4.2. Enhancing customer experience:

Customer experience (CX) is banks' new battlefield in today's digital-first world. Better than delivering utility services, the best-performing banks aim to craft frictionless, personalized experiences that anticipate, eliminate friction from, and enhance value at every touchpoint. By injecting customer-led design philosophy, leveraging real-time data, and continuous refinement through feedback, banks can make ordinary transactions fascinating experiences that instill loyalty and drive growth.

²¹ Anker, C. *Phygital Banking: The Digital Transformation of Physical Bank Branches* (1st ed.). Independently published, 2021, pp. 12–15.

²² Westerman, G., Bonnet, D., & McAfee, A. *Leading Digital: Turning Technology into Business Transformation* (1st ed.). Harvard Business Review Press. 2014, pp. 82–85.

²³ Putra, E., & Nusantara, W. "Digital Organisational Culture: Capturing Local Banking in Digital Transformation." *International Journal of E-Banking Studies*, 5(1). 2023, pp 2–5.

In a world of abundant choices, customer experience has become the primary differentiator for banks. Bank 4.0 institutions embed CX into every facet of their digital interactions using real-time analytics, automated guidance, and context-aware recommendations to delight customers and build lasting relationships²⁴.

4.3. Open Banking & Fintech Partnerships:

Open banking enables the secure sharing of customer account data and payment initiation services through standardized APIs, allowing banks and fintech firms to co-create novel financial experiences. Banks that embrace this model can offer best-of-breed capabilities such as real-time cash flow forecasting or embedded lending via partnerships, driving enhanced customer engagement and new revenue streams²⁵.

Many banks also join consortiums or partner with fintech incubators, co-developing solutions that integrate seamlessly into their digital channels. According to a recent Fintech Association report, open banking partnerships have lowered operating costs by 20–25% for participating banks thanks to shared development expenses and pay-per-use API models while simultaneously giving customers access to over 100 new fintech services without leaving their bank's app²⁶.

4.4. Strengthening Cybersecurity Measures:

As banking operations turn digital, cybersecurity is not just an extra security step, but the building block of customer trust and business resilience. Modern-day financial institutions must defend themselves against increasingly sophisticated ransomware, phishing, and supply-chain attacks, while still making customer experiences seamless. Therefore, cybersecurity protocols must evolve side by side with digital transformation, involving real-time detection of threats from intelligence feeds, cloud protection, AI-based anomaly detection, and multi-factor authentication processes.

²⁴ King, B. Op.cit, pp. 49–52.

²⁵ Ellie Duncan, Open Banking and Financial Inclusion: Creating a Financial System That Provides Security and Equity. Wiley, 2024, P10.

²⁶ <https://www.ftassociation.org/fintech-explained-open-banking-lowers-costs-and-improves-services-for-consumers/> Visited 26 avril 2025 at 13:56

The digitally more advanced banks have recognized cybersecurity as a strategic differentiator. They have security in all areas of their digital architecture, from the mobile application to cloud services, so that customer confidence is both secure through proactive risk management as well as open through transparent communication²⁷.

4.5. Integrate Chatbots and Virtual Assistants:

Beyond customer service, virtual assistants also can be set to expect users to nudge them when a bill is about to be due, remind savings goals after major purchases, or even flagging fraud on accounts. In 2025, NatWest partnered with OpenAI to supercharge its Cora chatbot and internal "AskArchie" advisor, boosting customer satisfaction by 150% and cutting fraud-reporting times in half by using generative AI to automate first-line support.²⁸

4.6. The adoption of Agile methodologies:

Use of Agile practices has been the linchpin to successful digital transformation projects in banking. Agile emphasizes iterative delivery, cross-functional collaboration, customer orientation, and quick response to change. Compared to traditional "waterfall" approaches under which banks could only deploy major IT programs following lengthy planning periods, Agile facilitates incremental delivery to allow banks to deliver incrementally better improvements and adapt to user feedback.

In the banking sector, Agile techniques redefine project management, from limiting processes to dynamic planning, developing growth, and swift delivery required to meet altering customers' needs as well as advanced technology.²⁹

5. The different digital tools and services offered by banks:

With the fitting of digital devices within easy reach of customers in and out of the bank outlet, there exists the potential for enhancing information and services offered to clients. Customized messages may be delivered, exclusive offers and bank news can be offered, waiting customers

²⁷ Sharman, J. C. *The Money Laundry: Regulating Criminal Finance in the Global Economy* (1st ed.). Cornell University Press, 2011, P 122.

²⁸ <https://www.reuters.com/technology/natwest-seals-milestone-uk-banking-collaboration-with-openai-2025-03-20/> Visited 26 avril 2025 at 14:35

²⁹ Highsmith, J. *Agile Project Management: Creating Innovative Products* (2nd ed.). Addison-Wesley Professional, 2009, P 55.

may be entertained, and satisfaction surveys may be conducted. In the following section, we will analyze the various digital tools emerging in the banking sector:

5.1. Online Banking Portals:

Online Banking Portals are web-based, secure channels whereby customers can access and manage their accounts online, 24/7, on any internet-enabled device. Online Banking Portals are virtual branches that bring all central banking operations account inquiries, fund transfers, loan applications, and bill payments under one easy-to-use umbrella, eliminating the necessity for trips to the branch.

At their core, portals deliver self-service capability that allows users to conduct frequent transactions at their will. Features like recurring transfers, bill payment, and remote deposit of checks facilitate cash-flow management and reduce reliance on paper-intensive processes. They also offer customer support facilities, secure messaging rooms and chatbots to enable real-time support and document transfer in the same system.³⁰

5.2. SMS banking:

SMS banking is the execution of banking transactions and inquiries via the Short Message Service (SMS) protocol on mobile networks, allowing customers to retrieve account balances, transaction histories, and perform simple fund transfers by sending standardized SMS commands to a bank's designated number. This subset of mobile banking employs both "push" messages where banks send unsolicited alerts for events such as large withdrawals, payment reminders, or one-time passwords and "pull" messages where customers initiate requests for information or actions like mini-statements or currency rate inquiries³¹.

5.3. Electronic Payment Terminal (EPT):

An Electronic Payment Terminal (EPT) is a specialized electronic device deployed at points of sale that captures machine-readable payment credentials (magnetic-stripe, chip, or NFC), securely transmits transaction data to the issuing bank or processor, obtains authorization, and

³⁰ https://www.investopedia.com/terms/o/onlinebanking.asp?utm_source Visited 23 avril 2025 at 14:02

³¹ Pousttchi, K., & Schurig, M. "SMS banking is a way of running financial transactions through mobile communication technologies." In Proceedings of the 37th Annual Hawaii International Conference on System Sciences, 2004, pp. 15–20.

completes the electronic funds transfer ultimately crediting the merchant's account and debiting the customer's account in real time³².

5.4. Automated Teller Machine (ATM):

Automated Teller Machines (ATMs) are electronic terminals that allow bank customers to perform a variety of financial transactions such as cash withdrawals, deposits, balance inquiries, and funds transfers without the need for face-to-face teller assistance, providing 24-hour access to core banking services³³.

5.5. Bank card:

A bank card is any card issued by a bank or credit union that enables the cardholder to access financial services such as cash withdrawals, purchases, and account inquiries through electronic terminals and networks³⁴.

A debit card works like a credit card, but funds come directly from a linked checking account when you make a purchase or ATM withdrawal³⁵.

A credit card is a payment card issued by a bank or financial services company that allows cardholders to borrow funds to pay for goods and services, with repayment and interest terms³⁶.

5.6. Digital branch:

A digital branch reimagines the conventional bank branch as a holistic virtualized, customer-focused experience delivered over multiple digital touchpoints. Rather than relying on bricks-and-mortar locations, digital branches blend web portals, mobile banking, video-teller services, interactive kiosks, and AI-driven chatbots into an omni-channel offering. They offer the full range of branch services account opening, advisory, complex transactions 24/7, wherever a customer has an internet connection. By shifting everyday transactions to self-service channels,

³² <https://market-pay.com/en/blog/electronic-payment-terminal-ept-a-comprehensive-guide> Visited 23 avril 2025 at 15:04

³³ Rose, P. S., & Hudgins, S. C. Bank Management and Financial Services (9th ed.). McGraw-Hill Education, 2012. p. 114.

³⁴ Mishkin, F. S., & Eakins, S. G. Op.cit, p 464.

³⁵ <https://www.investopedia.com/terms/d/debitcard.asp> Visited 23 avril 2025 at 16:37

³⁶ <https://www.investopedia.com/terms/c/creditcard.asp> Visited 23 avril 2025 at 16:48

online branches allow workers to focus on high-value consultative dialogue, and analytics and personalization technologies tailor experiences to the individual's unique needs³⁷.

5.7. Electronic signatures:

An electronic signature is a digital method comprising an electronic sound, symbol, or process attached to or logically associated with a banking record that a customer executes with the intent to sign, thereby authenticating their identity and consent for financial transactions³⁸.

Types of electronic signatures:

- Simple Electronic Signature (SES): Basic form, such as scanned images or typed names.
- Advanced Electronic Signature (AES): Provides a higher level of security by being uniquely linked to the signatory and capable of detecting changes to the signed data.
- Qualified Electronic Signature (QES): Offers the highest level of security and is created using a qualified signature creation device and based on a qualified certificate.

Banks rely on electronic signatures to remotely onboard customers, endorse mortgages, and sign trade confirmations all under the watchful eye of stringent Know-Your-Customer (KYC) and Anti-Money Laundering (AML) regulations. By combining legal frameworks, technical best practices, and practical implementations, electronic signatures ensure that digital banking is customer-centric and fully compliant.

5.8. Banking Applications:

A banking application is an online-enabled computer program that enables customers to perform a variety of financial services and transactions remotely, including account handling, payments, deposits, transfers, and advisory services. Banking applications in mobile channels utilize cellular networks and smart phones to offer these services via easy-to-use, secure interfaces optimized for use on the move³⁹.

³⁷ <https://loqr.com/resources/how-loqr-can-help-you-create-a-digital-branch/> Visited 25 avril 2025 at 15:23

³⁸ Davidson, A. *The Law of Electronic Commerce* (1st ed.). Cambridge University Press, 2009, pp. 58–60.

³⁹ <https://www.sciencedirect.com/topics/computer-science/banking-application> visited 25 may 2025 at 16:18

Practical applications:

Banking applications are the online connection between customers and banks for facilitating an assortment of services:

- **Account Maintenance:** Customers are able to view balances, monitor transactions, and quickly toggle among a set of multiple accounts.
- **Transfer of Funds:** Facilitate intra-bank transfers as well as inter-bank transfers and foreign remittances.
- **Payment of Bills:** Facilitate payment of bills like electricity bills, credit card bills, and other bills from their account.
- **Loan Applications:** Enable customers to apply for house, car, or personal loans and check the status of their applications.
- **Investment Services:** Provide access to investment products, portfolio management, and market analysis⁴⁰.

These applications are designed with the aim to give a simple experience so that customers can easily and safely perform banking transactions using their devices.

⁴⁰ <https://www.mobileappdaily.com/knowledge-hub/mobile-applications-in-banking-finance> visited 25 may 2025 at 19:23

Section 3: Bank Application Concept

The upcoming section offers a detailed examination of banking apps, beginning with how they originated and the components that make up the elements that constitute them and establishing their significance. We subsequently go on to address important topics such as Security and Usability, detail their Core Features, and examine the Future Trends that are driving development.

1. Introduction to Banking Applications:

The digitalization of banking has ushered in a new era, marked by the swift rise of banking applications. This channel represents a significant force driving the evolution of digital banking. To ensure clarity, we will first establish a precise definition of this concept.

1.1. Banking application Definition:

Banking applications are the electronic drivers through which modern financial services are delivered. They consist of a collection of software modules from customer authentication and account handling to payment processing, loan origination, and advisory functionalities that run on web portals, mobile applications, and other electronic channels. By combining these functions into logical, intuitive interfaces, banking applications enable customers to carry out almost all their financial activities remotely, anytime and from anywhere.

According to O'Brien, a banking application is a computer system which enables and automates primary banking operations like customer authentication, account inquiry, funds transfer, payment processing, loan processing, and financial advice delivered over internet and mobile interfaces to provide integrated, self-service access to banking services.⁴¹

⁴¹ O'Brien, J. A., & Marakas, G. M. *Management Information Systems* (10th ed.). McGraw-Hill Education, 2011, pp. 322–323.

1.2. The evolution of banking applications:

Banking applications have undergone a remarkable journey from hardware-driven automation to fully digital platforms that anticipate customer needs.

- **Early Automation and Self-Service (1960s–1980s)**

The first “banking applications” weren’t apps at all but ATM software and mainframe batch programs. These systems automated teller tasks and back-office accounting, replacing paper ledgers with punched-card and later magnetic-tape processing. By the early 1980s, some banks began offering PC-banking software standalone programs installed on home computers that allowed customers to view balances and initiate transfers via dial-up connections⁴².

- **The Rise of Internet Banking (1990s–2000s)**

With the commercialization of the World Wide Web, banks launched browser-based portals around 1995. Early internet banking sites offered static account statements and simple bill-pay features; by the late 1990s, they had added secure logins, real-time transfers, and e-statements. This era shifted banking from branch-centric to online self-service⁴³.

- **Mobile Banking and Ubiquitous Access (2000s–2010s)**

The launch of smartphone app stores around 2008 sparked the mobile banking revolution. Early apps mirrored web portals, but soon took advantage of push notifications, device biometrics, and GPS to offer instant alerts, branch locators, and contactless payments. This phase made banking truly “always on”, with basic transactions executed in under a minute from a user’s pocket⁴⁴.

- **API-Driven & AI-Enhanced Digital Banks (2010s–Present)**

Today’s banking applications are built on cloud-native cores and open banking APIs, integrating fintech services like robo-advisors or BNPL within the bank’s app. Artificial Intelligence and analytics power chatbots, personalized offers, and fraud detection in real time.

⁴² Skinner, C. Op.cit, P 21.

⁴³ O’Brien, J. A., & Marakas, G. M. Op.cit, P 327.

⁴⁴ Zhou, T., Lu, Y., & Wang, B. “The Mobile Banking Adoption: A Literature Overview.” *International Journal of Information Management*, 30(4), 2010, p. 40.

Leading digital banks no longer view apps as channels but as platforms where every service from lending to wealth management is modular and on-demand⁴⁵.

1.3. The importance of banking applications:

Banking applications have become indispensable for both customers and financial institutions, serving as the primary interface through which modern banking occurs. Their importance can be understood across several dimensions:

- **Enhanced Convenience & Accessibility:**

Banking applications break the bonds of branch hours and physical locations, allowing customers to access accounts, transfer funds, and pay bills 24/7 from any internet-enabled device. This self-service model delivers significant time savings and convenience, Shih and Fang found that users of internet banking cite “anytime, anywhere” access and reduced travel as the top benefits, with 82% of respondents ranking convenience as their primary motivator⁴⁶.

- **Cost Efficiency & Operational Resilience:**

For banks, digital applications reduce transaction costs dramatically online and mobile interactions can be up to 80% cheaper than in-branch services and improve resilience by distributing service capacity across cloud and edge platforms. Chen, Chiang, and Storey (2012) show that banks leveraging analytics within their applications achieve both cost savings and strategic insights, boosting process efficiency and enabling rapid responses to market shifts⁴⁷.

- **Customer Engagement & Competitive Differentiation:**

Modern banking applications offer rich, personalized experiences, real-time alerts, AI-powered recommendations, and seamless omnichannel continuity that foster deeper customer engagement and loyalty. Banks that excel in digital experience see up to a 20% lift in Net Promoter Scores and a 15% increase in cross-sell rates compared to

⁴⁵ King, B. Op.cit, pp. 20–24.

⁴⁶ Shih, Y. Y., & Fang, K. “The Use of a Decomposed Theory of Planned Behaviour to Study Internet Banking in Taiwan.” *Internet Research*. 2004.

⁴⁷ Chen, H., Chiang, R. H. L., & Storey, V. C. “Business Intelligence and Analytics: From Big Data to Big Impact.” *MIS Quarterly*, 36(4). 2012.

peers. By continually innovating within their applications, banks differentiate themselves in a crowded market and solidify customer relationships⁴⁸.

2. The development of banking applications:

Banking app development is the end-to-end process of design, building, testing, deploying, and maintaining software systems that deliver financial services such as account management, payments, lending, and advice through digital channels. It combines controlled system-development lifecycles (SDLC) or Agile methodologies with strict security, regulatory compliance, and smooth integration into core banking platforms to deliver reliability, scalability, and user-driven experiences.

2.1. Key elements for effective banking application development:

- **User-Centered Design (UX/UI):**

Success in banking applications begins with an instinctive and gratifying user interface. Hierarchical information, thumb-operable controls, and contextual help (e.g. tooltips, guided tours) reduce mistakes and support all classes of users. Coherent visual language icons, color palettes, and typography strengthens trust and improves memorability⁴⁹.

- **Robust Security Features:**

Since the nature of financial data is sensitive in nature, banking apps must employ multiple, layered protection: end-to-end encryption for data in transit and at rest, biometric methods (fingerprint/face ID) for secure but seamless logins, and automated anomaly detection to flag suspicious transactions in real-time. These measures not only protect customers but also ensure compliance with regulations such as PSD2 and GDPR⁵⁰.

⁴⁸ Skinner, C. Op.cit, pp 53-54.

⁴⁹ Kumar, N. & Kumar, A. *Mobile Banking and Mobile Payments: A Complete Guide*. Wiley. 2019, P 64.

⁵⁰ Mallat, N. "Exploring Consumer Adoption of Mobile Banking: A Qualitative Study." *Journal of Information Technology Theory and Application*, 2(2), 2007, pp. 100–102.

- **Cross-Platform Compatibility:**

Consumers desire the same high-quality experience regardless of whether they are using iOS, Android, or desktop web. Either native platform development by platform or a high-quality hybrid framework (e.g., React Native or Flutter) optimized for performance and look-and-feel consistency suffices. Intensive testing on real devices and across operating-system versions ensures features like offline caching and push notifications behave consistently everywhere⁵¹.

- **Personalized Financial Tools:**

Through looking at spending patterns, income cycles, and trigger events, apps can push individualized advisors like offering round-up savings as a feature after grocery purchases or reminders (e.g., "Your energy bill is due tomorrow") directly to the dashboard. Individualized suggestions transform passive watching of accounts to active money handling, increasing engagement minutes by up to 50%⁵².

- **Speed and Performance:**

Fast, fluid interactions in which screens load in under one second and animations run at native frame rates are non-negotiable. Under-the-hood optimizations (lazy-loading content, efficient network calls, caching strategies) and back-end improvements (CDNs, edge computing) combine to minimize latency, prevent app crashes, and support high-volume transaction spikes⁵³.

- **Seamless Integration with Core Banking Systems:**

Real-time data flows between the app and the bank's core system are achieved via secure, versioned APIs. Transaction requests whether a check deposit or a funds transfer must be reconciled immediately in the central ledger, and any latency or mismatch can erode customer

⁵¹ Kumar, A. & Bansal, S. *Designing for Mobile Banking*. Springer, 2018, pp. 45–49.

⁵² Jain, N. *Personalization in Mobile Banking*. Academic Press, 2021, pp. 112.

⁵³ Prasad, R., Kumar, S., & Sharma, P. "Performance Optimization in Mobile Banking Applications." *Journal of Banking and Finance Technology*, 5(1). 2020, pp. 66–67.

trust. Good integration also supports feature toggles and incremental roll-outs without downtime⁵⁴.

- **Regulatory Compliance:**

Banking apps must bake in compliance checks: consent capture flows for data usage, transparent privacy disclosures, and built-in audit logs that record every user action with timestamps. Automated compliance-testing scripts and periodic third-party security audits guarantee that new features adhere to ever-evolving regional regulations⁵⁵.

3. Features of Banking Applications:

In order to stay ahead of the competitive and very saturated banking application marketplace, the banks have to offer an inclusive set of mobile banking app features that appeal to diverse customer demand. Below are our best picks of things to include in today's bank apps:

3.1. Security Measures:

Security in a bank app is paramount in years when cybercrime is forecasted to increase year-over-year. Current and prospective customers need to be assured that their financial data is protected from all threats. Some of the important security features to employ in a banking app are:

- **Two-Factor Authentication (2FA):** Another layer of security can be introduced by requiring customers to enter two forms of identification before they can access their bank accounts. This would entail something the user knows (e.g., password), something that the user possesses (e.g., telephone) or something that the user is (e.g., fingerprints).
- **Multi-Factor Authentication (MFA):** Enhances security risks prevention by combining multiple verification methods, such as passwords, biometrics, and one-time codes. MFA provides a more robust defense against unauthorized access, even if one factor is compromised.

⁵⁴ Verma, R. & Soni, R. *Banking Systems and Application Development*. Springer. 2020, pp. 98–102.

⁵⁵ Kumar, C. M. M. S. “Navigating Regulatory Compliance in Mobile Banking Apps.” *International Journal of Law and Finance*, 4(1), 2022, pp. 28–33.

- **Biometric Logins:** Utilizes fingerprint, facial recognition, or voice recognition technology to secure access. Biometric authentication offers a convenient and secure way for users to log in, reducing reliance on passwords which can be forgotten or stolen.
- **Encryption Protocols:** Ensures data is encrypted during transmission and storage, protecting it from unauthorized access. Besides standard safeguarding protocols like advanced encryption standards (AES) and secure socket layer (SSL), banks should come up with their own, advanced measures to ensure the highest level of security.
- **Fraud Detection:** Thanks to AI advancement, transactions monitoring for suspicious activity can be automated to provide instant notifications for unusual login attempts or other atypical events. Additionally, incorporating Play Integrity API enables improved app integrity by detecting potentially harmful and unverified versions. Implementing root and jailbreak detections further secures the application by identifying devices that have been tampered with.

3.2. Transfers and Payments:

Modern mobile banking apps should make sending money without bank account numbers and other inconvenient requirements easy. To do that, they offer the following options:

- **Peer-to-Peer Payments:** Users can send money instantly to a friend's mobile number. Peer-to-peer payments are convenient for splitting bills, sending gifts, or paying back loans. The examples are Polish BLIK and Swedish Swish – solutions that took P2P payments to the next level of convenience.
- **QR Code Payments:** Another feature for instant payments that enables users to quickly perform transfers within seconds. QR code payments can be used for paying bills and transferring funds.
- **Digital Wallet Integration:** Secure storage and management of multiple payment methods. They can store credit and debit card information, loyalty cards, and even tickets, providing a single point of access for various payment needs. Integration with digital wallet providers like Google Pay and Apple Pay is also appreciated by customers.
- **Near Field Communication (NFC) Payments:** Contactless payments are increasingly popular for their speed and convenience. Users can make transactions by simply tapping their mobile devices.

