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## **ENHANCING CUSTOMER EXPERIENCE THROUGH DIGITALIZATION IN ALGERIAN BANKS**

**Abstract:** Customers in Algeria are having their experiences with financial services transformed due to the digital transformation that is now taking place in the banking sector throughout the country. This trend is driven by the introduction of new technologies and digital solutions designed to improve the user experience in terms of ease, efficiency, and customisation. This article will analyse the impact that digitalisation has had on banking services, with a particular emphasis on how innovations have created banking services that are more customer-oriented and accessible. Nevertheless, the move is not without difficulties: the old infrastructure, the inadequate digital literacy among consumers, and the concerns about data security are all serious difficulties that banks must overcome. When fully fulfilling the promise of digital banking in Algeria, addressing these concerns will be paramount. The study presented valuable insights

regarding how customer involvement and happiness might be improved. By identifying successful digital efforts that put banks on a route to manage these issues, the paper provides advice to be put into practice. Initiatives such as targeted digital literacy programs and partnerships with fintech companies have the potential to become crucial in establishing a banking environment that is both safer and more welcoming to all individuals. In addition, the findings of this study suggested that digital banking services should be developed with the end users in mind; hence, innovation will be necessary for a diverse consumer base. Consequently, the findings of this research would culminate in a recommendation for Algerian banks to develop appropriate levels of digitalisation to guarantee the loyalty of their customers and to create a banking environment that is both safer and more efficient.

**Keywords:** Digital Banking, Customer Experience, Digital Transformation, Algerian Banks.

**JEL classification:** G21, O33, L86, D83.

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## მომხმარებელთა გამოცდილების გაღრმავება ალჟირის ბანკებში დიגיტილიზაციის გზით

**ასტრაქტი:** ალჟირში კლიენტებს აქვთ ფინანსური სერვისების გამოცდილების ტრანსფორმაცია ციფრული ტრანსფორმაციის გამო, რომელიც ახლა ხდება საბანკო სექტორში მთელი ქვეყნის მასშტაბით. ეს ტენდენცია განპირობებულია ახალი ტექნოლოგიების და ციფრული გადაწყვეტილებების დანერგვით, რომლებიც

შექმნილია მომხმარებლის გამოცდილების გასაუმჯობესებლად სიმარტივის, ეფექტურობისა და პერსონალიზაციის თვალსაზრისით. ეს სტატია გაანალიზებს იმ გავლენას, რომელსაც ციფრულმა მოახდინა საბანკო სერვისებზე, განსაკუთრებული აქცენტით იმაზე, თუ როგორ შექმნა ინოვაციებმა უფრო მომხმარებელზე ორიენტირებული და ხელმისაწვდომი საბანკო სერვისები. მიუხედავად ამისა, ეს ნაბიჯი არ არის სირთულეების გარეშე: ძველი ინფრასტრუქტურა, არაადეკვატური ციფრული წიგნიერება მომხმარებელთა შორის და შემფოთება მონაცემთა უსაფრთხოებასთან დაკავშირებით არის სერიოზული სირთულეები, რომლებიც ბანკებმა უნდა გადალახონ. ალჟირში ციფრული ბანკინგის დაპირების სრულად შესრულებისას, ამ პრობლემების მოგვარება უმნიშვნელოვანესი იქნება. კვლევამ წარმოადგინა ღირებული შეხედულებები იმის შესახებ, თუ როგორ შეიძლება გაუმჯობესდეს მომხმარებელთა ჩართულობა და ბედნიერება. წარმატებული ციფრული ძალისხმევის იდენტიფიცირებით, რომელიც ბანკებს ამ საკითხების მართვის გზაზე აყენებს, ნაშრომი იძლევა პრაქტიკაში გამოსაყენებელ რჩევებს. ისეთ ინიციატივებს, როგორიცაა ციფრული წიგნიერების მიზნობრივი პროგრამები და პარტნიორობა ფინტექ კომპანიებთან, აქვს პოტენციალი გადამწყვეტი გახდეს საბანკო გარემოს ჩამოყალიბებაში, რომელიც უფრო უსაფრთხო და მისასალმებელია ყველა ინდივიდისთვის. გარდა ამისა, ამ კვლევის შედეგებმა აჩვენა, რომ ციფრული საბანკო სერვისები უნდა განვითარდეს საბოლოო მომხმარებლების გათვალისწინებით; შესაბამისად, ინოვაცია საჭირო იქნება მრავალფეროვანი სამომხმარებლო ბაზისთვის. შესაბამისად, ამ კვლევის დასკვნები კულმინაციას მისცემს ალჟირულ ბანკებს რეკომენდაციით, რომ განავითარონ დიგიტალიზაციის შესაბამისი დონეები თავიანთი კლიენტების ლოიალობის უზრუნველსაყოფად და შექმნან საბანკო გარემო, რომელიც იქნება უფრო უსაფრთხო და ეფექტური.