3.3. Customer Support:

Robust customer support options are vital for resolving issues quickly and efficiently. Important features include:

- **Chatbots:** AI-powered chatbots that provide instant support 24/7 and answer common queries. They can handle a wide range of tasks, from answering frequently asked questions to assisting with transactions.
- **Live Chat:** For more complicated customer service tasks where human support is necessary is a core banking feature. Access via a mobile app is convenient and enables users to quickly resolve potential problems.
- **In-app Appointment Scheduling:** Some cases require in-person presence. Scheduling a meeting with a bank representative makes it easier to find a suitable date.
- **Omnichannel Support:** Providing consistent support across multiple traditional digital channels, including chat, phone, social media, and email lets users choose the method that is most comfortable for them.

3.4. Loan and Credit Services:

Integrating loan and credit services into banking apps is a great addition besides classic core banking offers. A successful banking app can provide:

- **Loan Applications:** Streamlining the loan application process can reduce the time and effort required to apply for a loan, enhancing the user experience.
- **Credit Score Monitoring:** Regular updates on credit scores and tips to improve them can help users understand their credit health and take steps to fix it.
- **Loan Management:** Payment schedules and payoff projections displayed in mobile apps support keeping track of loan repayments and adequate financial planning.
- **Loan Recommendations:** Pre-approved loan offers based on real-time credit score updates can be a great way to find suitable proposals and make informed decisions.

3.5. Notifications and Alerts:

Timely notifications and alerts keep users informed and engaged at all times. Important features include:

- **Transaction Alerts:** Real-time alerts for account activity can be utilized by users to monitor their account activity and detect any unauthorized transactions.
- **Balance Updates:** Notifications when account balances reach certain thresholds are crucial for financial management.
- **Promotional Offers:** Alerts about the bank's new products, services, and promotional offers inform users about new opportunities and enhance their overall banking experience.
- **Customization:** In-app notifications settings should be fully customizable to provide tailor-made information users are interested in⁵⁶.

4. The user interface design and user experience in banking application:

4.1. Definition of user interface (UI):

Think of the user interface as the “front door” to any app or system, the collection of visual, textual, and interactive elements (buttons, icons, menus, touch gestures, sounds, etc.) that let you tell the software what you want and then show you what it's doing in response. A clean, well-organized UI guides your eye, anticipates how you expect to work, and keeps you from getting lost or confused⁵⁷.

4.2. Best UI practices:

- **Integrate Heuristics with Modern Aesthetics:**

Heuristics are design guidelines that guarantee your app is usable and follows best practices in interaction and usability, such as obvious labels, easy navigation, and a familiar yet new layout. Incorporating a dash of contemporary aesthetics, without compromising clarity, adds to the user experience.
- **Landing Pages with Key Statistics:**

Landing pages for banking apps can be a lifesaver in displaying important financial information. Imagine a page that puts your account balance, bills due, and spending

⁵⁶ <https://speednetsoftware.com/must-have-features-in-todays-banking-applications/> visited 27 avril 2025 at 23:09

⁵⁷ <https://www.techtarget.com/searcharchitecture/definition/user-interface-UI> visited 27 avril 2025 at 23:36

habits front and center in an eye-catching and easy-to-read format. That gives the users an overview of their finances in one look.

- **Use Cards Instead of Lists:**

Lists can be overwhelming, but cards present a more graphical and easier-to-read interface to see information. They enable transactions, account balances, and additional information to be nicely divided and categorized.

- **Gamification and rewards:**

Handling money is boring, but what if the banking app entertained you, Users might be encouraged to save, for example, by earning a badge for achieving savings targets, or rewarded with incentives for keeping to a budget.

- **Prompt and Pertinent Notifications:**

A timely alert can be the difference between being in control of your money and being in the dark. Whether it's an alert about a suspicious login or a notification about an upcoming bill, timely alerts inform and empower users.

- **Biometric Authentication:**

Security is paramount in banking, and biometric authentication like fingerprint scanning or face recognition is a safe and easy way of logging into an account. The integration of such functionality in your app UI allows for quick and safe login for your users without the need to remember complicated passwords.

- **Progressive Disclosure:**

Progressive disclosure is a design method that makes things more explicit by revealing information only on demand. For a banking app UI, it means features and options will be hidden behind menus or revealed only when users specifically look for them.

- **Accessibility Features:**

An ideal app UI should be usable and accessible by everyone, including people with disabilities. This needs the implementation of features to help users with visual disabilities, hearing disabilities, or motor disabilities. A few of the accessibility features include:

Screen Reader Compatibility: This helps visually impaired individuals use the app with voice or text-to-speech software.

High-Contrast Mode: Enhances the contrast between the background and text colors, rendering the app easier to read for people with visual challenges.

Voice Control: Allows the user to complete tasks within the app using voice commands, facilitating use for those with motor disabilities⁵⁸.

4.3. Definition of user experience (UX):

User experience (UX) is the user's moment-by-moment, primarily evaluative feeling good or bad while interacting with a product or service. Rather than focusing on the functionality or interface elements alone, UX zeroes in on how those interactions make people feel in the moment, recognizing that those feelings shift over time as they use the system⁵⁹.

4.4. Best UX practices:

- **Simplify Navigation and Interface Design:** A clean, intuitive design is the cornerstone of a great banking app UX. Limited screen space means banks must prioritize frequently used features such as account balances, recent transactions, and budgeting tools. Transparent interfaces that clearly display transaction details, including categorization and merchant attributes, enhance user trust and ease navigation.

Transparency significantly reduces customer churn rates in banking apps, highlighting its role in long-term customer loyalty. By offering an organized and visually appealing layout, banks can significantly boost user satisfaction and retention rates⁶⁰.

- **Real-Time Notifications with Context:** Push notifications are a powerful tool for engagement, but irrelevant or vague alerts can irritate users. Personalized, context-rich notifications can deepen the user's connection to the banking app. Real-time

⁵⁸ <https://medium.com/@darshansawant/top-10-best-practices-for-banking-app-ui-design-in-2024-90eda699aa87> visited 28 avril 2025 at 08:03

⁵⁹ Marc Hassenzahl, "User Experience (UX): Towards an experiential perspective on product quality," in Proceedings of the 20th International Conference on Association Francophone d'Interaction Homme-Machine (IHM '08), ACM, 2008, P 12

⁶⁰ <https://snowdropsolutions.com/mobile-first-banking-ux-best-practices-for-2025/> visited 28 avril 2025 at 22:03

notifications ensure that users remain informed and engaged without feeling overwhelmed.

Research by Capco indicates that 72% of customers rate personalization as ‘highly important’ in today’s financial services landscape, underscoring the importance of meaningful and timely communication⁶¹.

- **Personalization at Scale:** Consumers increasingly expect banking apps to understand their habits and provide tailored insights. Personalization not only meets user expectations but also acts as a critical strategy for minimizing customer churn. When users feel their unique needs are recognized and addressed, they are more likely to remain loyal. Personalized dashboards, spending insights, and budgeting tools offer value beyond the basic banking experience, making them a must-have

According to McKinsey & Company, personalization can reduce customer acquisition costs by as much as 50 %, lift revenues by 5 to 15 %, and increase marketing ROI by 10 to 30 %. Banks can leverage spending trends and behavior analytics to provide insights that align with individual user preferences, fostering stronger customer relationships⁶².

- **Enhanced Search Functionality:** Modern users demand quick access to information, including specific transactions or merchant details. Robust search capabilities are vital to delivering this convenience. These features not only enhance user experience but also improve transparency by offering granular categorization and detailed attributes for each transaction⁶³.

To conclude this section, it is evident that banking applications have evolved into critical assets for financial institutions, playing a central role in enhancing customer engagement, operational

⁶¹ <https://www.capco.com/about-us/newsroom-and-media/banking-survey-press-release> visited 28 avril 2025 at 22:15

⁶² <https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-personalization> visited 28 avril 2025 at 22:38

⁶³ <https://snowdropsolutions.com/mobile-first-banking-ux-best-practices-for-2025/> visited 28 avril 2025 at 23:05

efficiency, and service delivery. The successful development of these applications necessitates a strategic approach that leverages advanced technologies and innovative practices.

Conclusion of chapter 01:

In the preceding chapter, we explored the fundamental concept of banking, tracing its historical evolution and examining the transformative impact of technological advancements on the sector. This analysis allowed us to better understand the emergence and growing importance of banking applications as a natural extension of the digitalization of financial services. Additionally, we conducted an in-depth examination of the critical factors involved in the effective development of mobile banking applications, focusing particularly on the strategic selection of functionalities and the design of an optimized, user-centric interface. This comprehensive approach highlights the necessity for banks to align technological innovation with customer expectations in order to offer seamless, secure, and engaging digital experiences.

Chapter 2: From Customer Relation to Customer Experience

This chapter is divided into two parts. The first addresses the origin and evolution of customer relations, such as principal strategies and pitfalls. The second addresses optimizing customer experience and outlines strategic strategies for fulfilling customer needs and enhancing profitability.

Section 1: Enhancing Customer Relations

This section focuses on the topic of customer relationships, presenting its general principles, its root, strategic approaches, the move towards omnichannel communication, and the main challenges encountered while creating and keeping good customer relations.

1. Concept and evolution of customer relations:

1.1. The definition of the customer relations:

Customer relations is the ongoing process of building a strong relationship between a business and its customers (and potential customers). It involves clear, two-way communication, understanding and anticipating customer needs, and nurturing trust and loyalty over time so that people keep coming back and become advocates for your brand⁶⁴.

According to Buttle & Maklan, customer relations is a business strategy that maximizes profitability, revenue and customer satisfaction by organizing around customer segments, fostering behavior that satisfies customers, and implementing customer-centric processes⁶⁵.

Customer relations refer to the manner in which a company goes about reaching out to the customers and improving customer experience. This entails providing solutions to immediate problems, as well as addressing long-term issues that are customer-oriented⁶⁶.

⁶⁴ Grace Wittman et al., "What are customer relations?", in ECS 0008: The Gold Standard of Customer Relations, University of Idaho Extension, December 2012

⁶⁵ Francis Buttle and Stan Maklan, Customer Relationship Management: Concepts and Technologies, 3rd ed., Routledge, 2015, P 15.

⁶⁶ <https://blog.hubspot.com/service/customer-relations> visited 29 avril 2025 at 15:01

So, customer relations is the ongoing process of interaction management and relationship development between a business and its customers with a view to increasing customer satisfaction, loyalty, and long-term commitment. It encompasses all the strategies, activities, and communication efforts that work to establish trust and ensure customer needs are understood and addressed accordingly. In banking, customer relations include personalized services, transparent communication, and reliable support through physical and digital channels.

1.2. Evolution of Customer Relations:

From the bustling marketplaces of ancient civilizations to today's AI-powered platforms, customer relations have continually adapted to new technologies and shifting customer expectations:

- **Early Foundations:**

Face-to-Face Personal Interactions:

Long before technology, commerce thrived on direct human contact merchants learned names, needs, and preferences through repeated in-person exchanges in town squares and bazaars

Industrial Revolution and Scale:

With the Industrial Revolution (1760s–1820s), businesses grew larger and needed formalized service teams to handle increasing customer inquiries and complaints shifting from individual artisans to organized customer service structures.

Customer Satisfaction Research:

In the post-war era (1950s–1960s), academics and marketers launched empirical studies into satisfaction, using surveys and interviews to quantify customer needs and measure service quality—laying the groundwork for data-driven relationship strategies⁶⁷.

⁶⁷ <https://www.hoory.com/blog/i/history-of-customer-service-how-did-it-all-begin> visited 29 avril 2025 at 15:30

- **Rise of Relationship Marketing (1980s):**

In 1984, researchers Morgan and Hunt introduced the Commitment-Trust Theory, framing relationship marketing as “establishing, developing, and maintaining successful relational exchanges” built on mutual trust and commitment.

This paradigm shift moved firms from one-off transactions to long-term engagement, influencing loyalty programs and personalized outreach that persist today⁶⁸.

- **Emergence of CRM Systems (1990s):**

Early Database Marketing

By 1992, database marketing applied statistical methods to customer lists, enabling more targeted campaigns and deeper insights into consumer behavior.

First CRM Software Platforms

1993: Siebel Systems launched the first commercial CRM product, automating contact management and sales force processes.

1999: Siebel released Sales Handheld, the inaugural mobile CRM application, letting field teams update customer data on the go.

2004: SugarCRM introduced the first open-source CRM, democratizing access for smaller businesses and driving down costs⁶⁹.

- **E-CRM and Social CRM (2000s):**

As internet adoption soared, e-CRM platforms integrated email, web portals, and call-center data to centralize customer touchpoints.

⁶⁸ Robert M. Morgan and Shelby D. Hunt, *The Commitment-Trust Theory of Relationship Marketing*, 1994

⁶⁹ Bardicchia, Marco. *Digital CRM: Strategies and Emerging Trends: Building Customer Relationship in the Digital Era* (4th ed.). Amazon Digital, 2020

Around 2009, startups like Base and Nutshell began offering social CRM tools that tapped into Facebook, Twitter, and other networks enabling real-time monitoring and engagement across social channels⁷⁰.

- **AI and Omnichannel CRM (2010s–present):**

Modern CRM platforms harness artificial intelligence to analyze vast customer datasets predicting needs, automating chat responses, and delivering hyper-personalized offers. Today's emphasis on omnichannel consistency ensures that whether a customer interacts via in-store kiosk, mobile app, social media, or call center, their history and preferences follow them, creating seamless, unified experiences⁷¹.

1.3. Conceptual foundations:

- **Trust:** is the belief that a partner in this case, the firm or its representatives will act in one's best interests and keep commitments. It reduces uncertainty and motivates ongoing exchanges.

According to Robert, trust is the willingness to rely on an exchange partner in whom one has confidence⁷².

- **Satisfaction:** Customer satisfaction reflects a consumer's evaluative judgment that a product or service has met or exceeded expectations. It serves both as an emotional response and as the key predictor of repeat patronage.

Satisfaction is the consumer's fulfillment response, the degree to which the outcome of a purchase decision matches or surpasses prior expectations⁷³.

⁷⁰ <https://www.techtarget.com/searchcustomerexperience/infographic/The-history-and-evolution-of-CRM> visited 29 avril 2025 at 15:54

⁷¹ <https://www.vtiger.com/crm/evolution-of-crm/> visited 29 avril 2025 at 16:27

⁷² Robert M. Morgan & Shelby D. Hunt, "The Commitment-Trust Theory of Relationship Marketing," *Journal of Marketing*, Vol. 58, No. 3, 1994, P 23.

⁷³ Richard L. Oliver, "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions," *Journal of Marketing Research*, Vol. 17, No. 4. 1980

- **Perceived Value:** is the consumer's overall evaluation of the net benefit of a product based on perceptions of what is received and what is given⁷⁴.
- **Communication:** in customer relations entails both transmitting information clearly and listening attentively, ensuring customers feel heard and informed at every touchpoint.
- **Service Quality:** is the discrepancy between consumer expectations and perceptions of actual service performance⁷⁵.
- **Responsiveness:** zeroes in on the speed and readiness with which a firm aids customer and resolves issues crucial for signaling that the customer's time and concerns are valued.

Responsiveness is the readiness and willingness of employees to help customers by providing prompt service⁷⁶.

These foundational concepts grounded in landmark research frame how firms build lasting customer relationships by earning trust, satisfying needs, delivering value, communicating effectively, upholding service excellence, and responding swiftly.

Trust is the belief that a partner in this case, the firm or its representatives will act in one's best interests and keep commitments. It reduces uncertainty and motivates ongoing exchanges.

Trust is the willingness to rely on an exchange partner in whom one has confidence⁷⁷.

⁷⁴ Valarie A. Zeithaml, "Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence," *Journal of Marketing*, Vol. 52, No. 3. 1988, p. 14.

⁷⁵ A. Parasuraman, V. A. Zeithaml & L. L. Berry, "A Conceptual Model of Service Quality and Its Implications for Future Research," *Journal of Marketing*, Vol. 49, No. 4. 1985, P 43

⁷⁶ A. Parasuraman, V. A. Zeithaml & L. L. Berry, "Understanding Customer Expectations of Service," *Sloan Management Review*, Vol. 32, No. 3 (1991), P 39

⁷⁷ Robert M. Morgan & Shelby D. Hunt, "The Commitment-Trust Theory of Relationship Marketing," *Journal of Marketing*, Vol. 58, No. 3, 1994, P 23.

1.4. Digital Era Evolution:

The digital era has ushered in a profound transformation in retail banking, with physical branches losing ground to online and mobile channels as customers seek convenience and speed.

1.4.1. Adaptation of customer relationship strategies to digital platforms:

Banks and firms have remodeled traditional customer relationship playbooks to thrive in digital channels, with omnichannel integration, personalization, and automation. It extends beyond branch and call-center service and engaging with customers on web portals, mobile apps, and social media offering a smooth experience regardless of channel.

At the core of this change is the adoption of cloud-based CRM platforms that unify customer data in real time, allowing businesses to track interactions, preferences, and issues at all touchpoints.

Modern CRM has expanded from spreadsheets and branch-centric scripts into three interconnected forms strategic CRM (aligning a customer-centric philosophy with business objectives), operational CRM (automating sales, marketing and service workflows), and analytical CRM (mining customer data for insights) all supercharged by digital delivery. Cloud-hosted CRM suites now provide real-time dashboards and automated processes that let companies orchestrate every customer interaction across websites, mobile apps, social media, and call centers⁷⁸.

1.4.2. Role of CRM systems and data analytics:

In the internet age, data analytics is the force driving personalized, anticipatory relationship practices. Recent overview notes that data-driven CRM (DCRM) leverages techniques such as clustering, classification, and predictive modeling on customer databases to enable firms to

⁷⁸ Buttle, Francis, and Stan Maklan. *Customer Relationship Management: Concepts and Technologies*, 3rd ed., Routledge, 2015, P 3.

forecast churn risk, segment high-value customers, and tailor cross-sell or up-sell offers with precision. Across sectors from finance to health, application of data mining software on CRM systems has achieved measurable increases in customer retention and lifetime value.

Moreover, cloud CRM systems today carry machine learning components that automatically scan behavior streams, web clicks, mobile app usage, social interactions and provide actionable insights in the form of AI-driven alerts and dashboards. This marriage of real-time integration and big-data analytics fuels relentless optimization of marketing campaigns, service rules, and product offerings, marking the transition from reactive customer servicing to predictive, experience-based relationship management⁷⁹.

2. Core Pillars of Strong Customer Relations:

Establishing and maintaining strong customer relationships is essential for long-term success in the banking sector. Several core pillars support this objective, each contributing to building trust, satisfaction, and loyalty in an increasingly digital and competitive environment.

2.1. Trust & Credibility:

Trust is the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that party. It rests on three core antecedents' ability (the trustee's competence), benevolence (the trustee's motivation to act in the trustor's interest), and integrity (the trustee's adherence to acceptable principles) which together shape both cognitive and affective dimensions of trust in organizational relationships⁸⁰.

Credibility is defined as the extent to which a receiver perceives information as believable and accurate. It comprises two facets: source credibility (the communicator's expertise and authenticity) and message credibility (the trustworthiness of the content itself) both of which

⁷⁹ Ngai, E. W. T., Li Xiu, and D. C. K. Chau. "Application of Data Mining Techniques in Customer Relationship Management: A Literature Review and Classification," *Expert Systems with Applications*, Vol. 36, No. 2 Part 2. 2009

⁸⁰ Roger C. Mayer, James H. Davis & F. David Schoorman, "An Integrative Model of Organizational Trust," *Academy of Management Review*, Vol. 20, No. 3, Academy of Management, 1995, P 712.

directly influence a customer's confidence, reduce perceived risk, and strengthen purchase intentions⁸¹.

So, in the foundation of any relationship in the financial world. Customers must believe that their financial information is secure and that the bank acts in their best interest. Transparent policies, ethical practices, and consistent service delivery help establish and maintain this trust over time.

2.2. Multi-Channel Communication:

Banks now integrate email, SMS, chat, voice, and social-media touchpoints into an integrated service fabric that lets customers seamlessly transition from a mobile app message to a voice call or live chat without repeating themselves. This bundled strategy not only boosts business efficiency by gathering questions to a single agent workstation but also consolidates relationships: customers are listened to and attended to on their preferred channel, resulting in satisfaction and loyalty. Furthermore, real-time notification (e.g., transaction alert, fraud alert) and proactive alerting (e.g., low-balance alert, personalized product promotion) educate and interact with customers, alleviating concern and demonstrating the bank's watchfulness. It proves that superiority within these multi-channel banking products contributes to almost exactly half of customer satisfaction variation and, as a result, there is strategic potential in both the integration of channels and timely contact⁸².

2.3. Personalization & Segmentation:

Banks begin by segmenting their customer base into distinct groups along such dimensions as demographics, product usage, and profitability to tailor marketing, product bundles, and service levels to the specific needs and desires of each segment. From there, personalization carries over to the individual level: leveraging 360° customer profiles and predictive analytics, banks develop one-to-one communications, propose next-best actions, and adjust offers in real time⁸³.

⁸¹ Patricia M. Doney & Joseph P. Cannon, "An Examination of the Nature of Trust in Buyer-Seller Relationships," *Journal of Marketing*, Vol. 61, No. 2, American Marketing Association, 1997, pp. 40.

⁸² Mónica Cortiñas, Raquel Chocarro & María Luisa Villanueva, "Understanding Multi-Channel Banking Customers," *Journal of Business Research*, Vol. 63, No. 11. 2010

⁸³ Philip Kotler and Gary Armstrong, *Principles of Marketing*, 16th ed., Pearson Education, 2018, p. 200.

- **Customer Segmentation:**

Customer segmentation is the process of dividing a bank's customer base into distinct segments based on shared traits. This allows banks to provide personalized services, communication, and promotions to the unique needs of each segment.

Critical Segmentation Bases:

Demographics: Age, gender, income level, occupation.

Behavioral Patterns: Buying habits, frequency of transactions, usage of products.

Geographical Information: Geographic location, urban vs. rural banking behavior.

Psychographics: Value system and lifestyle options, attitudes.

This segmentation allows banks to develop special campaigns and introduce products that meet each segment's needs more effectively, becoming more relevant and participative.

- **Personalization in Customer Interactions:**

Personalization is the customization of products, services, and messages in accordance with particular customer facts and preferences.

Examples of Personalization in Banking:

Customized Financial Products: Custom loan promotions, savings plans, or investment products.

Personalized Offers & Promotions: Special offers associated with current behavior or personal milestones (e.g., birthdays, anniversaries).

Dynamic Interface Content: Bank smartphone applications that personalize presented material in accordance with user behaviors and preferences.

AI-Powered Suggestions: Smart suggestions and notifications for better money management based on spending habits.

3. Strategic Relationship-Building Tactics:

3.1. Loyalty & Retention Programs:

- **Loyalty Programs:**

Loyalty schemes reward repeat buyers with points, discounts, or special status, building an emotional bond and rewarding repeat purchasing. By tracking purchasing behavior through membership programs often tied to reward high-value buyers companies induce more intense participation and increased wallet share. Loyalty programs are designed not to "bribe" repeat purchasing but to enhance the total perceived value of the relationship and reward valued and appreciated customers⁸⁴.

Banks use various mechanisms to reward and retain their customers:

Points-Based Rewards Systems: Customers earn points for transactions, card usage, or saving goals, which can be redeemed for products or services.

Tiered Loyalty Programs: Based on customer activity or balance thresholds, users are categorized into tiers (e.g., Silver, Gold, Platinum), each with increasing benefits.

Cashback Offers: Direct cashback on purchases or bill payments using the bank's credit/debit cards.

Exclusive Access: Early access to new financial products, lower interest rates on loans, or VIP customer service.

Partnership Discounts: Offers with partner merchants (e.g., travel, dining, e-commerce) that enhance perceived value.

⁸⁴ Grahame R. Dowling & Mark Uncles, "Do Customer Loyalty Programs Really Work?", *Sloan Management Review*, Vol. 38, No. 4 (Summer 1997), p. 72.

- **Retention Strategies:**

Beyond point schemes, retention programs use behavioral psychology such as the goal-gradient effect to accelerate purchases as customers near reward thresholds, and deploy automated triggers (e.g., re-engagement emails) when activity lags. Longitudinal studies show that well-structured loyalty initiatives can raise purchase frequency and lifetime value over years, provided they avoid overly complex rules and maintain transparent value propositions⁸⁵.

While loyalty programs reward behavior, retention programs aim to prevent churn and rebuild at-risk relationships:

Proactive Customer Support: Detecting early signs of dissatisfaction and addressing them quickly.

Personalized Re-Engagement Campaigns: Offering custom incentives or services to re-engage dormant clients.

Customer Feedback Loops: Actively listening to feedback and implementing improvements.

Financial Education & Tools: Providing personalized advice, budgeting tools, or investment tips to increase dependency on the bank's services.

3.2. Customer Advocacy & Community:

- **Customer Advocacy:**

Customer advocacy turns satisfied purchasers into volunteer champions who promote a brand's products or services to their networks. Companies build advocacy by surpassing expectations, engaging customers with loyalty rewards, and requesting feedback that drives real-world

⁸⁵ Ran Kivetz, Oleg Urminsky & Yuhuang Zheng, "The Goal-Gradient Hypothesis Resurrected: Purchase Acceleration, Illusionary Progress, and Customer Retention," *Journal of Marketing Research*, Vol. 43, No. 1. 2006, P 42.

improvement action demonstrated to drive Net Promoter Scores and referral growth. Studies show that high-advocacy brands increase revenue two to five times greater than rivals, highlighting the significance of advocacy as a cost-efficient channel of acquisition⁸⁶.

Banks can encourage advocacy through:

Exceptional Customer Service: Frequent, high-quality interactions engender trust and satisfaction.

Transparency & Ethical Practices: Honest communication of policies, fees, and data privacy engenders customer respect.

Recognition Programs: Public acknowledgment of loyal or active customers by awards or social media spotlights.

Referral Incentives: Encouraging clients to send new customers by offering mutual benefits (e.g., bonuses, discounts).

- **Community Engagement and Brand Loyalty:**

Brand communities unite customers by shared values, experiences, or interests facilitating peer-to-peer support, co-creation of ideas, and long-term emotional bonds. Off and on the web, they amplify customer voice, expedite problem resolution, and provide firms rich learning about product innovation. Traditional research demonstrates that strong brand communities significantly drive customer loyalty and reduce churn by fostering belonging and support⁸⁷.

Existing banks are keener on creating communities around and within their brand. This is about creating a shared identity and interactive platform for their customers:

Online Banking Communities: Platforms where users can talk, ask, or receive financial literacy tips.

⁸⁶ Fred Reichheld, "The One Number You Need to Grow," Harvard Business Review, Vol. 81, No. 12. 2003

⁸⁷ Albert M. Muniz Jr. & Thomas C. O'Guinn, "Brand Community," Journal of Consumer Research, Vol. 27, No. 4 (June 2001), P 415.

Social Media Presence: Engaging with followers through polls, Q&As, webinars, and community challenges.

Customer Advisory Boards: Having leading customers contribute and offer ideas for new products.

Corporate Social Responsibility (CSR): Participation in local charities and involving customers in social outreach programs to create emotional connections.

- **Benefits of Advocacy & Community**

Enhances customer trust and emotional loyalty.

Increases brand visibility through word-of-mouth and user-generated content.

Builds a resilient customer base that supports the bank during economic fluctuations.

Provides valuable feedback and co-creation opportunities for innovation.

Auteur practice for enhancing customer relations:

- **Active Listening: The Foundation of Effective Communication:**

One of the first steps in building solid customer relationships is actively listening. This involves not only hearing what they say but understanding their needs, concerns, and expectations. Empathy plays a crucial role in this process, as it allows one to put themselves in the customer's shoes and respond appropriately.

- **Personalization: The Key to Connecting on a Deep Level:**

Every customer is unique, and treating them as such strengthens the relationship. Personalization goes beyond simple name recognition; it involves understanding their preferences, purchasing history, and specific needs. This enables offering solutions and

recommendations that align with their individual circumstances, creating a stronger and more meaningful bond.

- **Transparent and Clear Communication:**

Transparent communication is essential in any relationship, and in the business world, it is no exception. Customers value honesty and clarity in the information provided. This includes being transparent about policies, pricing, delivery timelines, and any other relevant aspect of the business transaction.

- **Anticipating Customer Needs:**

Going above and beyond and anticipating customer needs is a highly effective strategy. Understanding the customer's business and grasping their long-term objectives allows for offering solutions before problems arise, demonstrating commitment and proactivity.

- **Proactively Resolving Issues:**

Problems will inevitably arise in any business relationship. What sets a good company apart is how it addresses and resolves these issues. Being proactive in seeking solutions demonstrates commitment and can turn a negative experience into an opportunity to strengthen the relationship.

- **Seeking Constant Feedback:**

Feedback is an invaluable tool for the growth and improvement of any business. Asking customers for their opinions and suggestions not only shows interest in their satisfaction but also provides valuable information for adjusting and enhancing products and services.

- **Upholding the Value Proposition:**

Delivering on promises is essential to gaining the trust of customers. This ranges from the quality of products or services offered to meeting deadlines and warranties. Once an expectation is established, it is crucial to consistently uphold it.

- **Celebrating Successes Together:**

Celebrating achievements and milestones with customers is a powerful way to reinforce the relationship. This can include recognitions, exclusive discounts, or special events. Showing appreciation for the trust placed in the company strengthens the emotional bond.

- **Maintaining an Open Communication Channel:**

Providing customers with an easy means to communicate with the company is essential. This can be through emails, dedicated phone lines, or even online chat platforms. An open communication channel demonstrates availability and a willingness to address customer needs at any time.

- **Adding Value to the Customer Experience:**

To stand out in a competitive market, it is crucial to go above and beyond expectations. Adding value can mean providing additional resources, exclusive content, or even loyalty programs. These initiatives not only demonstrate appreciation for customers but also incentivize them to continue choosing the company⁸⁸.

4. Challenges & Mitigation Strategies:

Maintaining strong customer relationships in today's dynamic digital environment presents several recurring challenges ranging from inconsistent service experiences and lack of personalization to data privacy concerns and technological fragmentation

1. Data Privacy & Security Concerns:

- With increased data collection, customers are more concerned about how their personal information is used and protected.
- Frequent cyber threats and breaches can erode trust.

⁸⁸ <https://blogs.uoc.edu/mel/10-strategies-for-building-and-maintaining-productive-customer-relationships/>
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2. Inconsistent Omnichannel Experience:

- Disconnected communication across digital, mobile, and in-branch platforms may cause frustration.
- Customers expect seamless interactions regardless of the channel they use.

3. Lack of Personalization:

- Generic messages or services make customers feel undervalued.
- Inability to effectively segment users leads to irrelevant offers or communication.

4. Rapidly Changing Customer Expectations:

- Digital-native users expect faster, more intuitive, and real-time services.
- Banks often struggle to keep pace with evolving tech trends.

5. Resistance to Change:

- Internally, staff or leadership may be hesitant to adopt customer-centric digital strategies.

So, to avoid these challenges these are mitigation strategies for effective customer relations:

1. Strengthening Data Protection Protocols:

- Implement advanced encryption, multi-factor authentication, and regular security audits.
- Communicate security measures clearly to reassure customers.

2. Unified CRM and Omnichannel Integration:

- Use centralized Customer Relationship Management (CRM) systems to create a 360° customer view.

- Ensure real-time synchronization across all communication platforms.

3. Advanced Customer Segmentation & AI-Powered Personalization:

- Use AI and data analytics to tailor services, offers, and content to individual preferences.
- Continuously refine segmentation based on behavior and feedback.

4. Agile Response to Market Trends:

- Adopt agile methods to launch updates or features rapidly.
- Conduct regular market and customer needs assessments.

5. Change Management Programs:

- Educate internal stakeholders on the long-term value of customer-centric strategies.
- Provide incentives for embracing innovation and digital adoption.

5. The Transition from Customer Relationship to Customer Experience:

The shift from a solely relationship-oriented approach to customer experience (CX) focus is a fundamental transformation of how firms create, deliver, and measure value. Whereas traditional CRM is solely concerned with data capture, segmentation, and process efficiency to manage customer contacts, CX covers the entire journey with a focus on customers emotional state at each touchpoint, consistency of cross-channel experiences, and the overall emotional impact of all brand interactions. This move brings experience design to the forefront mapping end-to-end experiences, choreographing sensory and emotional elements, and integrating feedback loops so that each interaction accumulates to create meaningful, memorable experiences rather than discrete transactions⁸⁹.

The reasons that this transition matters in banking is:

⁸⁹ HB. Joseph Pine II and James H. Gilmore, *The Experience Economy: Work Is Theater & Every Business a Stage*, 2nd ed., Harvard Business School Press, 2011

- **Rising Expectations:** Digital-savvy customers demand convenience, speed, and personalization at every interaction.
- **Competitive Differentiation:** In a saturated market, superior customer experience is a key driver of customer loyalty and brand preference.
- **Revenue Growth:** Banks that invest in optimized customer experiences tend to see higher retention, increased product adoption, and better cross-selling.
- **Data-Driven Personalization:** Leveraging customer insights allows banks to deliver timely, relevant, and meaningful interactions.

Ultimately, building and maintaining productive customer relationships is not just a business strategy but a philosophy that drives long-term success. By focusing on effective communication, personalization, and proactive issue resolution, companies can cultivate strong bonds based on trust and mutual satisfaction.

These relationships not only generate brand loyalty but also open doors to new opportunities and collaborations in the future. Investing in the construction of solid customer relationships is undoubtedly one of the wisest decisions a company can make on its path to sustainable success.

Section 2: The Customer Experience Optimization

Customer experience plays a pivotal role in shaping customer loyalty. This section explores the concept in depth, outlining its fundamental components, the strategic approaches essential for its optimization, and the key practices that banks can implement to ensure a successful and satisfying customer journey.

1. Concepts and Definitions:

The "customer experience" as a discipline began to gain prominence in the second half of the 20th century, specifically in the 1980s and the 1990s, as companies started transforming their focus from a product to a customer approach. The key drivers for this were heightened competition, evolving expectations from customers, and greater focus on brand loyalty.

1.1. Defining Customer Experience:

Customer experience (CX) is the general perception a customer forms based on all their interactions with a company across channels, platforms, and touchpoints throughout their whole customer journey. It's more than isolated moments of service to encompass emotions, expectations, and the consistency of every encounter, beginning from the very first website visit through to post-purchase support. CX is not just determined by functional elements (e.g., accuracy or speed) but also by emotional perceptions, which strongly influence satisfaction, loyalty, and advocacy. Customer experience, in contrast to the reactive customer service of the past, is proactive and holistic, deliberately designed to enable each stage of the journey to contribute to a consistent and meaningful relationship with the brand.⁹⁰

In a retail context, customer experience is a multi-dimensional construct involving the customer's cognitive, affective, emotional, social, and physical responses to the retailer across multiple touch points.⁹¹

⁹⁰ Klaus, Philipp & Maklan, Stan, "Towards a Better Measure of Customer Experience," *International Journal of Market Research*, Vol. 55, No. 2, 2013, p. 229

⁹¹ Lemon, Katherine N. & Verhoef, Peter C. "Understanding Customer Experience Throughout the Customer Journey," *Journal of Marketing*, Vol. 80, No. 6, American Marketing Association, 2016, p. 32.

Customer experience in banking is a description of how people view all their interactions with their bank. This includes things such as opening an account, doing transactions, or calling customer care. Customers use other financial services too, and every point of contact matters. For example, it could be a phone call to the customer support, sending money through a mobile app, or withdrawing cash from an ATM. All these actions influence their general impression regarding the bank. This is the key consideration for their decision to remain or not remain loyal.⁹²

1.2. Defining Customer journeys (CJ):

A customer journey is the end-to-end sequence of experiences and touchpoints that a person goes through when interacting with a brand from initial awareness, through consideration and purchase, to post-purchase support and loyalty stages. Journey mapping makes these pathways explicit, revealing “moments of truth” where customers form critical impressions, and enabling firms to design seamless transitions across channels, anticipate needs at each phase, and eliminate friction that could derail satisfaction and retention.⁹³

The CJ guides the customer from initial interest to a loyal relationship with the brand. Understanding the customer lifecycle and customer journey is crucial, as it highlights the different phases of customer engagement.

- **Mapping the CJ:**

Visualizing the Journey: A journey map presents a tangible image of the customer journey, from first contact to final destination. It allows businesses to see where customers might get lost or fall by the wayside. Understanding customer experience vs. journey maps can help to select the right mapping approach.

Touchpoint Analysis: Mapping the journey enables businesses to pinpoint customers' most significant touchpoints and areas for adjusting the experience. For example, if customers frequently have issues in the purchasing process, the business can focus on simplifying the

⁹² <https://www.ibm.com/fr-fr/think/topics/customer-experience-banking> visited 5 may 2025 at 15:26

⁹³ Lemon, Katherine N. & Verhoef, Peter C. Op.cit, P 71

checkout. This step also involves comparing the experience map and journey map to determine the most appropriate action to take.

Improving CX: An effective customer journey map helps one understand the Customer Journey and takes a long way in improving the Customer Experience overall. It enables companies to examine the entire process from the customer's perspective and make sound choices about improvement to every step. In this context, the experience map vs the journey map comes into the picture particularly.⁹⁴

1.3. Comparing customer experience and customer journey:

Knowing the difference between these concepts can help businesses improve their interactions with customers and their perceptions of them.

- **Differences:**

CX as the Overall Impression: Customer Experience (CX) is all about a customer's overall feeling after interacting with a business. The big picture includes all their emotions and perceptions about the company.

CJ as the Series of Interactions: Customer Journey (CJ), on the other hand, refers to the specific steps or stages a customer goes through when dealing with a business. This could start from the first time they hear about the company, continue through their decision to buy, and include any post-purchase interactions.

CX is the End Result: Think of Customer Experience as the final grade a customer gives a company based on all their interactions. It's how they sum up their entire relationship with the business.

CJ is the Path: The Customer Journey is the detailed map of every interaction or touchpoint that leads to that final grade. It's the specific path that customers walk that ultimately shapes their experience.

⁹⁴ <https://www.wavetec.com/blog/comparing-customer-experience-vs-customer-journey/> visited 6 may 2025 at 14:15

- **Similarities:**

The interconnectedness of CX and CJ: Customer Experience and Customer Journey are deeply connected. They work together to help businesses understand and meet customer needs.

Focus on Customer Understanding: Both concepts center on understanding what customers want and need. By mapping out the Customer Journey and focusing on improving the Customer Experience, businesses can create better, more satisfying customer experiences.

Shared Goal of Customer Satisfaction: Ultimately, both CX and CJ aim to ensure that customers are happy and satisfied with their interactions with the business, leading to stronger relationships and loyalty.

1.4. Defining user experience:

User experience refers to the entire set of a user's engagement with a company's digital touchpoint whether it's a website, mobile application, or other software solution. UX encompasses aspects such as information architecture, visual design, content, interactivity, accessibility, and overall usability. Perhaps most importantly, it conveys how intuitive and enjoyable such features are to users and how effectively they support users in their goals. A good UX design balances user satisfaction and business goals, facilitating seamless and meaningful interaction at all stages of the customer journey.⁹⁵

1.5. Difference between customer experience and user experience:

The biggest difference between UX and CX is in their scope and focus. While UX is product-centered and design-centered, targeting specific points of interaction (like app navigation or web forms), CX is experience-centered, considering all the interactions and emotions throughout the entire relationship between customer and company. UX is usually a part of CX, especially in digital experiences, but UX and CX are not the same. UX can be fantastic, yet if customer support is bad or delivery is a drag, then the overall CX can still remain negative.

⁹⁵ Jesse James Garrett, *The Elements of User Experience: User-Centered Design for the Web and Beyond*, 2nd edition, New Riders, 2010, P 6

Thus, UX is only one variable in the total CX, yet CX includes quite a few non-digital pieces as well.⁹⁶

2. The main element of customer experience:

- **Consistency across touchpoints:**

Customers expect a seamless and uniform experience whether they interact with a brand online, through mobile apps, in-store, or via customer service. Inconsistency can create confusion, reduce trust, and disrupt the emotional connection a brand aims to build. Delivering consistent messaging, design, tone, and service across all platforms helps to reinforce brand identity and increases customer confidence and loyalty.⁹⁷

- **Personalization:**

involves tailoring interactions, content, and recommendations based on the customer's history, preferences, and behavior. Personalized experiences make customers feel recognized and valued, increasing emotional engagement and encouraging repeat interactions. In banking, this could mean suggesting products that align with a customer's financial habits or sending proactive alerts based on spending trends. Effective personalization is driven by accurate data collection and ethical data usage.⁹⁸

- **Empathy and emotional connection:**

Empathy and emotional connection are also vital in crafting memorable CX. Customers don't just remember what a brand did for them—they remember how it made them feel. Brands that actively listen, respond with understanding, and show genuine concern during key interactions (especially when resolving problems) tend to create lasting bonds. Empathy turns a neutral or

⁹⁶ Martin Newman, *The Power of Customer Experience: How to Use Customer-centricity to Drive Sales and Profitability*, Pearson Education, 2016

⁹⁷ Don Peppers & Martha Rogers, *Managing Customer Experience and Relationships: A Strategic Framework*, 3rd edition, Wiley, 2016, P 19

⁹⁸ Martin Newman, *Op.cit*, P 53.

even negative situation into a positive emotional experience, strengthening customer trust and advocacy.⁹⁹

- **Simplicity:**

Customers prefer business interactions to be frictionless and easy at every step of the customer journey. Easy processes are among the major building blocks of world-class customer experience since they aid in easy-flowing processes, which in turn lower frustration with interactions. Customers also prefer listening and having it easy in the interactions. The implication is that a company minimizes jumps between one touchpoint or step and another. Providing and implementing a one-step solution or access to information through all the channels would be the optimal approach.

- **Adaptability:**

As the virtual world keeps evolving so rapidly, customers (particularly the younger generations) are more inclined to experiment with newer technologies and adhere to newer engagement channels. Flexibility is among the most important ingredients of effective customer experience because it enables companies to compete effectively in a dynamic environment. This simply means that companies have to consider the changing consumer terrain and be ready to change and adapt quickly and seamlessly. Flexibility in a technological environment is of the highest priority for a company to provide world-class customer services in speed, security of data, accuracy of data, etc. As each customer is unique, a company's solutions must be flexible, scalable, and tailored based on the customer's precise needs.

- **Anticipation:**

Anticipation is also closely linked with the rapidly changing technology environment. Organizations must anticipate change before it occurs in order to stay ahead of customers and also competitors if they are to be able to adjust quickly and seamlessly. Being one of the fundamental elements of fantastic customer experience, anticipation helps organizations to be innovative and deliver exemplary outcomes. To provide a global-class customer experience, every company must be a digital leader in their own industry and market.

⁹⁹ Colin Shaw & John Ivens, *Building Great Customer Experiences*, Palgrave Macmillan, 2002, P 46.

- **Responsiveness:**

Responding to customer complaints or inquiries consistently and promptly is crucial to providing excellent customer experience. Responsiveness is one of the main elements of good customer experience, ensuring timely resolutions that foster trust. A responsive CX team can contribute to success by assisting as many customers as possible and finding solutions quickly. When customers provide positive feedback, responsiveness is also critical. Customers will be satisfied with their experience if their suggestions prompt change.

- **Transparency:**

Consumers prefer it when businesses and brands they purchase from are transparent, honest, and open. Transparency is used to establish trust by being honest in communication about products, services, and pricing. It is one of the most respected attributes among the key factors of positive customer experience, especially when handling adverse problems.

The second crucial element of transparency is explanation of service/product and prices. Consumers prefer it when sufficient and accurate information is provided.

- **Exceeding expectations:**

Exceeding expectations is merely doing more than expected for your customers! Going the extra mile is another most important aspect of the main drivers of positive customer experience, as it increases satisfaction and establishes long-term loyalty. Going the extra mile will definitely bring long-term, positive customer relationships. It will also bring customers returning, renewing, or re-subscribing. Return customers are more likely to suggest the brand to their friends, which leads to acquiring new customers. Thus, a company should not let any opportunity slip by to go the extra mile to impress and involve existing customers.¹⁰⁰

¹⁰⁰ <https://frontlogix.com/main-elements-of-good-customer-experience/> visited 7 may 2025 at 12:16

3. The importance of CX in the banking sector:

Within the highly competitive banking sector, customer experience (CX) is both a strategic asset and differentiator. Retail banks now recognize that "service and customer experiences are important differentiators," guiding investments in strategy, culture, processes, and systems that collectively shape every customer touchpoint.