**საკვანძო სიტყვები:** ციფრული ბანკინგი, მომხმარებელთა გამოცდილება, ციფრული ტრანსფორმაცია, ალჟირის ბანკები.

**JEL კლასიფიკაცია:** G21, O33, L86, D83

## 1. Introduction and review of literature

Algeria's banking sector is experiencing a digital transformation to improve service efficiency and customer satisfaction. This enhancement includes implementing mobile banking applications, online account administration, and electronic payment systems. However, these advancements are linked to issues related to infrastructure, digital literacy, and consumer trust.

Digital banking can transform consumer experiences by offering convenience, speed, and personalisation. Consequently, digital channels ought to significantly enhance consumer happiness.

The primary objective is to investigate how digital transformation can enhance customer satisfaction and engagement in Algerian banks. The specific objectives include evaluating the current level of service digitisation, analysing its impact on customer experience, and identifying strategies to overcome existing challenges.

### **1.1 Study Problem:**

- How has digitalisation impacted customer experience in Algerian banks?
- What are the current challenges customers face in adopting digital banking services?
- What strategies can be implemented to improve digital customer experience in Algerian banks?

### **1.2 Study Hypotheses:**

- Digitalization enhances customer experience by providing more convenient, faster, personalised services.
- Challenges such as digital literacy and infrastructure limitations hinder the adoption of digital banking services in Algeria.
- Targeted strategies, including education and partnerships with fintechs, can improve the digital customer experience.

### **1.3 Literature Review:**

The digitalisation of Algeria's financial services is relatively recent. However, it is progressively advancing in a broader global movement towards integrating digital solutions to enhance customer experience. Although Algerian banks have made preliminary advancements with debit cards and fundamental ICT infrastructures, the overall process of comprehensive digital transformation remains in its nascent phases. Financial clients persist in demanding expedited and simplified methods of managing their finances, hence driving the need for improved e-banking services. Recent research indicates that the effective adoption of digital banking services is contingent upon elements such as perceived usefulness, convenience of use, and demographic considerations; features like age and gender uniquely influence user involvement (Bellahcene & Latreche, 2023).

(Hassnaoui & Belkasmi, 2022) This study focuses on the impact of electronic banking services in Algerian banks, emphasising that digital banking via electronic cards significantly enhances competitive advantage. It suggests increased internet-based services and mobile banking to meet growing demands.

Concerning the local aspect of Algerian banking, a recent study has focused on evaluating "phygital" experiences. These products and services integrate digital and physical banking, ensuring a smooth consumer experience. (Samir and Soumia, 2020) Examine the pertinent factors contributing to customer pleasure and loyalty, explicitly focusing on ergonomic design, technological innovation, and chances for social engagement. Such findings may suggest that a balanced phygital environment in Algerian banks can enhance customer engagement by

combining the convenience of digital tools with the reassurance of in-person interaction. In this vein, numerous studies undertaken in various countries reinforce enhancing customer experiences by implementing comprehensive digital strategies to fulfil customer expectations. This implies that Algerian banks would possess an advantage in systematically advancing digitalisation, emphasising customer-centric attributes, and rectifying deficiencies in service delivery. Algerian banks must enhance their digital card and payment solutions offerings to satisfy the increasing demand for rapidity and security in transactions. Although these technologies promise to enhance user access to banking services, their comprehensive deployment remains incomplete. According to international examples, the researchers observed that the digitalisation of banking services significantly enhanced customer satisfaction by streamlining procedures and providing customers with greater control over their accounts (Sulaiman & Abdelkarim, 2019). In Algeria, this perspective aligns with the notion that banks are utilising digital tools to broaden their access points and service offerings to satisfy the demands of a digitally-enabled generation. It serves to establish a culture of client happiness and loyalty.

Security concerns remain a significant determinant of customers' acceptance of digital banking systems. Research on e-payment systems indicates that customers' trust in online platforms may significantly affect their acceptance of online banking services (Ziouache et al., 2023). This pertains specifically to Algeria, where there is an urgent requirement for an environment that fosters trust, particularly concerning data protection and privacy within banking institutions. This concern can be effectively addressed if the security of these service providers is adequate, which will undoubtedly help banks in Algeria build confidence in digital transactions. Furthermore, the efficacy of e-customer care platforms at ABSA Bank in Botswana indicates that a sustained focus on security and cultivating trust in digital interactions may be a significant catalyst for enhancing customer experiences and loyalty (Chiguvu, 2023).

While security is essential, it alone is inadequate to guarantee pleasurable digital experiences. (Shukhratovna and Narmuradovich, 2023) They observed that an intuitive web banking interface and individualised service alternatives significantly enhance customer satisfaction. In other words, implementing straightforward designs and tailored services by Algerian banks would be much valued by young residents who prefer to manage their time efficiently using rapid and responsive digital platforms. Integrating AI in these systems presents a significant opportunity for banks to anticipate client needs and respond to inquiries more accurately and swiftly, enhancing convenience and pleasure.

Improving customer experience via digitalisation in Algerian banks must be multifaceted, harmonising innovation with trust and usability. Highlighting self-service technologies, robust security protocols, and customisation enables Algerian banks to redefine customer connections, hence cultivating a more loyal clientele. This change is essential due to evolving consumer expectations and is a deliberate move to achieve a competitive advantage in the progressively digital global banking environment.

## 2. Methodology

The study adopted a descriptive methodology to address the study problem and test the hypotheses. This approach involved reviewing relevant scientific literature on the study variables and analysing reports and statistical data published by official Algerian authorities.

## 3. Current Landscape of Digital Banking in Algeria

The digital banking sector in Algeria has grown considerably over the past decade, although it still faces numerous challenges. As part of this growth, various digital services have become available, offering customers more convenient and efficient ways to manage their finances.

### 3.1 Digital Services Available

The expansion of digital banking in Algeria has been substantial during the past decade. However, some obstacles have to be addressed. This expansion entails providing many services online, enhancing efficiency and ease of financial management for consumers. Numerous Algerian banks have used various digital banking methods to enhance accessibility and improve customer experience. Prominent digital services include: (Bellahcene & Latreche, 2023).

Table 1: Digital Banking Services in Algeria.

<b>Mobile Banking Applications:</b>	Most banks in Algeria provide mobile banking applications that enable customers to see their balances, verify and get account statements, execute transfers, and pay bills. Consequently, these mobile applications enable users to access their accounts anytime and anywhere.
<b>Online Account Management:</b>	Most banks have enhanced their online banking services, allowing users to manage their accounts online. These capabilities encompass most services, including balance inquiries, fund transfers, transaction tracking, and bill payments.
<b>E-payment Platforms</b>	Algeria is expanding electronic payment platforms for utility bills, taxes, and government services. The heightened use of electronic payment methods has facilitated transactions for individuals and businesses without the necessity of visiting physical branches.
<b>Automated Teller Machines (ATMs):</b>	Despite its age, this service is progressively integrated with digital platforms in Algeria. In addition to cash withdrawals, these machines facilitate mobile phone recharges, utility bill payments, and money transfers, diminishing the need for individuals to visit the branch.