Suvarchala and Rao explain that CX in banking is "the product of an interaction between an organization and a customer over the duration of their relationship," with key elements strategy, culture, processes, systems, and people directly impacting customer satisfaction and loyalty.¹⁰¹

Furthermore, robust CX initiatives drive measurable business outcomes through enhanced customer loyalty and retention. Bhat, Dazari, and Parrey's mediational study in banking finds that improved experience management practices through higher satisfaction, trust, and perceived value significantly enhance repeat visits and cross-sell rates. Their research highlights that banks investing in seamless, empathetic, and personalized experiences have higher customer lifetime value and lower churn rates, directly translating into better financial performance.¹⁰²

With the digital age, customers' expectations are higher than ever. Customers expect seamless, personalized and efficient service across all channels online, mobile or branch. By prioritizing better customer experience, banks can stand out from the competition, especially as fintech and digital-only banks pick up steam. Through advanced technologies like AI, data analytics and personalized service initiatives, banks are able to meet these expectations, making their operations more efficient and customer satisfaction higher. Ultimately, it is customer focus that banks must adopt to stay competitive, achieve sustainable profitability and growth and maintain a loyal customer base.¹⁰³

4. The digital customer experience:

The Digital Customer Experience (DCX) has evolved significantly over the past few decades, reflecting broader technological advancements and shifting consumer expectations.

¹⁰¹ M. B. Suvarchala & Prof. V. Narasimha Rao, "Customer Experience Management in Banking Sector – A Brief Review," *International Journal of Research - Granthaalayah*, Vol. 6, No. 7 2018, P 165.

¹⁰² Suhail A. Bhat, Mushtaq A. Dazari & Shekir H. Parrey, "Antecedents of Customer Loyalty in Banking Sector – A Mediational Study," *Vikalp: The Journal for Decision Makers*, Vol. 43, No. 2 (2018), P 94.

¹⁰³ <https://www.ibm.com/think/topics/customer-experience-banking> visited 7 may 2025 at 13:41

4.1. Defining digital customer experience:

Digital Customer Experience in banking encompasses all digital touch points websites, mobile, chatbots, voice of the bank, and kiosks along which customers interact with their bank. It prefers ease of accessibility, usability, personalization, security, and seamless omnichannel experience such that digital experiences are convenient, easy, and emotionally engaging. Banks, using real-time information and analytics, can pre-empt needs, personalize offer suggestions, and guide users through such complex processes as loan applications or investment choices with minimum amount of friction.¹⁰⁴

4.2. The difference between CX and DCX:

In the banking sector, the distinction between Customer Experience (CX) and Digital Customer Experience (DCX) is one of medium and scope. While CX is all customer interactions with a bank whether in-person at branches and call centers, through advertising, or through digital channels DCX only encompasses the experiences customers have through digital interfaces like mobile banking apps, websites, ATMs, chatbots, and online customer service platforms.

Though DCX is a subset of CX, its significance has increased as increasing digital banking usage is being felt. Basically, CX is the end-to-end experience a customer has with a bank, whereas DCX focuses only on digital touchpoints, i.e., logging into an app, applying for a loan online, or interacting with virtual assistants. Both aim at enhancing customer satisfaction and loyalty but DCX takes it one step ahead by talking about how easy, smooth, and personalized the online banking process is.¹⁰⁵

- **Competitive edge:**

4.3. The impact of digital transformation on customer experience:

Digital transformation today is a business imperative and not an option, and digitalization plays a vital part in business value creation as well as enhancement of the general customer experience for businesses globally. Customers today need frictionless

¹⁰⁴ Dave Chaffey & Fiona Ellis-Chadwick, Digital Marketing, 7th edition, Pearson Education, 2019, P 312

¹⁰⁵ <https://frontlogix.com/what-is-digital-customer-experience/> visited 7 may 2025 at 16:35

experiences powered by technology be it virtual product simulations and interactive onboardings or ability to subscribe, purchase, or renew services remotely from their smartphone. Shared customer expectations like "Is there an app for this?", "Can it be delivered tomorrow?" or "Is it ready to use immediately?" mirror the mounting need for convenience and immediacy. As such, embracing digital solutions not only simplifies the operations but also radically transforms and enhances the customer experience at all touchpoints.¹⁰⁶

5. The customer experience optimization:

5.1. Defining the CX optimization:

CX optimization belongs to the definition of experience management as "the capacity to design, manage, and optimize the customer's end-to-end journey through the integration of cultural mindsets, strategic experience design, and organizational processes for the purpose of driving ongoing improvement in customer attitudes and behaviors." This definition highlights that optimization isn't just tweaking interfaces but developing a strategic competency for ongoing experience innovation.

- **Key takeaways:**

Customer experience optimization improves the entire customer journey and includes analyzing data and understanding customers.

To understand customers, you first need to identify customer pain points by listening to customers, analyzing customer data, and evaluating customer behavior.

Analyzing customer data helps make informed decisions and uncovers trends and patterns in customer behavior.

It all boils down to a customer-centric strategy that helps you understand customer needs and create personalized experiences.

¹⁰⁶ <https://frontlogix.com/what-is-digital-customer-experience/> visited 7 may 2025 at 16:46

5.2. The importance of CX optimization:

Optimizing customer experience is paramount to maintaining competitive advantage in today's oversaturated banking sector. While products and pricing become increasingly commoditized, CX is a competitive differentiator that creates emotional loyalty and increases customer lifetime value. By optimizing every interaction digital, physical, or hybrid banks can exceed increasing customer expectations, reduce churn, and optimize advocacy. Firms that invest in CX optimization enjoy improved brand image and top-line growth because customers remain loyal to institutions that understand and cater to their needs.¹⁰⁷

Optimizing CX also makes a bank's operations more efficient. By regularly checking and getting feedback, banks can identify where their processes are slow, repeated, or have gaps. This helps them make their workflows smoother and keeps customers happy. For example, if banks improve the onboarding process for new customers, they can reduce the number of support calls, speed up processing times, and make sure more people complete their tasks correctly the first time. This kind of efficiency not only saves money but also helps departments like marketing, IT, and customer service work together better.¹⁰⁸

Moreover, CX optimization helps businesses make decisions based on actual data. Tools like customer journey analytics, heatmaps, behavior tracking, and sentiment analysis show what is important to customers. This way, companies make changes based on solid insights, not just guesses or surface-level information. These improvements can lead to higher Net Promoter Scores (NPS), greater customer satisfaction (CSAT), and more successful digital conversions.¹⁰⁹

¹⁰⁷ Martin Newman, Op.cit, P 18

¹⁰⁸ Dave Chaffey & Fiona Ellis-Chadwick, Op.cit, P 317

¹⁰⁹ Martin Homburg, Nina Jozić & Sabine Kuehnl, "Customer Experience Management: Toward Implementing an Evolving Marketing Concept," *Journal of the Academy of Marketing Science*, Vol. 45, No. 3, Springer, 2017, P 383

5.3. Steps to optimize customer experience:

Optimizing customer experience involves understanding the customer journey and identifying areas where improvements can be made. Here are a few strategies that businesses can use to optimize the customer experience:

1. **Understand customer journeys:** Leverage historical data from past interactions to gain greater knowledge of what customers want and need. By mapping out common customer journeys, that can identify areas for improvement and develop new strategies to optimize the overall customer experience.¹¹⁰
2. **Map the customer journey:** A customer journey map is a graphical illustration of the customer touchpoints and exchanges a customer has with a brand, starting from their initial awareness of a brand to post-sales support.
By charting the customer journey, businesses can identify and address customer pain points. This may be a complete overhaul of the journey for all customers, or a targeted change that only applies to specific stages and customer personas. Improving the customer journey guarantees customers a smooth and enjoyable experience throughout every phase of their relationship with a brand.¹¹¹
3. **Set clear expectations:** A crucial element in delivering a positive customer experience is establishing clear expectations.
Ensure that clients are aware of what your products and services, as well as the customer support, have to offer.
By doing so, they will not be disappointed, and that can prevent miscommunication that may result in unfavorable experiences.
4. **Using data and analytics:** Utilizing data and analytics can help businesses better understand the customer journey and identify areas where improvements can be made. This can include analyzing website traffic, customer feedback, and purchase history.¹¹²

¹¹⁰ <https://getmindful.com/blog/what-is-customer-experience-optimization/> visited 10 may 2025 at 16:01

¹¹¹ <https://www.bolddesk.com/blogs/customer-experience-optimization> visited 10 may 2025 at 16:15

¹¹² <https://www.ennova.com/en/resources/blog/cx/guide-what-is-customer-experience-optimization-and-how-to->

5. **Personalization:** Personalizing the customer experience can make customers feel valued and appreciated. This can be done through things like using customers' names in communications, recommending products or services based on their past purchases, or providing customized offers or discounts.
6. **Listening to customer feedback:** Listening to customer feedback is crucial for understanding how customers perceive your business and identifying areas for improvement. This can be done through surveys, social media monitoring, and other methods.
7. **Solve issues proactively:** It is crucial to promptly and effectively address any challenges or problems that customers may encounter with products or services. That can provide an external knowledge base to customers for self-service support, as well as an internal knowledge base for support agents. These allow customers to quickly resolve common and simple issues by themselves and give support agents quick access to solutions.
8. **Measure and analyze customer experience metrics:** Monitor and measure essential customer experience metrics like net promoter score, customer satisfaction score, and customer effort score to gauge the business's user experience. Consistently examining these metrics can assist in making informed choices to enhance the customer experience further.¹¹³

5.4. Best practices for customer experience optimization:

Beyond the previously discussed stages, several best practices can be adopted to further enhance and optimize the customer experience. These practices serve as strategic guidelines for institutions aiming to deliver consistent, efficient, and personalized interactions across all customer touchpoints.

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¹¹³ <https://www.bolddesk.com/blogs/customer-experience-optimization> visited 10 may 2025 at 16:45

- **Embrace the omnichannel approach:**

Customers should feel heard and valued across all channels, whether it's website, app, physical store or social media. An omnichannel customer experience seamlessly integrates all customer touchpoints and channels to deliver a consistent, unified and personalized interaction throughout the customer journey with the brand. Customers can seamlessly transition between channels during their journey without sacrificing context or progress.

- **AI for enhanced personalization:**

Smart recommendations: AI can analyze customer data and purchase history to recommend relevant products, content and offers, creating a sense of individual attention.

Chatbots and virtual assistants: AI-powered chatbots offer 24/7 support, answer common questions and resolve simple issues, reducing average hold times and increasing customer satisfaction.¹¹⁴

5.5. Customer experience optimization is an ongoing process:

Optimizing customer experiences is an ongoing effort, not a single project. Because what customers want and need changes, businesses must constantly evaluate and adjust their efforts to deliver good customer experience. This will cover actively seeking customer feedback, closely tracking all interactions across touchpoints and, enabled by data analytics, identifying new areas for service improvement and creation of innovative elements of service delivery.

¹¹⁴ <https://www.sprinklr.com/blog/customer-experience-optimization/#toc-0> Visited 10 may 2025 17:09

Conclusion of chapter 02:

This section highlighted the evolution from traditional customer relations to a more comprehensive focus on customer experience (CX) in the banking sector. It showed how digital transformation, personalization, and multichannel strategies are essential for meeting modern customer expectations. Ultimately, optimizing CX has become a key factor in building loyalty and ensuring long-term success in a competitive, digital-first environment.

Chapter 3: BNP Paribas El Djazaïr Case Study

In order to put into perspective, the key concepts elaborated throughout this research, we have chosen to back up our theoretical approach by conducting a case study of BNP Paribas El Djazaïr.

This chapter is structured around three main sections. First, we present the background of the host organization to provide a good understanding of its current positioning and business environment. Second, we describe the research methodology adopted to guide our empirical investigation. Then, we explore the findings derived from the field, followed by a discussion of key insights and the formulation of recommendations and actionable proposals to enhance the customer experience strategy at the bank.

Section 01: Presentation of the Host Organization

This section provides an overview of the host institution, starting with the BNP Paribas Group, its creation, historical evolution, and global presence followed by a focus on its Algerian subsidiary, BNP Paribas El Djazaïr. Special emphasis is placed on the Sustainable Marketing and Communication Department, which is central to our study.

1. Presentation of the BNP Paribas group:

BNP Paribas operates in 64 countries with nearly 178,000 employees, including over 145,000 based in Europe.

The Group holds leading positions in its three core areas of activity: Retail Banking, Investment Solutions, and Corporate & Investment Banking. In Europe, it has four domestic markets Belgium, France, Italy, and Luxembourg and BNP Paribas Personal Finance is the number one provider of consumer credit.

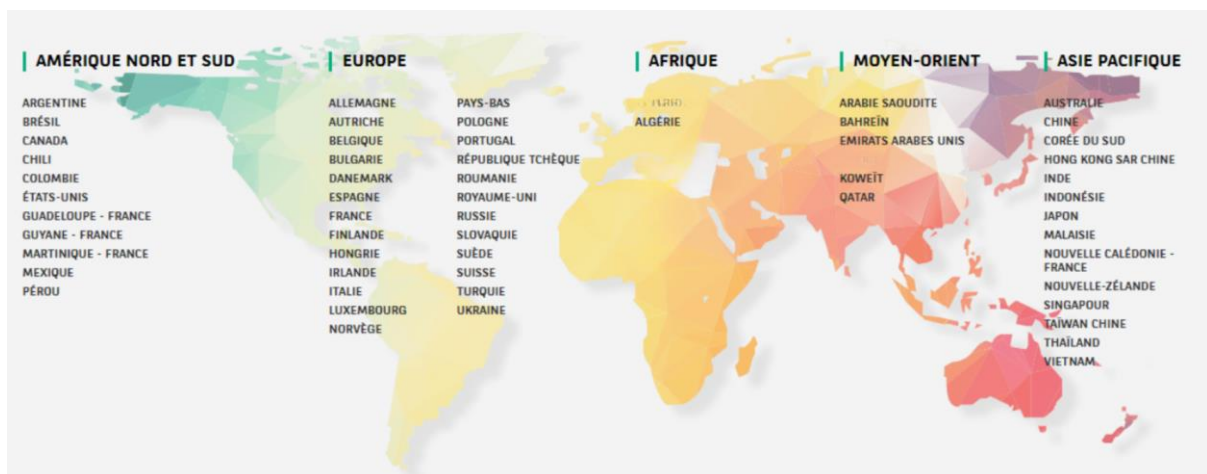
BNP Paribas is also expanding its integrated retail banking model across Mediterranean countries, Turkey, Eastern Europe, and maintains a significant network in the western United States.

In its Corporate & Investment Banking and Investment Solutions activities, BNP Paribas holds a leadership position in Europe, has a strong presence in the Americas, and is rapidly growing its operations in the Asia-Pacific region.

BNP Paribas stands out for its diversified and integrated model and for its solid financial structure, allowing it to deliver a long-term performance and to continue to grow by steadily gaining market shares.¹¹⁵

BNP Paribas is present in more than 64 countries:

Figure 2: BNP Paribas' Local Sites Around the World



Source: Internal documents, 2022.

1.1. Operating divisions:

BNP Paribas organizes its businesses into three main operating divisions: Corporate & Institutional Banking (CIB), Commercial, Personal Banking & Services (CPBS) and Investment & Protection Services (IPS). In order to increase cooperation between the business lines and thus meet the changing expectations of our customers, employees, investors and all other stakeholders, these divisions implement a global and joint approach to enrich each other's expertise and provide our customers with continuous long-term support for all their projects.

¹¹⁵ <https://group.bnpparibas/en/group> Visited 14 may 2025 15:04

1.1.1. Corporate & Institutional Banking: serves two types of clients: corporate clients and institutional investors (banks, insurance companies, asset managers, etc.) by offering tailor-made solutions in terms of capital markets, securities services, investment banking, financing, risk management, cash management and financial advisory.

Its strategy of positioning itself as a bridge between corporate and institutional clients makes it possible to connect the financing needs of corporate clients with institutional clients seeking investment opportunities.

With a presence in three major regions - Europe, the Middle East, Africa (EMEA), the Americas and Asia Pacific (APAC) - CIB's business lines work as closely as possible to support our customers' needs and accompany them in their transition to a more sustainable economy.

1.1.2. Commercial, Personal Banking & Services: offers a wide range of services to a wide variety of customers. It brings together all our commercial banks and many specialized businesses to meet clients' daily needs and help them realize their projects, particularly in the context of a more responsible economy.

With its four domestic markets in the eurozone (France, Belgium, Italy and Luxembourg) as well as in Europe-Mediterranean (covering Central and Eastern Europe, Türkiye and a few countries in Africa and Asia), BNP Paribas has a large network of experts and offers its customers a wide range of services and products such as financing and savings solutions.

1.1.3. Investment & Protection Services: brings together activities dedicated to protection, savings, investment and real estate services. It designs innovative and sustainable products to support individuals, professionals, corporate clients and institutions in their projects and their desire to have a positive impact.

By integrating environmental, social and governance (ESG) criteria into all their operational processes, the 3 operating divisions contribute to making BNP Paribas a world leader in sustainable finance.¹¹⁶

1.2. Historical evolution:

BNP Paribas was formed from the merger of two major banking institutions:

BNP (Banque Nationale de Paris): established in 1945, was itself the result of a merger between the Comptoir National d'Escompte de Paris (CNEP) and the successor of the Comptoir National de Mulhouse: the Banque Nationale du Commerce et de l'Industrie (BNCI). Both banks were originally created with the aim of revitalizing credit in response to the economic and political crisis of the 1840s.

Paribas (Banque de Paris et des Pays-Bas): founded in 1870, was initially created to finance the war indemnity loan following the Franco-Prussian War. Since then, it has financed major international economic projects and operations, following a strategy of international expansion.

- **Pioneering times, 1822-1913**

As actors of the second banking revolution, BNP Paribas' forerunners were committed to promoting economic development.

- **Standing the test of time, 1914-1965**

BNP Paribas' predecessors develop and are reinvented despite successive crises.

- **The modern bank, 1966-1999**

The creation of BNP in 1966 marked the advent of mass banking. This new bank – number one in France and number two in Europe – aimed to consolidate its international expansion and cope with new market challenges.

¹¹⁶ <https://group.bnpparibas/en/group/our-businesses-and-expertise> Visited 14 may 2025 16:18

- **BNP Paribas, a major European group since 2000**

The merger of BNP with Paribas gave birth to a European-scale banking group with a solid national foundation and international reach that allowed it to take on one of the banking industry's major challenges: digital technology.

- **BNP Paribas accelerates digitalization in the banking sector**

2013: BNP Paribas launches Hello Bank! in France, the first fully digital European bank. Hello Bank! is designed to address customers' increased needs for speed and simplicity when they are moving about.

2017: Nickel, the first French neo-bank, joins the BNP Paribas Group. In favor of financial inclusion, this offer allows users to open a bank account in five minutes at any tobacconist shop, with no minimum income requirement and with no overdraft or credit facilities.

2022: BNP Paribas finalizes the acquisition of Floa, one of the French leaders in innovative payments, strengthening its portfolio of innovative solutions in order to provide a complete offer to its customers in Europe.¹¹⁷

1.3. The Group's Core Values:

The values of BNP Paribas lie at the heart of the Group and form the foundation of its corporate culture. They reflect its commitment to clients and represent its strengths and strategic pillars.

The four key pillars on which the Group relies to overcome challenges and build the future are:

- **Agility:** Embracing digitalization to serve customers in the most efficient and innovative way possible.
- **Culture of Compliance:** Ensuring a strong culture of compliance and ethics throughout the organization.
- **Customer Satisfaction:** Implementing a customer loyalty-oriented strategy.

¹¹⁷ <https://group.bnpparibas/en/group/about-us/company-history> Visited 18 may 2025 11:53

- **Openness:** Encouraging open-mindedness and active listening among the Group's employees.

Figure 3: The values of BNP Paribas



Source: Internal documents, 2022.

1.4. The Four Pillars of Strength of the Group:

The four key strengths that form the cornerstone of the Group and support the implementation of its integrated universal banking model while reinforcing its leadership position in several markets are:

- **Solidarity:** A diversified management approach and business model focused on long-term goals.
- **Responsibility:** A culture of responsibility and integrity aimed at better serving clients.
- **Expertise:** Recognized know-how and high-quality service delivery.
- **A Good Place to Work:** A motivating work environment where every employee is treated with fairness and respect.

Figure 4: The key strengths of BNP Paribas



Source: Internal documents, 2022.

2. BNP Paribas El Djazaïr:

A 100% subsidiary of BNP Paribas, BNP Paribas El Djazaïr was established in 2002 with the ambition of becoming the reference bank for individual, professional, and corporate clients. Today, it ranks among the leading private banks in Algeria, with shareholders' equity amounting to 20 billion DZD.

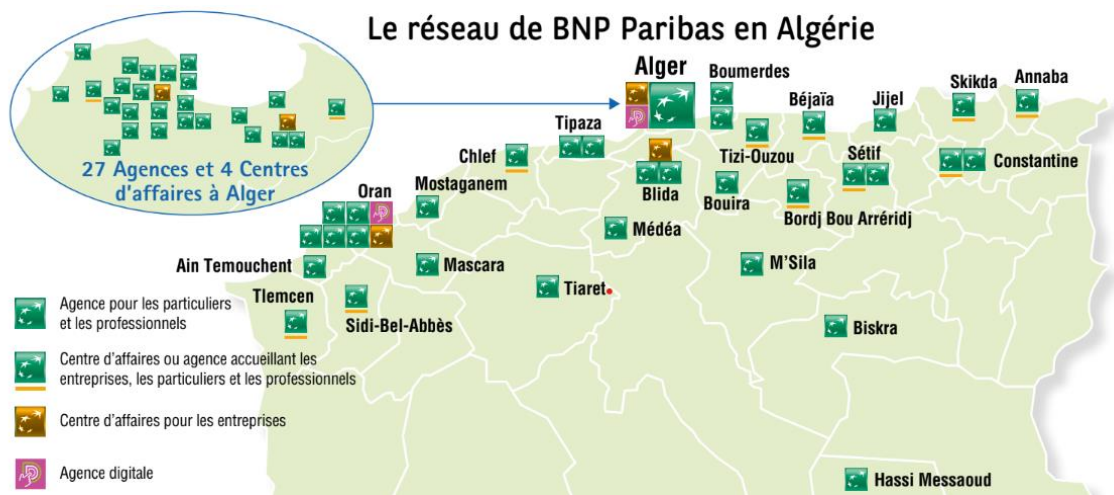
Building on its success, the bank has developed a network of over 40 branches, primarily located in Algiers, and relies on more than 1,200 employees to support its clients. Since 2011, BNP Paribas El Djazaïr has been ISO 9001 certified for its international trade activities, with the certification extended to electronic banking services in 2014.

In 2016, the bank inaugurated its new headquarters at the Bab Ezzouar Business Center in Algiers, which became the first building in Africa to be certified High Environmental Quality (HQE). The building meets the requirements of sustainable development and is accessible to persons with reduced mobility.

As part of its commitment to the ecological transition, BNP Paribas El Djazaïr launched in 2021 the first green loan offering on the Algerian market, aimed at businesses. In 2023, the bank

strengthened its commitment by introducing a new eco-responsible solution for individuals and professionals, marking a new milestone in its support for sustainable initiatives in Algeria.

Figure 5 : The BNP Paribas El Djazaïr Network



Source: Internal documents, 2022.

2.1. The activity of BNP Paribas El Djazaïr:

The Algerian subsidiary has expanded its market over the years, now serving more than 3,000 corporate clients and 230,000 individual and professional clients.

2.1.1. Corporate activity:

A network of more than 3,000 clients spread across the entire national territory, along with a series of operational partnerships with BNP Paribas business lines:

Business Units and Synergies Division

This division brings together several key business lines:

- **Trade Finance (International Trade):** The Trade Center of BNP Paribas El Djazaïr offers a range of products and services designed to secure, guarantee, and finance clients' international operations.
- **Cash Management:** Provides a wide array of functionalities in e-banking, including real-time reporting, monitoring, and payment processing.

Multinational Corporate Division

This division supports the financing of foreign projects and investments through various services:

- **Corporate Banking:** Includes investment loans, working capital loans, and performance guarantees.
- **Leasing:** A comprehensive range of leasing solutions for both large companies and SMEs.
- **Trading Room and Foreign Exchange Treasury:** BNP Paribas El Djazaïr is the first private bank in Algeria to be licensed as a stock exchange operations intermediary, allowing it to support clients in their stock market activities.

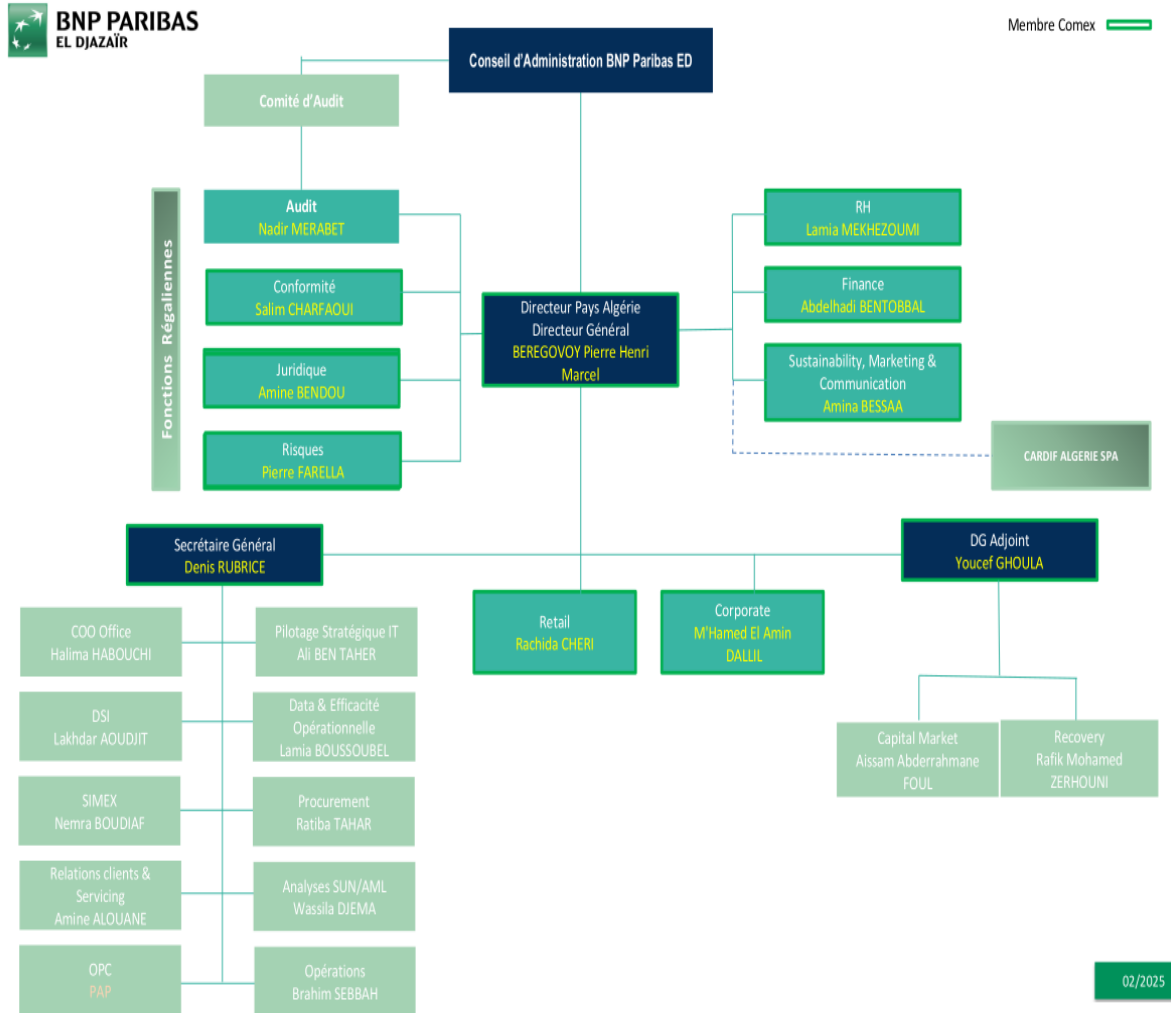
2.1.2. Retail and Professional Banking Activities:

With over 230,000 individual and professional clients across the national territory, BNP Paribas El Djazaïr offers a range of innovative and tailored services and solutions:

- **All-in-One Packs:** As the name suggests, these comprehensive packs include a bank account, remote banking services, card services with CIB and VISA cards, Ooredoo top-up via ATMs, online payment access through the CIB card, and two digital branches.
- **Financial Solutions:** These include mortgage loans (standard mortgage, subsidized mortgage, youth mortgage), consumer credit, and financing for professionals through leasing or revolving credit.
- **Bancassurance:** A comprehensive home insurance offering that covers property damage.
- **Savings Enhancement:** Includes both demand and term savings solutions.
- **Multichannel Banking Access:** Clients can access banking services through multiple channels, such as branches and business centers, multifunction ATMs, the website bnpparibas.dz, the mobile app My Bank, and the customer relations center Direct Call.

As follows the organization chart and departments of BNPPED:

Figure 6: Organizational chart BNP Paribas El Djazaïr



Source: Internal documents, 2025.

3. Presentation of the Sustainability, Marketing & Communication department (SMC):

The Sustainability, Marketing & Communication Department of BNP Paribas El Djazaïr plays a central role in aligning the bank's operations with its strategic vision of responsible growth and customer engagement. This department reflects the bank's commitment to long-term value creation, both environmentally and socially, while ensuring effective communication and customer-centric marketing.

3.1. Sustainability and Corporate Social Responsibility (CSR):

This unit is responsible for designing and implementing the bank's sustainable development strategy, in line with the global CSR objectives set by the BNP Paribas Group. It ensures the integration of environmental, social, and governance (ESG) principles into the bank's operations, supporting initiatives such as:

- Promoting green finance solutions (e.g., green loans for individuals and businesses),
- Supporting local community projects and social inclusion efforts,
- Reducing the bank's environmental footprint through energy efficiency and digitalization.
- The department also monitors and reports on sustainability indicators, contributing to transparency and accountability in BNP Paribas El Djazaïr's activities.

3.2. Marketing Activities:

The Marketing division within the department is responsible for market analysis, strategic positioning, and customer segmentation. Its key functions include:

- Developing product and service offerings tailored to the needs of various customer segments (individuals, professionals, SMEs, and corporates),
- Designing and launching marketing campaigns to promote banking solutions (e.g., digital banking, savings products, insurance),
- Managing customer experience and loyalty programs, including feedback collection and satisfaction improvement plans.

- The department is involved in defining pricing strategies that balance competitive positioning, profitability, and customer accessibility. These pricing models are regularly reviewed to ensure alignment with customer expectations and market trends.
- Marketing also encourages customer advocacy, by transforming satisfied clients into ambassadors of the bank. This is achieved through strong after-sales services, trust-building measures, and loyalty programs, and NPS surveys.
- The marketing team conducts continuous benchmarking to monitor best practices and analyze competitor offerings, enabling BNP Paribas El Djazaïr to maintain a competitive edge and anticipate market shifts.
- The marketing strategy emphasizes personalization and digital engagement, leveraging customer data to deliver value-added and relevant content through appropriate channels.

3.3. Internal, External and digital Communication:

The Communication division ensures the consistency and clarity of the bank's messaging across all touchpoints, maintaining a positive brand image and fostering trust with stakeholders. It encompasses:

- External communication, including media relations, advertising, and public relations to enhance the visibility of BNP Paribas El Djazaïr's initiatives,
- Internal communication, which plays a critical role in aligning employees with the bank's mission and promoting a culture of collaboration and innovation,
- Digital communication management, involving the bank's presence on social media platforms, website updates, and interactive client communication.
- This division also takes part in organizing corporate events, CSR awareness campaigns, and supporting the bank's role as a responsible corporate citizen.

3.4. Innovation and Support for Entrepreneurship:

Innovation is a strategic component of this department's mission. BNP Paribas El Djazaïr promotes entrepreneurial ecosystems by:

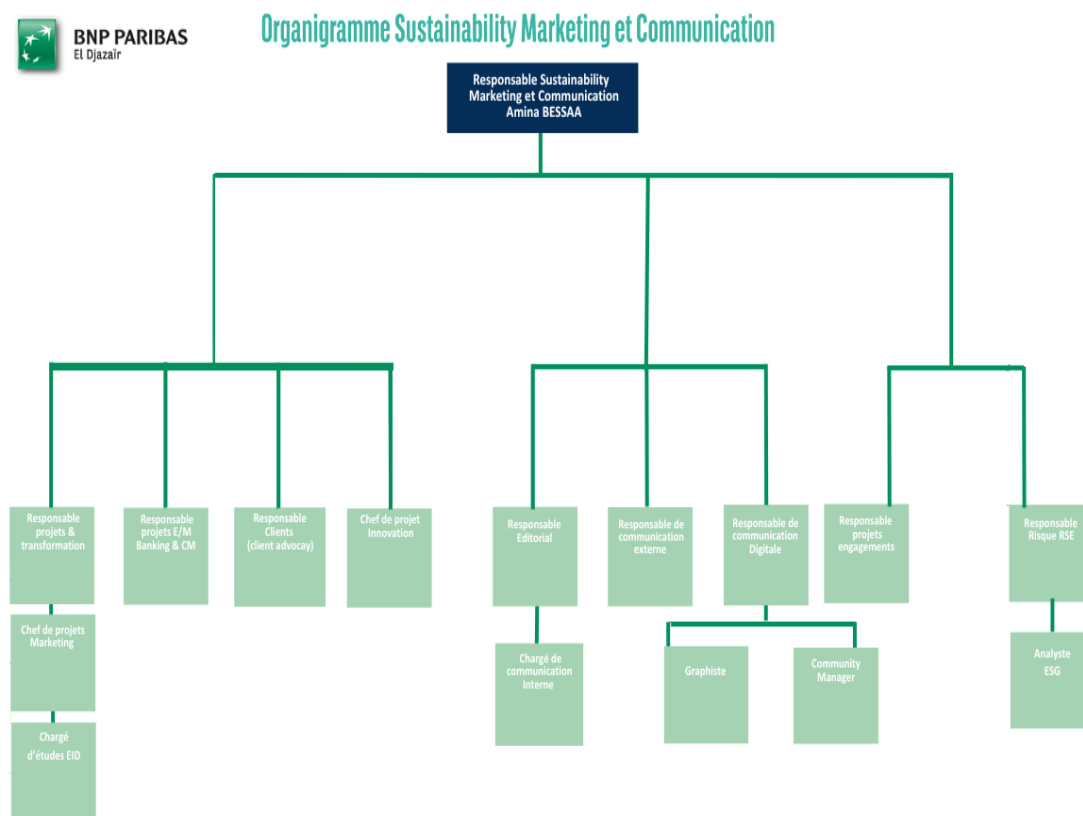
- Partnering with start-ups and innovation hubs through open innovation program (ex: Algeria startup Challenge), offering them financial solutions, strategic advice, and networking opportunities,

- Supporting projects related to sustainable innovation, especially those linked to environmental impact reduction and circular economy models,
- Encouraging intrapreneurship and digital transformation within the bank, cultivating a culture of agility, experimentation, and forward-thinking.
- Supporting project management by implementing Agile Scrum Framework.

This approach reflects the Group's broader ambition to support inclusive and sustainable economic growth, and to empower new generations of entrepreneurs.

Below the division's organization chart:

Figure 7: Organizational Chart of SMC department



Source: Internal documents, 2025.

Section 02: Research Methodology

This section outlines the research methodology adopted to carry out the present study and attain the findings discussed at the end of the chapter. It details the rationale behind the selection of the research topic and justifies the choice of a quantitative approach for data collection and analysis.

1. Choice of the research topic:

The selection of this research topic was guided by several well-defined criteria.

Firstly, it stemmed from a personal interest in the subject. As a marketing student, we have always been drawn to exploring evolving customer needs and the ways in which businesses can meet them. Given the ongoing digital transformation within the banking sector, it became evident that enhancing customer experience is essential for strengthening client relationships in this new landscape.

Secondly, the strategic shift undertaken by the BNP Paribas Group toward digital banking illustrated by the closure of several physical branches further motivated this choice. This transition presented an opportunity to work on a real-world project that could bring added value to BNPPED by contributing suggestions to improve their digital banking application.

Lastly, the third criterion lies in the importance and complexity of B2B relationships. Recognizing the significant role of corporate banking, we chose to focus specifically on the Connexis Cash application for corporate clients, aiming to explore how optimizing such platforms can enhance the experience and satisfaction of business users.

2. Choice of the research methodology:

Following the presentation of the theoretical framework and the rationale behind selecting this research topic focused on enhancing customer experience through banking applications we adopted a methodological approach aimed at gaining a deeper understanding of the object of study.

We began with a period of observation within BNP Paribas El Djazaïr, where we closely followed and interacted with professionals in the field. This initial phase provided a solid

foundation for clearly understanding the subject matter. It allowed us to identify, firsthand, the needs of the BNPPED team, both in terms of their knowledge of Connexis Cash users and the ongoing development of the digital solution. Moreover, the expertise shared by the staff served as a valuable asset throughout the research process.

Subsequently, we conducted a quantitative study using a structured questionnaire. In the following section, we will present this questionnaire in detail, along with the methodology applied for analyzing and interpreting the collected data. Finally, we will introduce the target population surveyed, which serves as a representative sample for the context of this research.

2.1. Methodology and the objective of the research:

To answer the question: **"To what extent does the efficient development of banking applications contribute to improving the customer experience?"**

A quantitative research approach was adopted, utilizing a structured questionnaire as the primary data collection tool.

The questionnaire was designed with specific objectives:

- Evaluate the Usage Patterns of Connexis Cash Among Business Clients;
- Assess the Perceived Relevance of Connexis Cash Features for Business Needs;
- Measure Overall Customer Satisfaction Across Key Experience Dimensions;
- Determine the Impact of User Experience on Customer Loyalty;
- Identify Preferred Customer Support Channels and Their Effectiveness;
- Understand Perceptions of the Application's Pricing Model.

In line with the objectives of this research, the aim is to validate or invalidate the hypotheses formulated throughout the course of this study:

Hypothesis 01: The relevance of Connexis Cash's features can strengthen the customer relationship.

Hypothesis 02: A great customer experience drives customer loyalty

2.2 Quantitative study:

This part is dedicated to presenting the quantitative study conducted within the framework of this research. A quantitative methodology was adopted, relying on a structured survey administered to a representative sample of the target population, which will be detailed below. The tools used for data collection, as well as the methods of data analysis and interpretation, will also be outlined.

To implement this study, a questionnaire was designed and deployed through a pop-up integrated into the Centric platform, the access point for Connexis Cash users (see Appendix 02). This approach enabled respondents to conveniently access the survey with a single click while using the application.

2.2.1. The sample:

The survey was conducted over a period of 30 days, allowing us to collect 60 responses (corporates). Using a voluntary sampling, which represents non-probability sampling methods.

- **Voluntary sampling:**

The survey was conducted over a 30-day period, during which we collected responses from 60 corporate clients. The sampling method used was voluntary sampling, a form of non-probability sampling. In this approach, participants self-selected to take part in the study, choosing to share their opinions on a subject relevant and of interest to them.

To facilitate participation, a pop-up window was integrated into the Centric platform (see Appendix 02), automatically appearing when users accessed the platform. This ensured that only Connexis Cash users were targeted for the questionnaire, thereby aligning the sample with the objectives of the study.

2.2.2. The elaboration of the questionnaire:

The questionnaire was carefully developed around clearly defined thematic axes. The primary objective was to gain a comprehensive understanding of customer perceptions regarding their use of the Connexis Cash application, specifically assessing the relevance of its features and

measuring overall user satisfaction. Each question was designed to elicit targeted insights aligned with these objectives.

Accordingly, we selected the following types of questions:

Multiple-Choice Questions: These are among the most commonly used formats. They require participants to select one or more responses from a predefined list of options, facilitating structured data collection.

Matrix-Type Questions: This format presents several items (typically in rows) to be evaluated using the same set of response options (columns). It is particularly useful for assessing multiple aspects of a concept within a unified framework.

Likert Scale Questions: These questions offer a graduated range of response choices—such as from “Very Dissatisfied” to “Very Satisfied”—allowing the researcher to measure the intensity of participants’ attitudes or perceptions on specific variables.

Drop-Down List Questions: These questions are designed to present multiple response options in a compact format. They are particularly effective when dealing with lengthy answer choices, as they minimize visual clutter and facilitate ease of response.

2.2.3. The questionnaire treatment method:

To analyze the data collected in this study, we used three tools: Microsoft Excel, Power BI, and SPSS.

- **Microsoft Excel:** is used for organizing and cleaning the data, as well as for performing basic calculations and generating preliminary charts.
- **Power BI:** served as a key tool for creating interactive dashboards and visualizations, allowing for dynamic cross-analysis and clearer interpretation of user trends and patterns.

- **SPSS software:** is a well-established software for statistical analysis, particularly suited for research in the social sciences, economics, health, and marketing. Known for its reliability and extensive range of statistical functions,

The success of this research relied on the careful selection of an appropriate methodology. Adopting a well-suited methodological approach was essential to ensure the rigor, reliability, and overall coherence of the study.

Section 03: Study Results Analysis

In this section, we present the results of our research using tables and graphs, followed by a detailed analysis and discussion. The objective is to interpret the findings in light of our initial hypotheses, in order to confirm or challenge them based on the evidence collected.

1. Analysis of the results:

After collecting data from 60 companies, the next step was to proceed with the analysis. To extract insights and generate visual representations, we employed Excel, Power BI and SPSS software tools.

As following the analysis of the data collected:

1.1 Analysis by flat sorting:

Flat sorting refers to the univariate analysis of survey data, where each variable is examined independently. This approach involves reviewing the responses to each question individually, enabling the presentation of results in the form of tables or graphical representations. It effectively highlights the distribution patterns and proportions within the data, offering a clear overview of how respondents answered each item.

Question number 01: What type of organization do you represent?

The answer to this question abled us to know the category of the companies answering the survey:

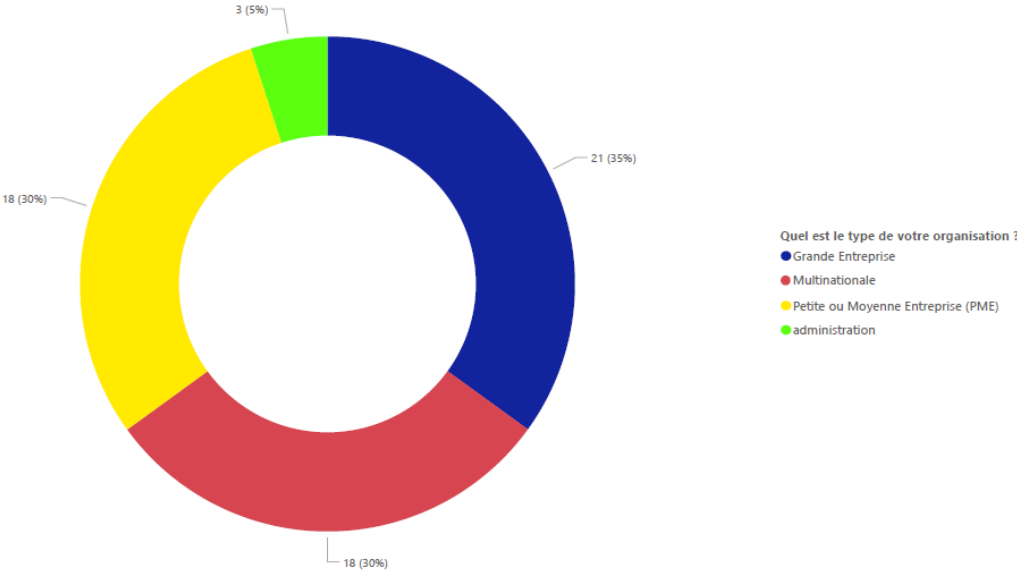
Table 1: Table of the company category

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Administration	3	5,0	5,0	5,0
	Large company	21	35,0	35,0	40,0
	Multinational company	18	30,0	30,0	70,0
	Small or Medium Enterprise (SME)	18	30,0	30,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

We attempted to present the table results through the donut chart below:

Figure 8: Donut chart of the distribution of the company type



Source: Developed by us.