Source: prepared by the researchers based on: (Mechta et al., 2024).

### Government Initiatives:

- The Algerian government has prioritised digitalisation and the promotion of startups by creating deputy ministries and enacting supporting legislation.
- An ambitious e-government program is underway to enable online document requests and provide digital identity to the broader population.



- The digital identity system, introduced in 2016, has played a pivotal role in streamlining customer onboarding processes for financial institutions (Mechta et al., 2024).

**Fintech Startups:**

- Fintech startups are encouraged to revolutionise Algeria's financial sector and accelerate its digital transformation.
- Prominent startups include Beyn, which offers digital banking and payment services; Leadersoft, a software development firm; and Teletic, a provider of telecom and payment solutions (Amrane & Damene, 2023).

Although Algeria has made progress in its digital transformation, the adoption of digital banking remains relatively low compared to its regional counterparts. Key challenges include insufficient infrastructure, limited financial literacy, and difficulty reaching unbanked populations. However, government initiatives and the rise of fintech startups present significant opportunities for the country's future expansion of digital banking.

Algeria's digital banking landscape is gradually evolving, with increasing acceptance of e-banking services driven by perceived usefulness, ease of use, and trust. Despite persistent challenges, the integration of fintech solutions and advancements in regulatory frameworks are shaping the future of digital payments, paving the way for a more inclusive and efficient financial ecosystem.

**3.2 Adoption Rates:**

Despite the availability of numerous digital services, the adoption rate among bank clients in Algeria remains moderate compared to global standards. Factors such as limited digital literacy contribute to customer hesitation and the relatively low uptake of these services.

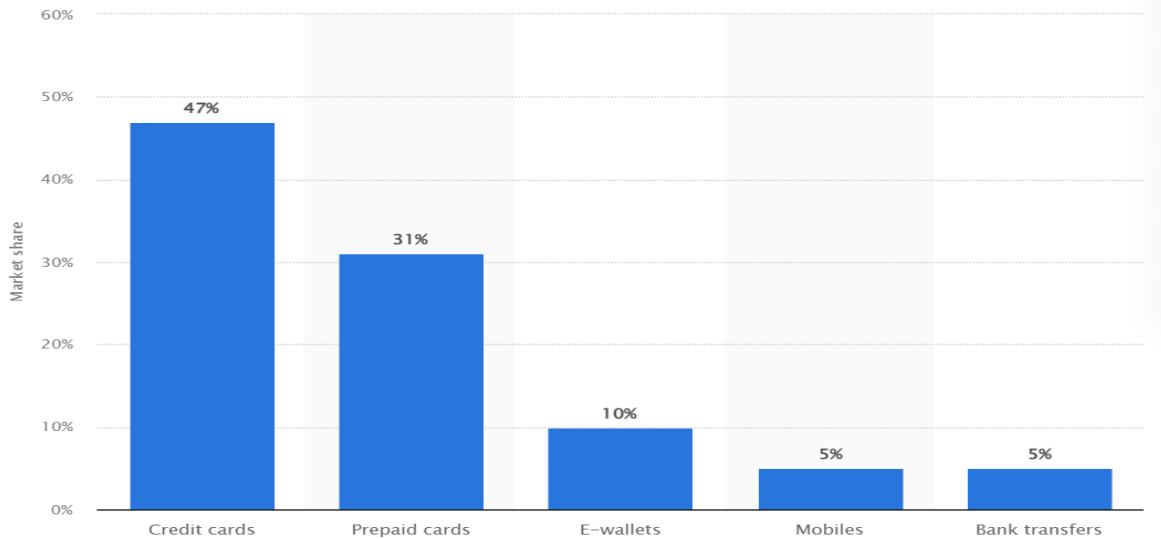
**Mobile Banking:** Fewer than 26% of banking clients in Algeria utilise mobile banking services. While this indicates a growing interest in adopting new technologies, it underscores banks' challenges in promoting broader adoption.