The majority of respondents were from large companies (35%), followed by multinational companies (30%), SMEs (30%), and a small portion from administrations (5%),

Question number 02: How long have you been a client of BNP Paribas El Djazaïr?

This result shows us:

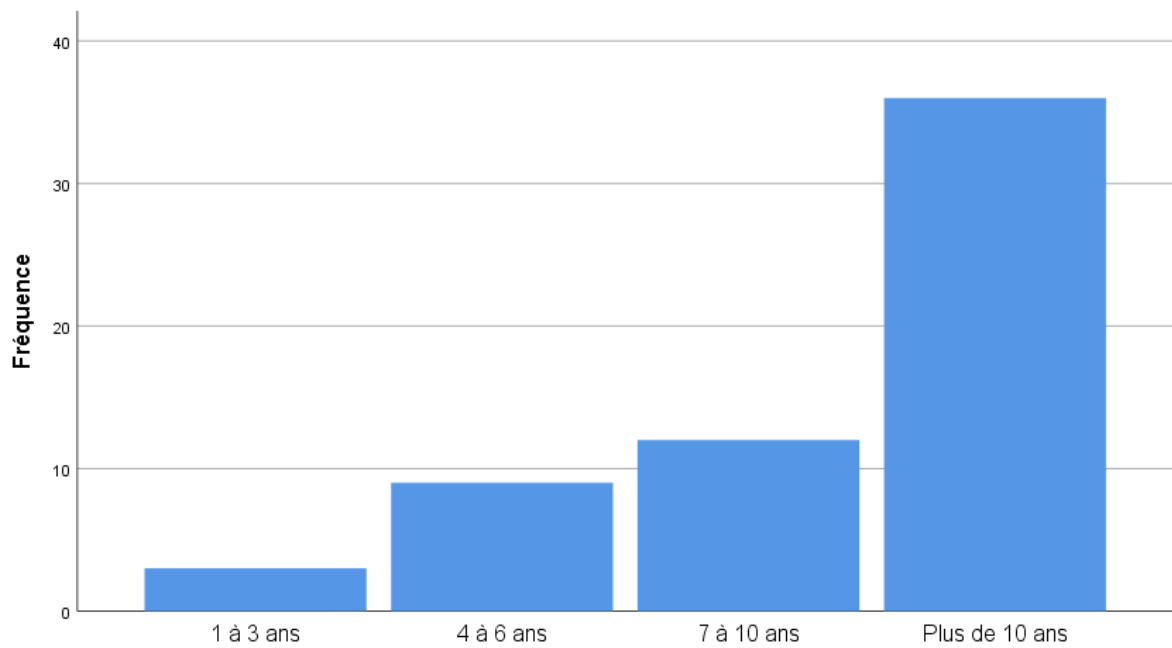
Table 2: Table representing the Tenure with BNPPED

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	1 to 3 years	3	5,0	5,0	5,0
	4 to 6 years	9	15,0	15,0	20,0
	7 to 10 years	12	20,0	20,0	40,0
	More than 10 years	36	60,0	60,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

We attempted to present the table results through the bar chart below:

Figure 9: Bar chart of the Tenure with BNPPED



Source: Developed by us.

The majority of respondents have been clients for more than 10 years (60%), followed by those with 7 to 10 years (20%), 4 to 6 years (15%), and a small group with 1 to 3 years (5%), indicating a strong base of long-term, loyal customers.

Question number 03: How long have you been using the Connexis Cash application?

This result shows us the duration of Connexis Cash use of the respondents:

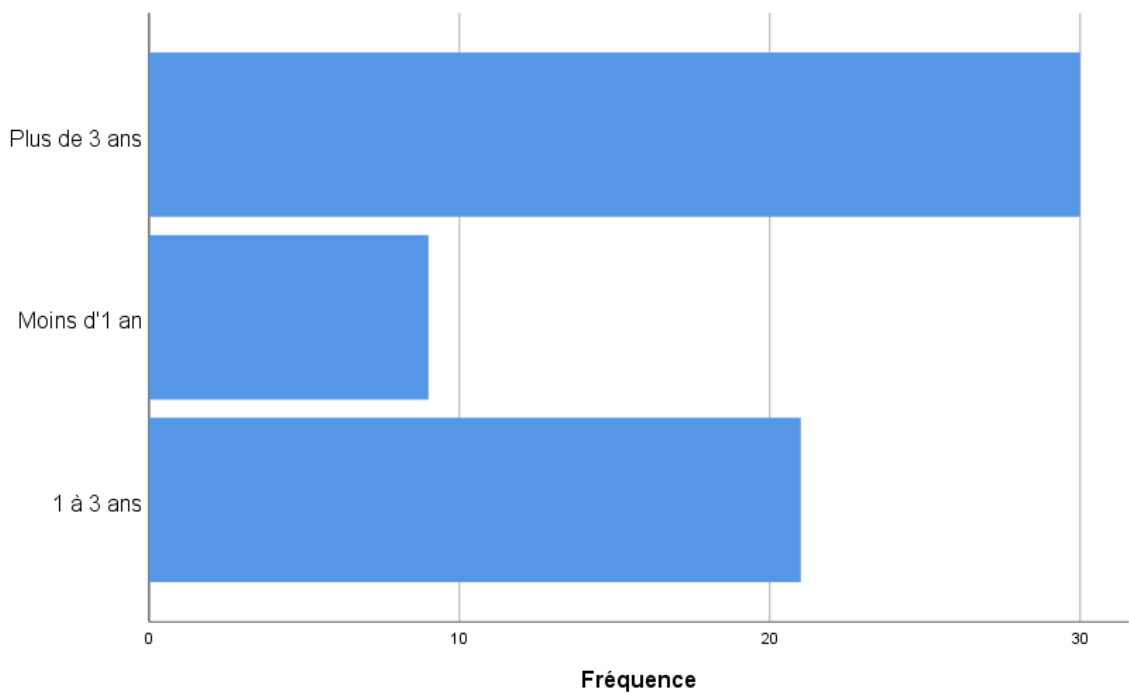
Table 3: Table representing the duration of Connexis Cash use

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	1 to 3 years	21	35,0	35,0	35,0
	Less than 1 year	9	15,0	15,0	50,0
	More than 3 years	30	50,0	50,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

We attempted to present the table results through the bar chart below:

Figure 10: Stacked bar chart of the duration of Connexis Cash use



Source: Developed by us.

Most respondents have been using Connexis Cash for more than 3 years (50%), followed by 1 to 3 years (35%) and less than 1 year (15%), reflecting that the majority of users are experienced with the application over a long period.

Question number 04: How often do you generally use the Connexis Cash application?

According to the fourth question, here the collected results:

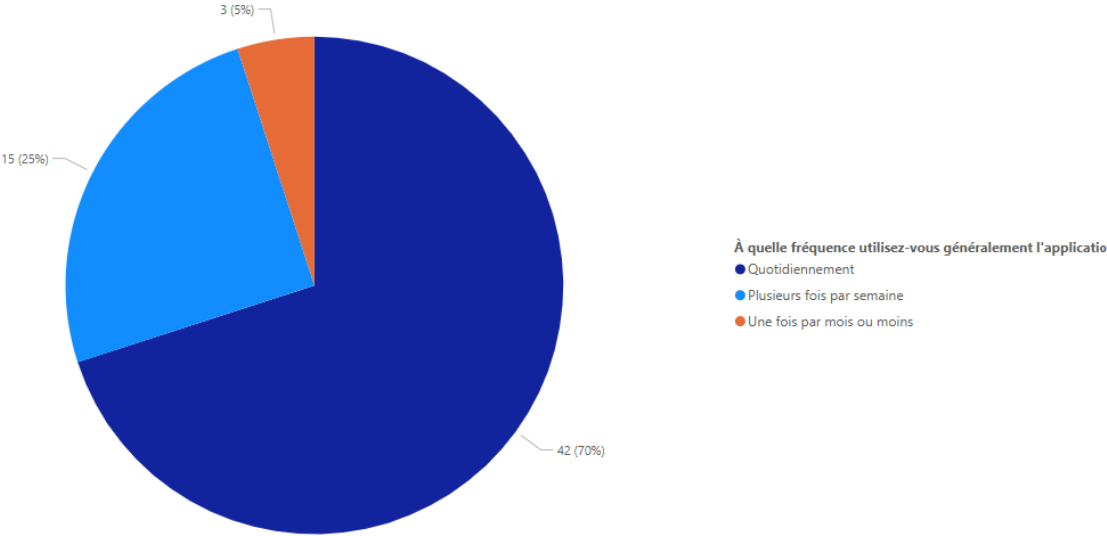
Table 4: Table representing the usage frequency of Connexis Cash

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Several times per week	15	25,0	25,0	25,0
	Daily	42	70,0	70,0	95,0
	Once a month or less	3	5,0	5,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

We attempted to present the table results through the pie chart below:

Figure 11: Pie chart of the usage frequency of Connexis Cash



Source: Developed by us.

The majority of respondents use Connexis Cash daily (70%), followed by several times a week (25%), and a small portion use it once a month or less (5%), indicating that the application is an essential tool for most users in their daily operations.

Question number 05: Which features of Connexis Cash do you use most frequently?

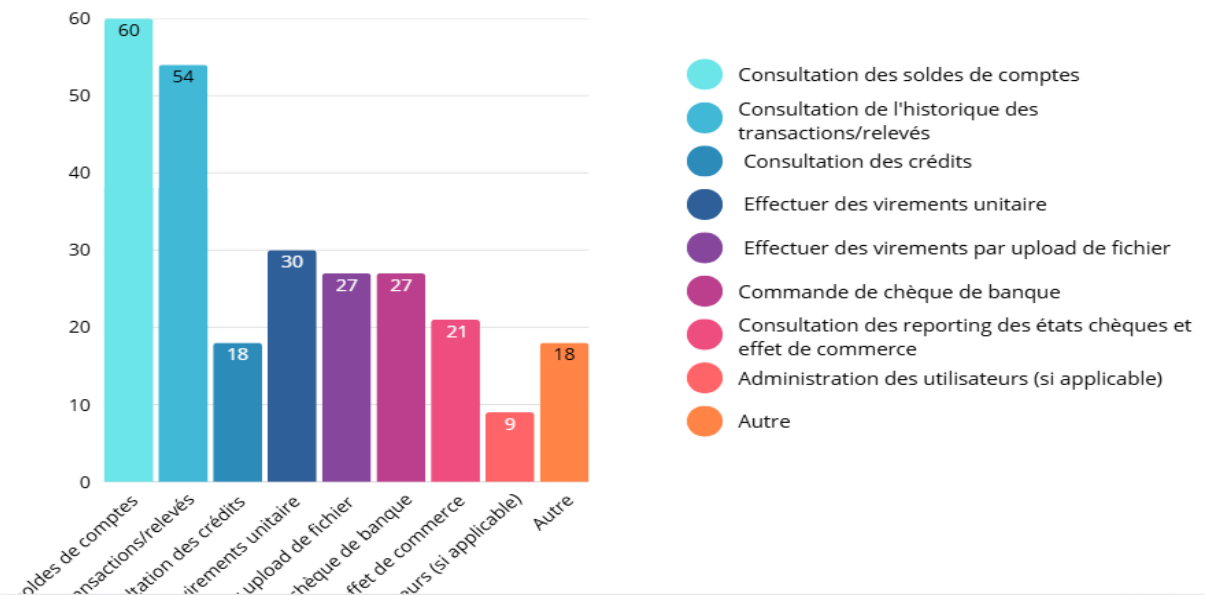
By answering the previous question, we obtained the following results that we aimed to analyze:

Table 5: Table representing the top-used features of Connexis Cash

		Reponses		Percentage observations
		N	Percentage	
Features	Account balance inquiries	60	24,4%	100,0%
	Viewing transaction history/statements	54	22,0%	90,0%
	Credit consultations	18	7,3%	30,0%
	Initiating single transfers	30	12,2%	50,0%
	Bulk transfers via file upload	27	11,0%	45,0%
	Bank cheque ordering	27	11,0%	45,0%
	Viewing cheque status reports and bills of exchange	21	8,5%	35,0%
	User administration (if applicable)	9	3,7%	15,0%
Total		246	100,0%	410,0%

We attempted to present the table results through the bar chart below:

Figure 12: Pie chart of the top-used features of Connexis Cash



Source: Developed by us.

The most frequently used feature is account balance consultation (100%), followed by transaction history consultation (90%), individual transfers (50%), check issuance and file-upload transfers (both 45%), commercial instrument reporting (35%), credit consultation (30%), and lastly, user administration (15%), showing that users primarily engage with Connexis Cash for real-time account monitoring and transaction tracking.

Question number 06: How relevant are the features you use in Connexis Cash for your business's daily banking and management needs?

Through this question we were able to know the perceived feature relevance of Connexis Cash:

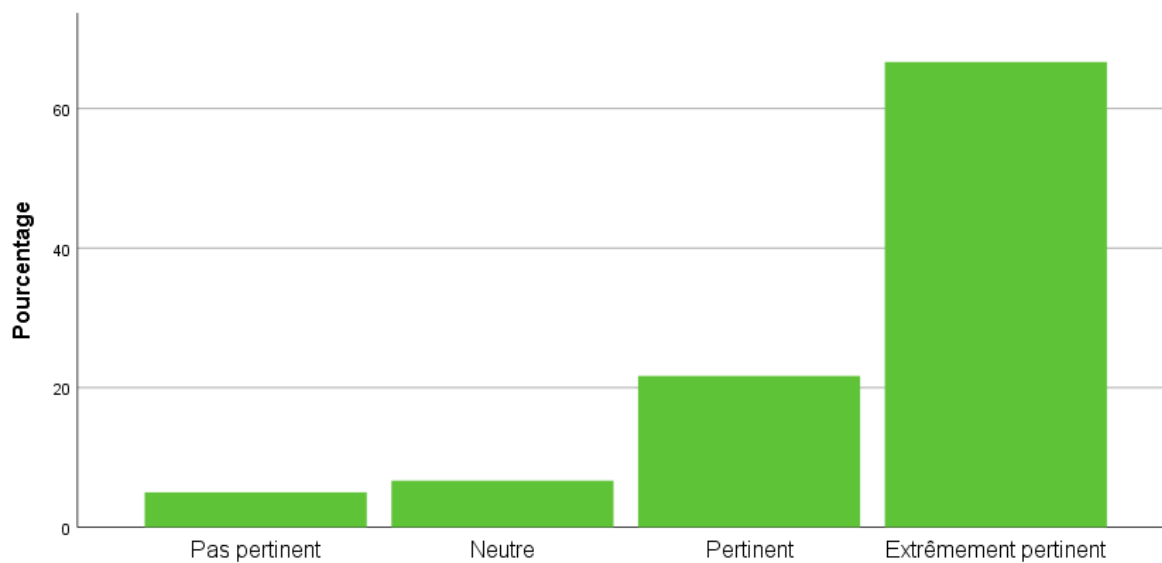
Table 6: Table representing the perceived feature relevance

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Not relevant	3	5,0	5,0	5,0
	Neutral	4	6,7	6,7	11,7
	Relevant	13	21,7	21,7	33,3
	Extremely relevant	40	66,7	66,7	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

We attempted to present the table results through the bar chart below:

Figure 13: Stacked column chart of the perceived feature relevance



Source: Developed by us.

The vast majority of respondents found the features of Connexis Cash to be extremely relevant (66.7%), followed by relevant (21.7%), while only a small portion were neutral (6.7%) or considered them not relevant (5%), indicating a strong alignment between the application's functionalities and users' daily banking needs.

Question number 07: How satisfied are you with the range of features offered in the Connexis Cash application?

The following question reveal to us the overall satisfaction with feature set:

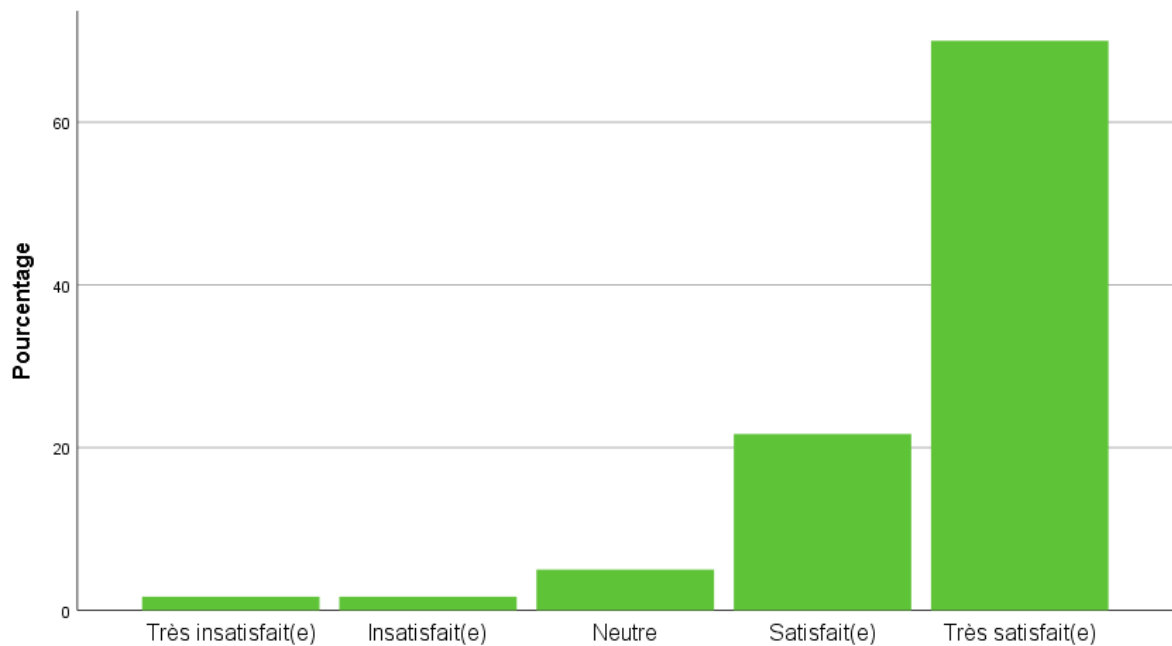
Table 7: Table representing the overall satisfaction with feature set

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Very dissatisfied	1	1,7	1,7	1,7
	Dissatisfied	1	1,7	1,7	3,3
	Neutral	3	5,0	5,0	8,3
	Satisfied	13	21,7	21,7	30,0
	Very satisfied	42	70,0	70,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

We attempted to present the table results through the bar chart below:

Figure 14: Stacked column chart of the overall satisfaction with feature set



Source: Developed by us.

The majority of respondents are very satisfied (70%) with the features offered in Connexis Cash, followed by those who are satisfied (21.7%), while a small number remain neutral (5%) or dissatisfied to very dissatisfied (3.4%), reflecting a high level of overall satisfaction with the application's feature set.

Questions number 08: Please rate your satisfaction with the following aspects of the Connexis Cash application

The following question reveal to us UX attribute ratings by each aspect:

- Ease of login:

Table 8: Table representing the satisfaction about the ease of login

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Dissatisfied	3	5,0	5,0	5,0
	Neutral	3	5,0	5,0	10,0
	Satisfied	30	50,0	50,0	60,0
	Very satisfied	24	40,0	40,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

- Ease of navigation/searching for information:

Table 9: Table representing the satisfaction about the ease of navigation/searching for information

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Dissatisfied	9	15,0	15,0	15,0
	Neutral	6	10,0	10,0	25,0
	Satisfied	30	50,0	50,0	75,0
	Very satisfied	15	25,0	25,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

- Speed and responsiveness of the app:

Table 10: Table representing satisfaction about the speed and responsiveness of the app

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Dissatisfied	6	10,0	10,0	10,0
	Neutral	15	25,0	25,0	35,0
	Satisfied	21	35,0	35,0	70,0
	Very satisfied	18	30,0	30,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

- Clarity of displayed information (balances, transactions, etc.):

Table 11: Table representing satisfaction about the clarity of displayed information

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Dissatisfied	9	15,0	15,0	15,0
	Neutral	3	5,0	5,0	20,0
	Satisfied	30	50,0	50,0	70,0
	Very satisfied	18	30,0	30,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

- Reliability (how often the app functions without errors or issues):

Table 12: Table representing satisfaction about the reliability

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Dissatisfied	9	15,0	15,0	15,0
	Neutral	12	20,0	20,0	35,0
	Satisfied	24	40,0	40,0	75,0
	Very satisfied	15	25,0	25,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

- Security features (e.g., login process, transaction validation):

Table 13: Table representing satisfaction about the security features

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Neutral	6	10,0	10,0	10,0
	Satisfied	36	60,0	60,0	70,0
	Very satisfied	18	30,0	30,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

- Visual design and layout:

Table 14: Table representing satisfaction about the visual design and layout

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Dissatisfied	3	5,0	5,0	5,0
	Satisfied	39	65,0	65,0	70,0
	Very satisfied	18	30,0	30,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

Overall, users expressed high satisfaction with key user experience aspects of Connexis Cash. The most positively rated features were the application's security (90% satisfied or very satisfied), visual design (95%), and ease of login (90%), reflecting strong performance in usability and trust. Functional elements like clarity of information (80%), navigation (75%), and speed and responsiveness (65%) also received favorable feedback, though some users remained neutral or dissatisfied, especially regarding app reliability (65%), where 15% reported dissatisfaction. These results indicate that while the application is generally well-received, targeted improvements in performance stability and navigation could further enhance the user experience.

Question number 09: How likely are you to recommend the Connexis Cash application after using it?