**Online Banking:** The penetration of online banking remains low, with only 19% of consumers regularly using these channels. Many clients prefer traditional banking methods, primarily due to concerns about security and limited familiarity with digital systems.

**E-Payments:** The adoption of e-payment platforms is sluggish, even in urban areas with relatively advanced digital infrastructure. According to Sun, Zekri, and Belmihoub (2024), approximately 30% of Algerian consumers used an e-payment platform in the past year. However, this figure drops significantly in rural regions, where digital infrastructure and financial literacy are less developed.

Payment methods in Algeria as of 2024, by market share, are shown in the following figure:

**Figure 1: Adoption Rates of Digital Banking Services in Algeria**



*Source: (Statista, 2024)*

- Only 16% of adults and 11% of women in Algeria use digital payment systems, positioning the country behind other MENA nations, where 23% of adults and 18% of women engage in digital transactions.
- Financial inclusion remains a significant challenge in Algeria. As of 2017, only 43% of the adult population held a bank account, dropping to 29% for women (Statista, 2023).

#### **Projections:**

- Algeria's digital banking market is expected to grow at an annual rate of 10.97% from 2024 to 2028, reaching a projected market volume of \$164.70 million by 2028.
- Over 450 public services in Algeria have been digitised, with 338 integrated into the government's unified public services portal (Statista, 2024).

### **3.3 Challenges Faced the Adoption of Digital Banking in Algeria:**

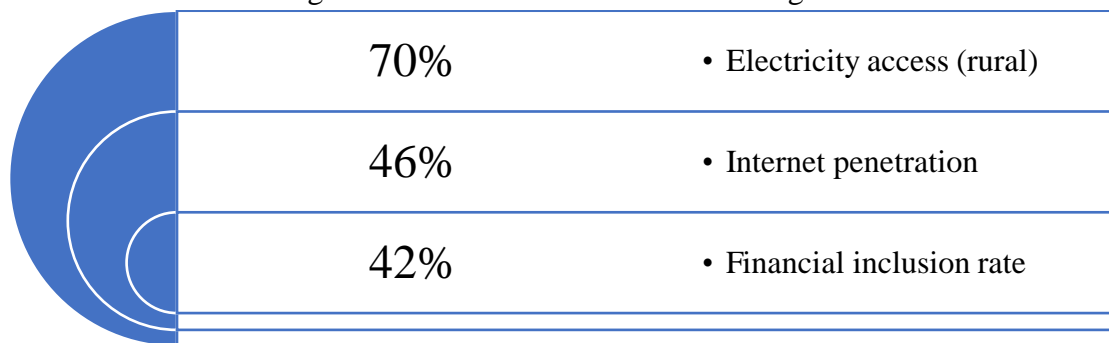
Digital banking represents a significant advancement in financial services, providing enhanced convenience, efficiency, and broader accessibility. However, Algeria encounters distinct challenges in promoting digital banking adoption. These challenges include inadequate infrastructure, low levels of digital literacy, and customer hesitation. These issues are interrelated, necessitating a comprehensive approach to drive meaningful improvements.

#### **3.3.1 Limited Infrastructure:**



Algeria's infrastructure presents a significant obstacle to the growth of digital banking. Reliable access to energy and internet services, essential for most digital banking platforms, remains out of reach for much of the population. SONELGAZ, the country's primary electricity provider, faces substantial inefficiencies in its metering system, leading to widespread inaccuracies. These infrastructural shortcomings also impact the financial sector, where the underdeveloped financial accounting framework complicates the adoption of modern standards such as IFRS. The lack of robust infrastructure hampers the expansion of digital banking and stifles broader economic growth and transparency.

Figure 2: Infrastructure Indicators in Algeria



Source: Prepared by the researchers based on: (Khadar et al., 2024), (Bacha et al., 2024), (Statista, 2024)

In this context, infrastructural development is essential, particularly in rural areas of Algeria. Investments in broadband internet and advanced energy solutions, such as the intelligent power monitoring device proposed by Khadar et al. (2024), could improve access to digital banking services.