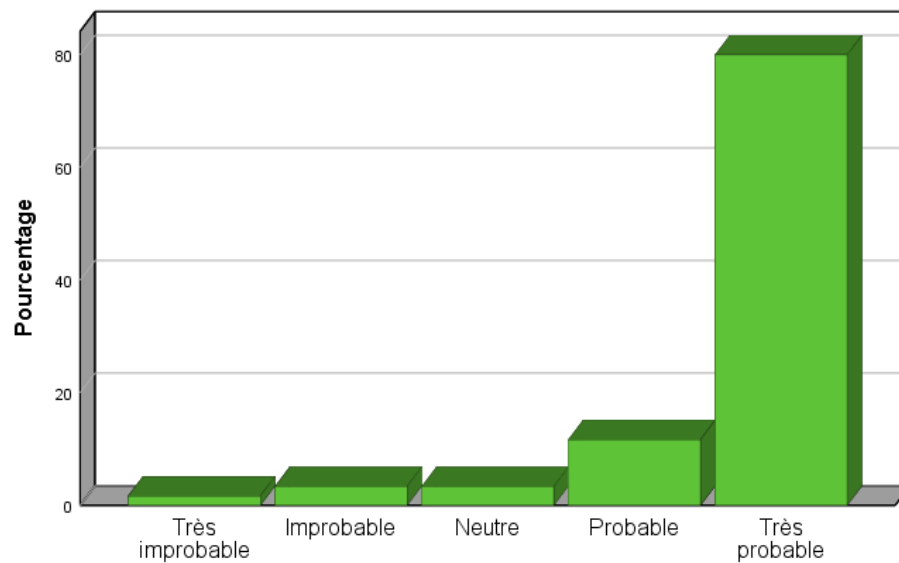
The results of this question constitute a good way to know the loyalty of the customer if they recommend it:

Table 15: Table representing the likelihood of recommend Connexis Cash

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Very unlikely	1	1,7	1,7	1,7
	Unlikely	2	3,3	3,3	5,0
	Neutral	2	3,3	3,3	8,3
	Likely	7	11,7	11,7	20,0
	Very likely	48	80,0	80,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

Figure 15: 3D bar chart of the likelihood of recommend Connexis Cash



Source: Developed by us.

An overwhelming majority of respondents said they are very likely to recommend Connexis Cash (80%), followed by likely (11.7%), while only a small minority were neutral (3.3%), unlikely (3.3%), or very unlikely (1.7%), indicating strong customer loyalty and satisfaction with the application.

Question 10: How satisfied were you with the support you received for the Connexis Cash application?

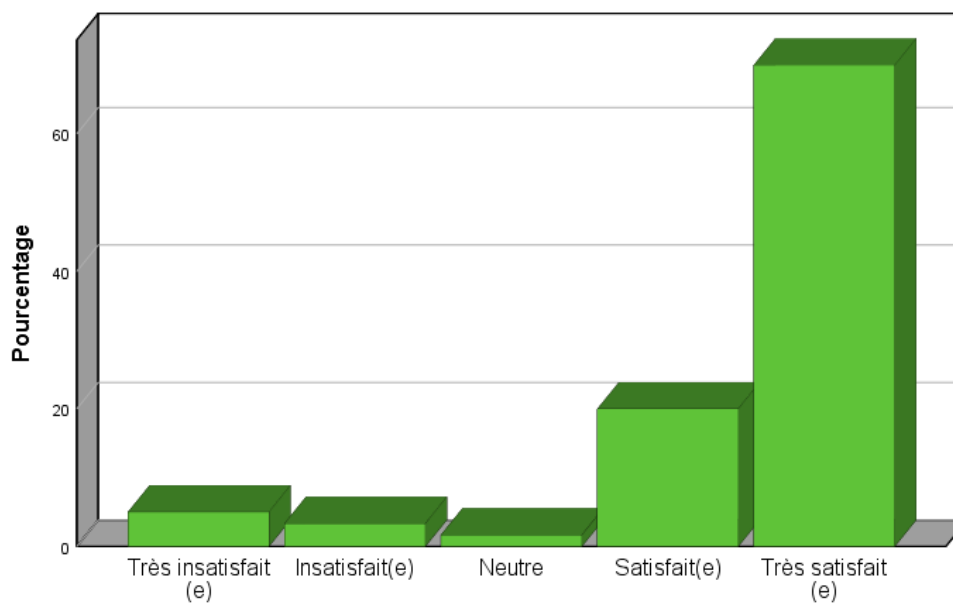
For this question, the 3D bar chart shows the customers opinion about the support they get from the app:

Table 16: Table representing the support and assistance received for Connexis Cash

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Very dissatisfied	3	5,0	5,0	5,0
	Dissatisfied	2	3,3	3,3	8,3
	Neutral	1	1,7	1,7	10,0
	Satisfied	12	20,0	20,0	30,0
	Very satisfied	42	70,0	70,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

Figure 16: 3D bar chart representing the support and assistance received for Connexis Cash



Source: Developed by us.

The vast majority of respondents were very satisfied with the support received (70%), followed by satisfied users (20%), while only a small portion were neutral (1.7%) or dissatisfied to very dissatisfied (8.3%), indicating that customer support for Connexis Cash is generally highly appreciated.

Question 11: Which support channel do you usually use?

The channel support used for getting assistance for the application is revealed through this question:

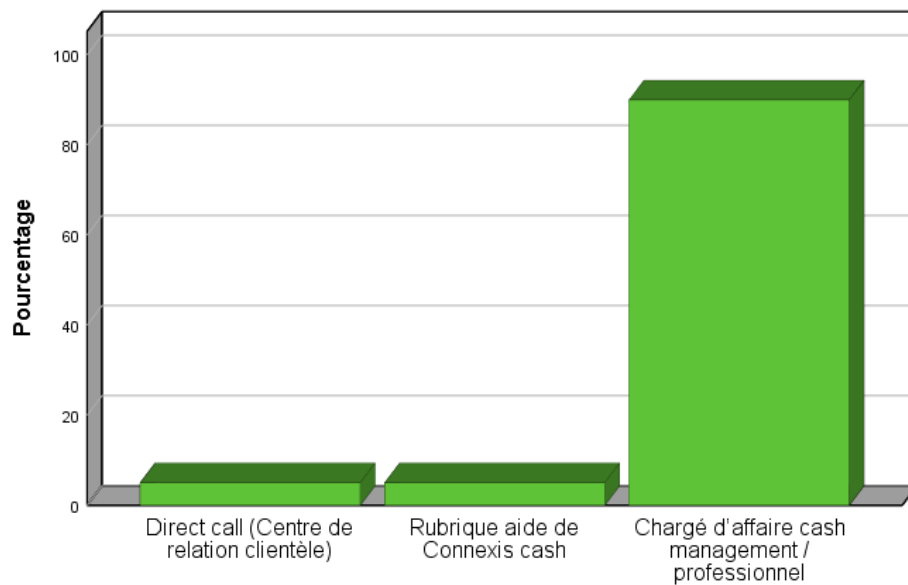
Table 17: Table representing the channel support used for Connexis Cash

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Direct Call (Customer Relationship Center)	3	5,0	5,0	5,0
	Help section in Connexis Cash	3	5,0	5,0	10,0
	Cash Management/Professional Account Manager	54	90,0	90,0	100,0
	Total	60	100,0	100,0	

Source: Developed by us.

We attempted to present the table results through the bar chart below:

Figure 17: 3D bar chart representing the channel support used for Connexis Cash



Source: Developed by us.

The overwhelming majority of respondents (90%) seek assistance through their cash management/professional account manager, while only 5% use the help section of Connexis Cash and another 5% contact the customer service center, indicating a strong preference for personalized, professional support.

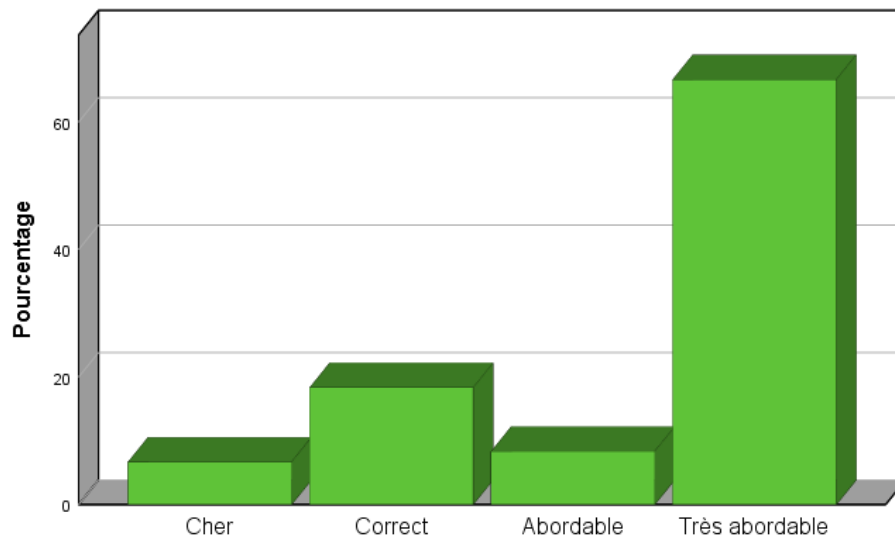
Question 12: What is your opinion on the pricing level of the Connexis Cash application?

The following answers indicates users' opinion about the pricing level:

Table 18: Table representing the pricing level for Connexis Cash

		Frequency	Percentage	Percentage valid	Percentage cumuli
Valid	Expensive	4	6,7	6,7	6,7
	Reasonable	11	18,3	18,3	25,0
	Affordable	5	8,3	8,3	33,3
	Very affordable	40	66,7	66,7	100,0
	Total	60	100,0	100,0	

Figure 18. 3D bar chart representing the pricing level for Connexis Cash



Source: Developed by us.

Most respondents (66.7%) found the pricing of Connexis Cash to be very affordable, followed by 18.3% rating it as fair, and 8.3% as affordable, while only a small minority (6.7%) considered it expensive, reflecting a generally positive perception of the application's cost.

1.2. Two-variable cross-sort analysis:

Cross-tabulation, or cross-sorting, is a statistical analysis technique used to examine the relationships and interactions between two or more variables. By comparing variables simultaneously, this method enables the identification of correlations, dependencies, and patterns that may influence the studied phenomenon. It provides a deeper understanding of how different factors interrelate and contribute to specific outcomes or behaviors within the dataset.

Crossing 01:

By cross-analyzing question 04, 'How often do you generally use the Connexis Cash application?', with question 10, 'How relevant are the features you use in Connexis Cash for your business's daily banking and management needs?', the following insights were obtained:

Table 19: Table of the crossing between the perceived feature Relevance and the usage frequency

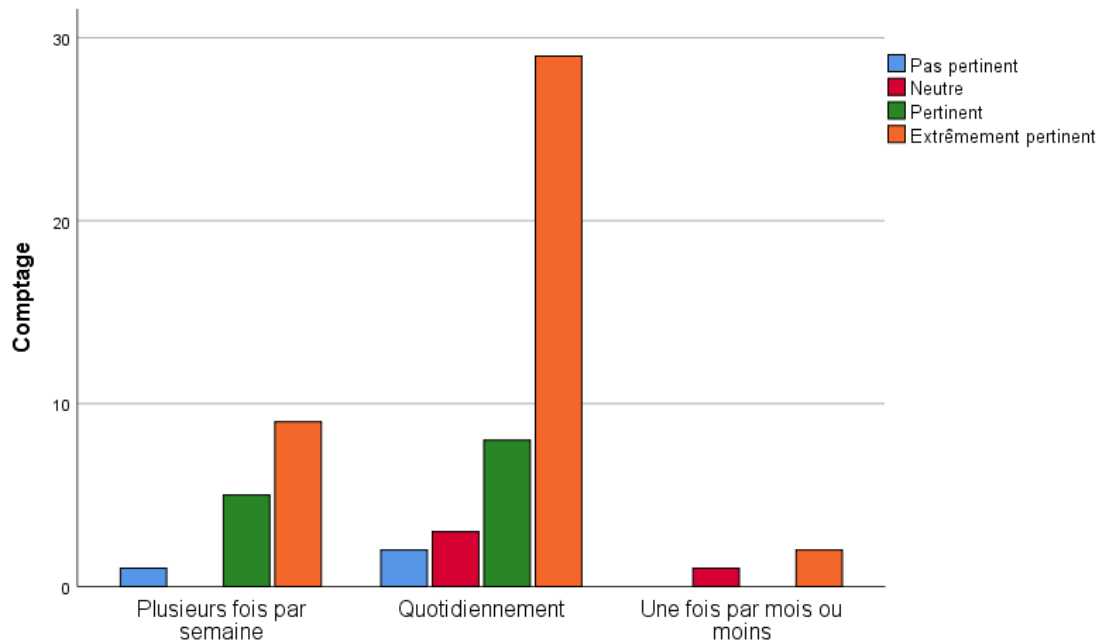
		Perceived Feature Relevance				Total
		Not relevant	Neutral	Relevant	Extremely relevant	
Usage Frequency	Several times per week	1	0	5	9	15
	Daily	2	3	8	29	42
	Once a month or less	0	1	0	2	3
Total		3	4	13	40	60

Source: Developed by us.

We attempted to present the cross-table results through the bar chart below:

In the bar chart below, we find the representation of the data from the table:

Figure 19: Bar chart representing the crossing between the perceived feature Relevance and the usage frequency



Source: Developed by us.

We observe a clear positive correlation between how often users interact with the application and how relevant they find its features.

Among the 42 daily users, a significant 69% (29 users) consider the features extremely relevant, and 19% (8 users) find them relevant, showing that the more frequently the app is used, the more its functionalities are aligned with users' business needs.

For those using the app several times per week (15 users), the majority also rated the features as either relevant (5) or extremely relevant (9), further supporting the trend.

In contrast, among the infrequent users (once a month or less), only 2 users found the features extremely relevant, and 1 user was neutral, suggesting that lower usage might be associated with a more indifferent or uncertain perception of value.

This analysis confirms that the more frequently customers use Connexis Cash, the more they appreciate the relevance of its features, which means that feature relevance contributes to customer engagement and satisfaction.

Crossing 02: By cross-analyzing question 04, 'How often do you generally use the Connexis Cash application?', with question 7, 'How satisfied are you with the range of features offered in the Connexis Cash application?', the following insights were obtained:

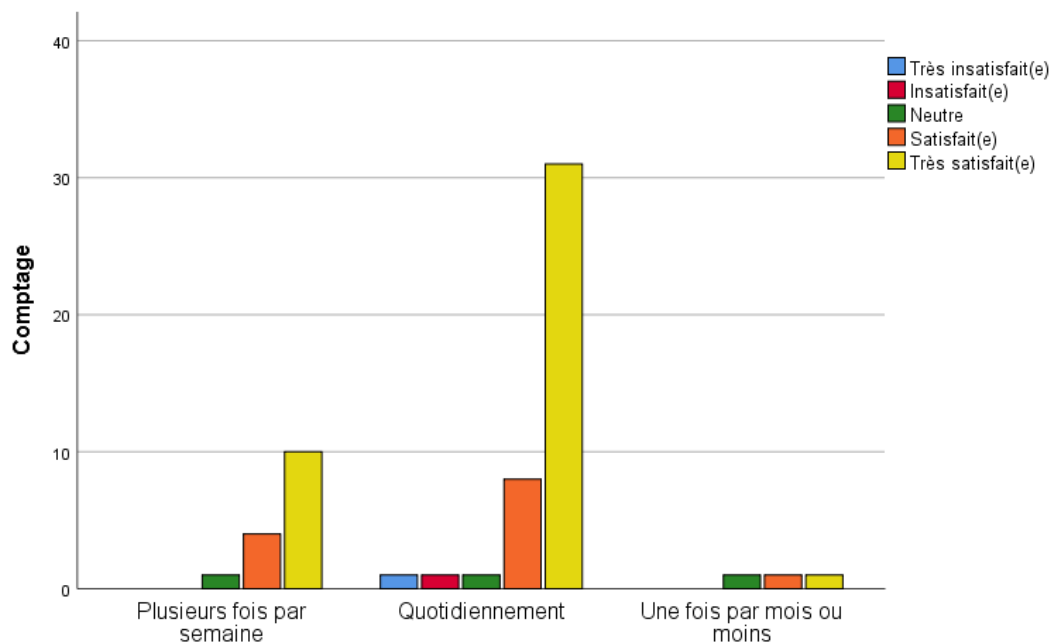
Table 20: Table of the crossing between the usage frequency and the overall satisfaction with feature set

		Overall Satisfaction with Feature Set					Total
		Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied	
Usage Frequency	Several times per week	0	0	1	4	10	15
	Daily	1	1	1	8	31	42
	Once a month or less	0	0	1	1	1	3
Total		1	1	3	13	42	60

Source: Developed by us.

We attempted to present the cross-table results through the bar chart below:

Figure 20: Bar chart of the crossing between the usage frequency and the overall satisfaction with feature set



Source: Developed by us.

This cross-analysis demonstrates among the 42 users who use the app daily, a significant 74% (31 users) reported being very satisfied, and another 19% (8 users) were satisfied, indicating that daily users are largely content with the breadth of features.

For users who engage with the app several times per week (15 users), 10 reported being very satisfied, and 4 were satisfied, reinforcing the trend that regular use corresponds with high satisfaction.

In contrast, infrequent users (3 users) showed much lower satisfaction levels: only 1 user per category rated the feature set from neutral to very satisfied, suggesting a more varied or uncertain experience with the app's features.

Overall, the findings indicate that the more frequently users interact with Connexis Cash, the more satisfied they are with the range of its features, supporting the idea that regular engagement enhances appreciation and value perception. This further reinforces that customer experience and feature richness are crucial to driving satisfaction and long-term usage.

Crossing 03:

By cross-analyzing question 04, 'How often do you generally use the Connexis Cash application?', with question 9, 'How likely are you to recommend the Connexis Cash application after using it?', the following insights were obtained:

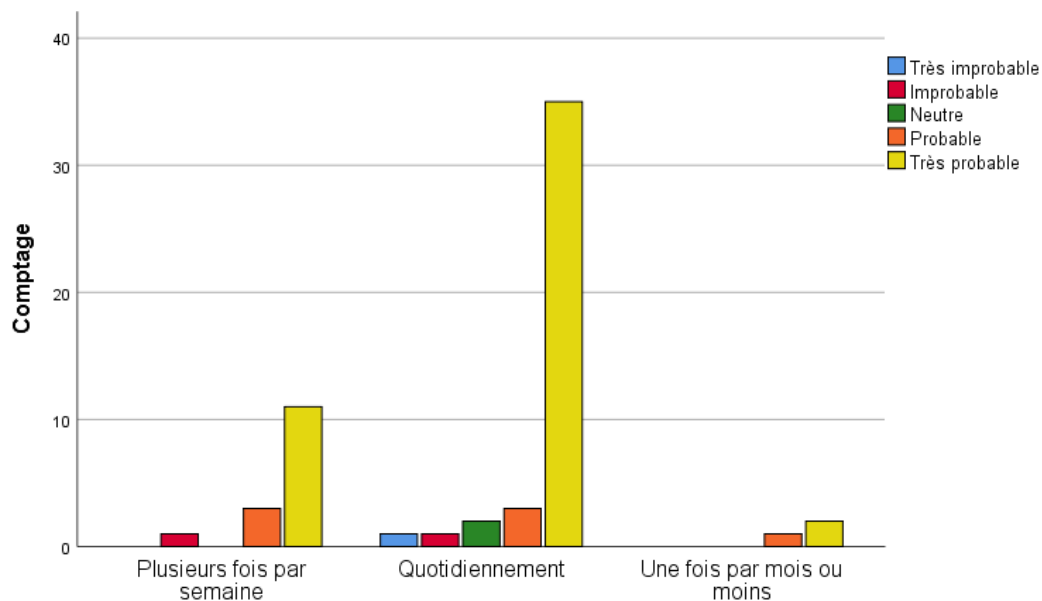
Table 21: Table representing the crossing between the use frequency and the likelihood to recommend

		Likelihood to Recommend					Total
		Very unlikely	Unlikely	Neutral	Likely	Very likely	
Usage Frequency	Several times per week	0	1	0	3	11	15
	Daily	1	1	2	3	35	42
	Once a month or less	0	0	0	1	2	3
Total		1	2	2	7	48	60

Source: Developed by us.

The table is graphically represented in the bar chart below:

Figure 21: Bar chart representing the crossing between the use frequency and the likelihood to recommend



Source: Developed by us.

This cross-analysis reveals a clear and compelling link between frequent usage of the Connexis Cash application and customer loyalty, as measured by users' willingness to recommend the application.

Among the daily users (42 respondents): 35 users (83%) indicated they are very likely to recommend Connexis Cash, an additional 3 users said they are likely to recommend it, only 4 users expressed low to neutral likelihood, highlighting a strong loyalty trend among this segment.

Among those who use the app several times per week (15 users): 11 users (73%) were very likely to recommend it, 3 users were likely, and only 1 user was unlikely, this again demonstrates that frequent users overwhelmingly become advocates of the application.

In contrast, the least frequent users (3 users), who use the app once a month or less, showed weaker loyalty: Only 2 were very likely and 1 was likely to recommend a much more moderate endorsement rate.

Crossing 04:

By cross-analyzing question 08, 'Please rate your satisfaction with the following aspects of the Connexis Cash application: Ease of login', with question 9, 'How likely are you to recommend the Connexis Cash application after using it?', the following insights were obtained:

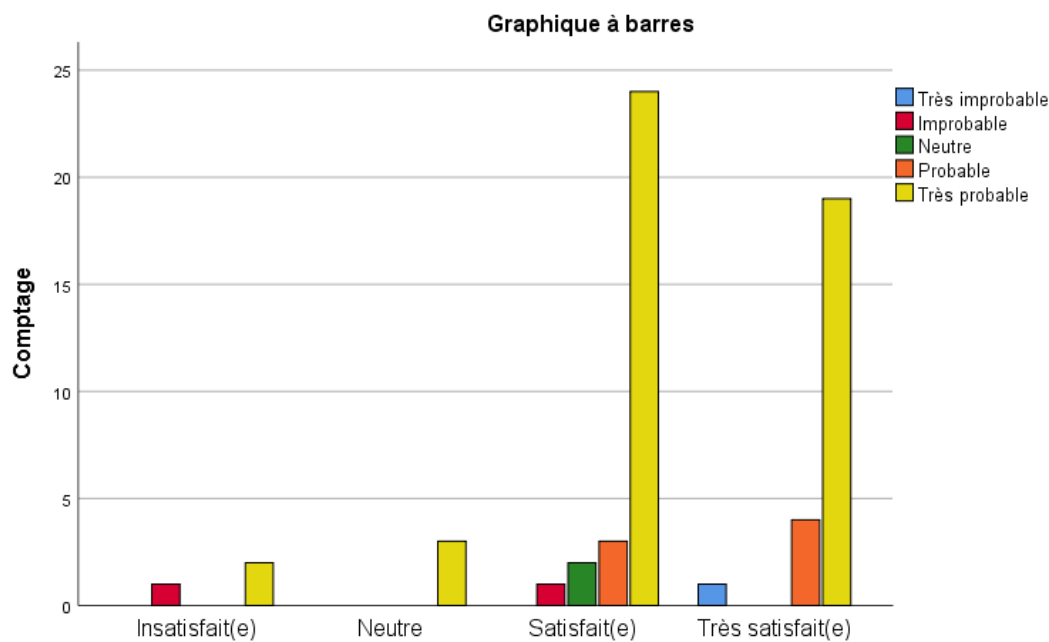
Table 22: Table representing the crossing between the satisfaction with the ease of login and the likelihood to recommend

		The likelihood of recommend Connexis Cash					Total
		Very unlikely	Unlikely	Neutral	Likely	Very likely	
Ease of login	Dissatisfied	0	1	0	0	2	3
	Neutral	0	0	0	0	3	3
	Satisfied	0	1	2	3	24	30
	Very satisfied	1	0	0	4	19	24
Total		1	2	2	7	48	60

Source: Developed by us.