Another strategy may involve public-private partnerships to expedite infrastructure initiatives, enhancing access to essential services. The overall structure of digital banking remains immature in the nation relative to the global standard. Rural regions have encountered inadequate internet connectivity, significantly obstructing individuals' access to digital services. In addition, reliance on antiquated electrical infrastructure exacerbated the difficulties in implementing digital banking technology. (Khadar et al., 2024)

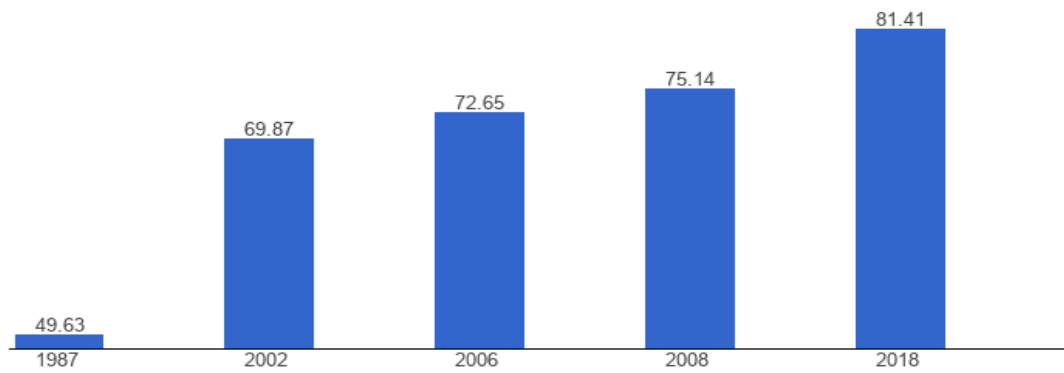
### 3.3.2. Low Digital Literacy

The digital literacy rate in Algiers remains very low. Specific age demographics, notably older adults, and specific geographical regions, especially rural areas, contribute to this phenomenon. This digital gap results in many individuals being unable to utilise digital banking services effectively. Alongside infrastructural obstacles, insufficient digital literacy continues to pose a significant difficulty in Algeria. Many people lack the digital competencies to interact with

contemporary technology, mainly digital banking systems. Insufficient ICT infrastructure and ongoing societal disparities further intensify the digital gap. (Sun, Liu, & Zhang, 2024)

Recent research on e-learning efforts in Algerian universities has shown a significant necessity for digital skills training for both students and teachers. Insufficient digital competency prevents the populace from fully leveraging the advantages of digital banking, resulting in the underutilisation of these services. (Aouissi, 2024)

Figure 3: Digital Literacy Rates in Algeria



Source: [https://www.theglobaleconomy.com/Algeria/Literacy\\_rate/](https://www.theglobaleconomy.com/Algeria/Literacy_rate/)

The government might establish a financial organisation to execute digital literacy initiatives nationwide. This should be executed to ensure that every societal division has an equitable and just chance, particularly for the most marginalised groups and those residing in rural regions. Incorporating digital literacy into the national education curriculum would address the skill disparity among the youth, establishing a basis for the future advancement of digital banking.

### 3.3.3. Customer Hesitancy

Many Algerian clients hesitate to embrace digital banking services due to concerns over their security and efficacy. This arises from previous consumer experiences delivering specific services, such as electricity, which encounter structural issues and customer unhappiness. Consequently, establishing confidence in digital banking services is a significant barrier for banks operating within the country. A significant element impeding Algeria's adoption of digital banking is customer resistance. Many clients exhibit reluctance to embrace and utilise the services provided by digital banking owing to concerns around trust and security. This hesitation often arises from negative experiences linked to inadequate service delivery, particularly in sectors like energy, where consumers face frequent outages and billing discrepancies. A deficiency of trust in service providers impedes the adoption of new technologies, particularly

within the banking sector, which prioritises security and dependability. Given consumer hesitance, the trust among clients may significantly benefit banks; security measures, like two-factor authentication and biometric verification, may enhance their assurance of the safety of their financial data. Additional personalised customer care features include virtual assistants or chatbots, providing consumers with more familiar and reassuring experiences and facilitating the transition between traditional and digital banking. The status of e-banking in Algeria is characterised by the services provided and the challenges to its further adoption. These encompass (Khadar et al., 2024),