We attempted to present the cross-table results through the bar chart below:

Figure 22: Bar chart representing the crossing between the satisfaction with the ease of login and the likelihood to recommend



Source: Developed by us.

This crossing demonstrates a strong correlation between users' satisfaction with the ease of login and their likelihood of recommending the Connexis Cash application.

Among the 30 users who reported being satisfied with the login process, 24 (80%) were very likely to recommend the application, 3 (10%) were likely, 2 (6.7%) were neutral, and only 1 (3.3%) was unlikely to recommend it.

Among the 24 users who were very satisfied, 19 (79.2%) stated they were very likely to recommend the app, and the remaining 4 (16.7%) were likely, with only 1 user (4.1%) falling into the very unlikely category.

In contrast, the 3 users who were dissatisfied showed a lower inclination to recommend the app: 2 (66.7%) were very likely, but 1 user (33.3%) was unlikely highlighting some inconsistency that could stem from other influential factors. The neutral group, composed of 3 users, all selected very likely, which may suggest minimal dissatisfaction despite their neutral stance.

Overall, the data indicates a clear and compelling trend: users who are satisfied or very satisfied with the login experience are overwhelmingly more inclined to recommend Connexis Cash. This supports the hypothesis that ease of login a key component of usability directly contributes to building user trust and long-term loyalty.

The result summary:

Following the completion of the quantitative study and the collection of customer data, the findings can be summarized through the following key observations:

The sample for this study consists of 21 large corporations, 18 multinational companies, 18 small and medium-sized enterprises (SMEs), and 3 public administrations. Regarding the duration of their relationship with BNP Paribas El Djazaïr, the majority of respondent companies (36) have been clients for over 10 years, followed by 12 clients with a relationship of 7 to 10 years, 9 clients between 4 and 6 years, and 3 clients between 1 and 3 years. As for the usage of the Connexis Cash application, 30 companies have been using it for more than 3 years, 21 companies between 1 and 3 years, and 9 companies for less than one year.

- The data reveals a strong engagement with the Connexis Cash application, as 70% of users access it daily and 25% use it several times per week. Only 5% report using it once a month or less. This high usage frequency underscores the application's importance in users' routine financial management and indicates a consistent reliance on its services.
- The feature usage distribution reveals that users mainly focus on banking features with account balance check (100%) and transaction history (90%) being the highest used features. These high-interest, daily operations illustrate the application meets the operational needs of users. Transfer features (50%) and issue cheque orders (45%) are also high, these data are to show users are not only using the platform for information purposes. Such regular active use and utilization of prominent features is indicative of a satisfactory user experience leading to high level of attachment with the one service.
- The majority of users (66.7%) consider the features of Connexis Cash to be extremely relevant for their daily banking and management needs, while another 21.7% find them

pertinent. Only a small portion (11.7%) remains neutral or finds the features not relevant, highlighting the overall strong alignment of the app's functionalities with users' business requirements.

- A significant majority of users (70%) are very satisfied with the range of features offered by Connexis Cash, and an additional 21.7% report being satisfied. Only a small fraction expresses dissatisfaction or neutrality, indicating a high level of contentment with the app's capabilities and suggesting its strong contribution to positive customer experience.
- The simplicity and ease of login and navigation in Connexis Cash emerged as key factors for the respondents. In order to facilitate the transition from traditional banking through physical branches to a more digital mode of interaction, it is essential for the bank to ensure a seamless and intuitive user experience. Minimizing complexity in the digital customer journey is crucial to encourage adoption and foster a smooth shift toward digital banking practices.
- Security remains a fundamental pillar of the digital customer experience, as emphasized by respondents. Customers expect a high level of protection for both their transactions and personal data.
- The overwhelming preference from users of Connexis Cash for "very likely to recommend" reflects a strong sense of trust and satisfaction with the application. This high intent to recommend is a clear indicator of customer loyalty, suggesting that users not only find value in Connexis Cash but are also confident enough to advocate for it within their professional networks, an essential sign of a positive and lasting customer experience.
- The dominant expression of being "very satisfied" with the support received indicates that the assistance services provided for Connexis Cash are highly effective and appreciated. This high satisfaction level reinforces users' confidence in the application, enhances their overall experience, and strengthens their long-term engagement and loyalty.

- The vast majority of users rely on their dedicated cash management professional for support, highlighting the importance of personalized, expert assistance in their experience. This preference suggests that direct, specialized contact is key to effective problem-solving and user satisfaction, reinforcing trust and loyalty toward the application.
- Most users perceive the pricing of Connexis Cash as very affordable, reflecting a strong sense of value for money. This positive perception likely enhances overall satisfaction and encourages continued use, supporting a favorable customer experience that contributes to long-term loyalty.
- Cross-analysis between the perceived feature relevance and the usage frequency give us that users who engage with the app most frequently, particularly on a daily basis, tend to view its features as extremely relevant to their business operations. This pattern indicates that when digital banking tools align well with users' professional needs, they become essential in daily workflows, enhancing both satisfaction and long-term commitment.
- The cross-analysis of responses related to the perceived relevance of application features and overall satisfaction with the feature set indicates that users who engage with the application on a daily or frequent basis tend to express high levels of satisfaction. This correlation suggests that frequent usage is strongly associated with a positive perception of the application's functionalities, underscoring their adequacy in fulfilling the users' operational and banking needs.
- Another significant cross-analysis involves the relationship between usage frequency and the likelihood of recommending the application. Users who interact with the application frequently particularly on a daily basis are notably more inclined to recommend it, with 'very probable' emerging as the most selected response within this group. This strong positive inclination among regular users reflects a heightened sense of loyalty and satisfaction, indicating that consistent engagement with the application fosters trust and promotes user advocacy.

Recommendations and suggestions:

Building on the insights gathered from the survey conducted with Connexis Cash users at BNP Paribas El Djazaïr, the following detailed recommendations are proposed to enhance the digital customer experience (DCX). These proposals are not only aligned with global best practices in banking app innovation but also directly respond to the behaviors, satisfaction levels, and expectations observed among users.

1. **Advanced Personalization through AI and Machine Learning:** Given that 70% of users access Connexis Cash daily and primarily use it for critical tasks such as balance consultation (100%) and transaction history checks (90%), it is evident that the app plays a central role in their business operations. Integrating AI to analyze these behavioral patterns can enable the delivery of personalized dashboards, tailored financial insights, and adaptive interfaces. This would increase both engagement and satisfaction, aligning the application more closely with each user's operational habits and expectations.
2. **Enhanced Security Measures:** With security satisfaction levels already high 60% satisfied and 30% very satisfied it is clear that users value secure access. However, the introduction of advanced biometric authentication for the mobile version (e.g., fingerprint and facial recognition) as long as we know that Connexis Cash uses a token to login in secure but we can make it more secure, more dynamic MFA options can elevate user confidence even further. These upgrades would also enhance the perceived professionalism and technological advancement of BNP Paribas El Djazaïr, which is crucial in maintaining trust among enterprise clients.
3. **Voice-Activated Banking Features:** Given the frequency of use and the reliance on time-sensitive transactions such as unitary transfers (50%) and batch transfers (45%), voice-activated features could streamline workflows for busy professionals. This would add a new layer of convenience, particularly for hands-free operations during multitasking or for users with accessibility needs.

4. **Micro-Interactions and Gesture-Based Navigation:** Survey results highlighted strong satisfaction with the visual design and layout (95% satisfied or very satisfied) and ease of login (90%). To capitalize on this positive perception, integrating micro-interactions and intuitive gesture-based navigation would enhance usability and make the app feel even more responsive and modern, reinforcing a seamless and enjoyable user experience.
5. **Dark Mode and Customizable Themes:** The positive feedback on the visual design creates an opportunity to introduce visual customization. Dark mode would particularly benefit users who engage with the application multiple times a day, reducing eye fatigue. Allowing color and layout personalization would deepen the user's emotional connection with the app.
6. **24/7 Customer Support via AI-Powered Chatbots:** Although 70% of users are very satisfied with customer support, an overwhelming 90% rely exclusively on the relationship manager for assistance. This dependency can be alleviated by integrating AI-powered chatbots to handle basic requests, improve response time, and reduce pressure on relationship teams. It also ensures continuous support beyond working hours, maintaining service quality during peak demands or system issues.
7. **Comprehensive Financial Management Tools:** The high level of daily engagement reflects a need for broader utility. By introducing budget tracking, cash flow analysis, and financial forecasting tools, the application can transform from a transaction platform into a comprehensive financial management solution. This would support users' strategic planning and deepen the application's value in business contexts.
8. **Real-Time Personalized Notifications:** Real-time alerts such as for balance thresholds, failed transfers, or new activity are essential for corporate users who need to maintain real-time financial control. Based on the high satisfaction in app responsiveness and clarity of information (80% satisfied or very satisfied), this functionality would further empower users to manage their finances proactively and securely.

9. **Integrated Bill Payment Services:** Currently, the focus of app usage is transactional banking. Expanding the scope to include direct bill payments, subscriptions, and tax payments would centralize users' financial responsibilities into one ecosystem. This integration simplifies operations and fosters loyalty, as clients find more value in staying within the BNP Paribas El Djazaïr digital infrastructure.

10. **Continuous User Feedback Mechanisms:** Given the high satisfaction and loyalty levels (80% “very likely” to recommend the app), users are well-positioned to guide future improvements. Embedding a feedback tool within the application allows BNP Paribas El Djazaïr to continuously gather insights, monitor evolving needs, and maintain a user-centric development cycle.

The current usage patterns and satisfaction indicators reflect a solid foundation for Connexis Cash. However, to remain competitive and innovative in the digital banking space, BNP Paribas El Djazaïr must proactively evolve the application. By implementing these recommendations, not only will the bank enhance user satisfaction and loyalty, but it will also establish itself as a pioneer in delivering high-performance digital financial services tailored to corporate clients.

Conclusion of chapter 3:

This concluding chapter has enabled us to bring our research to completion by systematically exploring the various dimensions of the study. Through the application of appropriate methodologies, data collection and analysis, we were able to assess the current state of the Connexis Cash application BNP Paribas El Djazaïr’s digital banking solution for corporate clients and put forward targeted recommendations aimed at enhancing the overall customer experience.

General Conclusion:

Numerous studies have emphasized the strategic importance of enhancing and integrating mobile banking applications within the broader customer journey, underlining their positive impact on customer experience. For instance, research published in the *Journal of Retailing and Consumer Services* explores how customer experience shapes users' continued intention to use mobile banking applications. The study highlights perceived usefulness, ease of use, and trust as critical factors influencing customer satisfaction and loyalty in this digital context.¹¹⁸

Similarly, a comprehensive literature review by Chauhan, Akhtar, and Gupta offers a synthesis of existing research on digital banking customer experience, identifying the main variables that shape customer perceptions and behaviors. Their work proposes a conceptual framework to guide future research aimed at deepening understanding and improving the quality of customer experience in digital banking environments.¹¹⁹

This research has sought to explore how digital banking applications can be optimized to elevate the overall customer experience, with Connexis Cash by BNP Paribas El Djazair as a case study. At the heart of this investigation was the need to understand how users interact with the application, what features they consider most valuable, and how these elements influence their satisfaction and loyalty. A key takeaway is that customers are more likely to remain engaged and recommend the application when its features are both relevant to their daily banking operations and easy to use.

Throughout this study, we examined not only the frequency of use and user satisfaction, but also deeper indicators of loyalty and trust particularly in terms of support services and perceived application performance. The findings highlight that digital tools must go beyond basic functionality: they should offer real added value, be intuitively designed, and maintain high standards of security. For a bank like BNPPED, this means developing an application that aligns with customer needs while also anticipating their future expectations.

¹¹⁸ Kumar, V., & Reinartz, W. Examining consumer experience in using m-banking apps: A study of its impact on continuous usage intention. *Journal of Retailing and Consumer Services*, 61, 2021.

¹¹⁹ Chauhan, S., Akhtar, A., & Gupta, A. Customer experience in digital banking: a review and future research directions. *International Journal of Quality and Service Sciences*, 2022.

By analyzing user feedback and identifying core strengths and improvement areas, this research provides a framework for how the bank can refine its banking app services. The goal is not just to digitize existing services but to create a seamless, intelligent, and secure platform that strengthens the client relationship and positions the bank as a leader in digital financial solutions.

This research was undertaken to highlight the critical role of customer experience in strengthening client relationships and fostering long-term loyalty within the banking sector. It also aimed to underscore the significance of well-designed banking applications in enhancing the overall customer experience. To achieve this, a field survey was conducted among the target customer segment of this study. The analysis of their responses allowed us to address the central research question: **"To what extent does the efficient development of banking applications contribute to improving the customer experience?"** by examining and validating the two hypotheses previously formulated.

Firstly, an in-depth review of the survey findings reveals a clear connection between the perceived relevance of Connexis Cash's features and the strength of the customer relationship. A large portion of respondents 70% reported using the application on a daily basis, highlighting its importance in their routine banking activities. Among these daily users, approximately 69% rated the features as extremely relevant, and about 19% found them relevant. This trend demonstrates that frequent use is closely associated with the perceived value and practical utility of the application's features. Additionally, satisfaction levels among daily users reinforce this observation. Within the same group, around 74% indicated being very satisfied with the range of features available, while about 19% expressed being satisfied. This strong satisfaction rate among frequent users suggests that when the app's functionalities are relevant and well-aligned with customer needs, the overall experience improves, leading to greater engagement and trust in the digital service.

Accordingly, Hypothesis 01 is validated: **"The relevance of Connexis Cash's features can strengthen the customer relationship"**

Secondly, a closer examination of the collected data highlights a strong connection between the overall customer experience with Connexis Cash and the level of customer loyalty expressed by users. Respondents demonstrated high satisfaction with several core dimensions of the

banking application experience. Notably, security, visual design, and ease of login all received overwhelmingly positive evaluations each with approximately 90% or more of users expressing satisfaction. These elements are critical to building user trust, as they shape the perception of reliability, convenience, and professionalism. In terms of usability, features such as the clarity of information, navigation, and application speed and responsiveness were also well-rated, reinforcing that Connexis Cash delivers a smooth and efficient user journey. Furthermore, customer support is a crucial pillar of digital experience and was praised by a substantial majority: about 70% of users reported being very satisfied, and an additional 20% expressed satisfaction, confirming the effectiveness of the support channels provided. Most importantly, the impact of this positive experience is directly reflected in users' willingness to recommend the application, a strong indicator of loyalty. Among those who use the app daily, around 83% said they were very likely to recommend it, while approximately 73% of users who access the app several times a week also reported being very likely to recommend it. This suggests that satisfaction with the app's functionality and service quality naturally encourages advocacy and long-term retention. These findings clearly demonstrate that when the digital experience is efficient, secure, and responsive to user needs, it results in higher customer satisfaction and greater loyalty.

Therefore, the data confirms and supports Hypothesis 02: **"A great customer experience drives customer loyalty."**

This study highlights the critical importance of enhancing the customer experience in banking, especially as the industry shifts toward digitalization and reduces its reliance on physical branches. In this context, Connexis Cash must evolve to meet modern user expectations of speed, security, convenience, and personalization.

Our findings confirmed that feature relevance and customer satisfaction directly strengthen customer relationships and loyalty. Users who find the app useful and easy to navigate are more likely to use it regularly and recommend it to others, demonstrating that a strong digital experience drives long-term engagement.

To support this evolution, we proposed strategic recommendations for Connexis Cash, including AI-driven personalization, advanced security protocols, voice and gesture-based interfaces, integrated payments, 24/7 intelligent customer support, and real-time notifications.

These improvements aim to deliver a more intuitive, secure, and responsive banking experience.

By adopting these enhancements, BNP Paribas El Djazair can provide a robust and efficient banking application that effectively meets customer expectations while fostering greater loyalty in an increasingly digital environment. While Connexis Cash is already a well-developed solution with a rich set of features, there is still room for improvement to further optimize the user experience.

This research encountered several limitations, primarily of a logistical and technical nature. Although we initially intended to use various channels to distribute the survey and reach a broader respondent base, the confidentiality of the client's data allowed us to use only one method. This constraint affected the potential scale of participation. Nevertheless, given that the survey targeted a B2B segment, the response volume remains sufficiently representative for the study's scope.

Additionally, the literature review posed its own challenges. The topic sits at the intersection of technical innovation and commercial strategy, which made identifying comprehensive and relevant academic sources particularly difficult. Access to high-quality materials was often limited by subscription barriers or lack of availability, which constrained the breadth and depth of theoretical grounding.

The completion of this study and dissertation demanded significant time, dedication, perseverance, intellectual curiosity, and methodological rigor. Despite the challenges inherent in such a demanding endeavor, this first foray into scientific research has been an invaluable learning experience. It has not only deepened our academic insight but also facilitated our integration into the professional environment. Our active participation in various strategic projects within BNPPED enabled us to strengthen our technical and analytical competencies while gaining first hand exposure to the realities of the banking sector.

We conclude this very modest research with the hope that it will open new avenues for reflection, inspire future studies on customer experience in digital banking, and support ongoing efforts to enhance service quality within the banking sector.

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Appendixes:**Appendix 01:**

The survey was deployed in the form of a pop-up on the Centric platform and was structured as follows:

1. What type of organization do you represent?

- Small or Medium Enterprise (SME)
- Large Enterprise
- Multinational
- Other (please specify): _____

2. How long have you been a client of BNP Paribas El Djazaïr?

- Less than 1 year
- 1 to 3 years
- 4 to 6 years
- 7 to 10 years
- More than 10 years

3. How long have you been using the Connexis Cash application?

- Less than 1 year
- 1 to 3 years
- More than 3 years

4. How often do you generally use the Connexis Cash application?

- Daily
- Several times per week
- Once a week
- Several times per month
- Once a month or less

5. Which features of Connexis Cash do you use most frequently? (Check all that apply)

- Account balance inquiries
- Viewing transaction history/statements
- Credit consultations
- Initiating single transfers
- Bulk transfers via file upload
- Bank cheque ordering
- Viewing cheque status reports and bills of exchange
- User administration (if applicable)

6. How relevant are the features you use in Connexis Cash for your business's daily banking and management needs?

- Not at all relevant
- Not relevant
- Neutral
- Relevant
- Extremely relevant

7. How satisfied are you with the range of features offered in the Connexis Cash application?

- Very dissatisfied
- Dissatisfied
- Neutral
- Satisfied
- Very satisfied

8. Please rate your satisfaction with the following aspects of the Connexis Cash application (from Very dissatisfied to Very satisfied):

- Ease of login
- Ease of navigation/searching for information
- Speed and responsiveness of the app

- Clarity of displayed information (balances, transactions, etc.)
- Reliability (how often the app functions without errors or issues)
- Security features (e.g., login process, transaction validation)
- Visual design and layout

9. How likely are you to recommend the Connexis Cash application after using it?

- Very unlikely
- Unlikely
- Neutral
- Likely
- Very likely

10. How satisfied were you with the support you received for the Connexis Cash application?

- Very dissatisfied
- Dissatisfied
- Neutral
- Satisfied
- Very satisfied

11. Which support channel do you usually use?

- Direct Call (Customer Relationship Center)
- Help section in Connexis Cash
- Cash Management/Professional Account Manager

12. What is your opinion on the pricing level of the Connexis Cash application?

- Very affordable
- Affordable
- Reasonable
- Expensive
- Very expensive

Appendix 02:

Below is the deployed in the form of a pop-up on the Centric platform to launch the questionnaire for the quantitative survey:

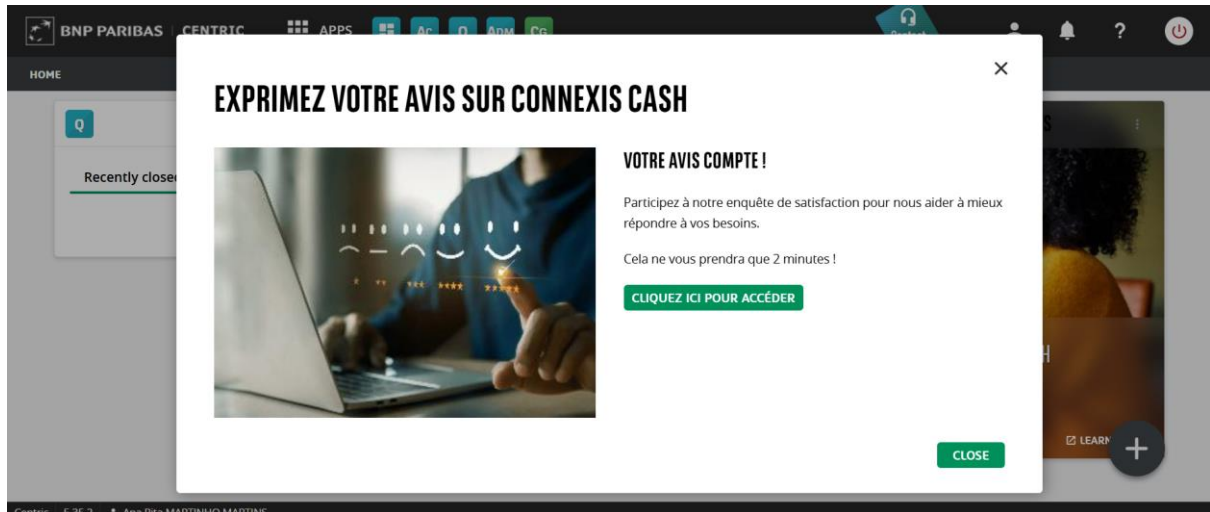


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