- outdated technological infrastructures, underdeveloped payment systems, and a lack of innovative digital banking services characterise Algeria's banking sector.
- Barriers to digital financial services include expensive mobile airtime, lack of financial literacy, and unreliable transaction infrastructure.
- The target audience for digital banks in Algeria appears to be young, tech-savvy, urban individuals in their 20s and 30s who are already banked, raising questions about true financial inclusion.

#### **4. Impact of Digitalization on Customer Experience**

Digital banking has significantly transformed the customer experience environment in Algeria. It offers several advantages, enhancing ease, speed, personalisation of services, and, ultimately, security. Significant enhancements in the banking process have yielded several advantages for clients; nevertheless, they are also associated with certain obstacles that require resolution to fully realise the anticipated potential of digital banking.

##### **4.1 Convenience and Accessibility**

Digital banking dramatically increases the convenience of customers in Algeria, providing access to essential banking services around the clock. The mobile banking application allows customers to conduct transactions, check their balance, or perform other account management functions anywhere and anytime without visiting a bank branch. This accessibility is essential in rural areas where the number of banking facilitation facilities is too minimal to house all people's transactions, keeping them connected without necessarily travelling a distance. It has also contributed to a great extent to customers' satisfaction by shortening queues in banks. With a few clicks on devices, customers can perform transaction bill payments and money transfers and save themselves from wasting time and frustrations accompanying visits. (Sugihyanto & Arsjah, 2023) Note that "convenience derived from digital platforms directly impacts increasing customer satisfaction; clients value flexibility and speed of service." (Sugihyanto & Arsjah, 2023).

##### **4.2 Speed and Efficiency**

The efficiency of digital banking has significantly improved customer experiences by reducing transaction times and minimising wait periods. Traditional banking processes for fund transfers, bill payments, and balance inquiries were time-consuming and required physical interaction. In contrast, digital payment platforms and mobile applications now enable these transactions to be completed almost instantly, greatly enhancing convenience and satisfaction.

Khatoon et al. (2020) assert that digital services' perceived quality and responsiveness are crucial determinants of client loyalty in the banking sector. Consequently, reduced transaction delays enhance client happiness and bolster the bank's image as efficient and contemporary. The

significance of this speed is evident in the very competitive banking sector, where clients typically evaluate their options depending on the quality of service provided. (Khatoun, Zhou, & Hussain, 2020)

#### **4.3 Personalized Services**

A significant benefit of digital banking is its customisation through consumer data analysis. Algerian banks can utilise data on consumer behaviour, transaction history, and individual preferences to provide tailored financial services and products that more accurately meet particular requirements. This technology enables banks to provide consumers with customised loan options, savings programs, and financial advice to improve the experience. Shams et al. (2020) assert that customers, particularly from the younger demographic, have a heightened propensity to interact with services they see as tailored and pertinent to their financial objectives. A data-driven methodology enables financial institutions to cultivate more profound relationships with their clients by predicting their requirements and providing timely, pertinent answers. Consequently, personalisation enhances client loyalty and intensifies the use of digital banking (Shams et al., 2020).

#### **4.4 Security and Trust**

Security will serve as a fundamental component of consumer experience in digital banking. In light of the increase in cyber risks and heightened concerns over data privacy, online transaction security has become the foremost priority for clients in Algeria and globally. Consequently, stringent security measures become paramount: Two-factor authentication, encryption, and biometric authentication are essential for instilling user confidence. Kaur and Arora (2020) assert that perceived trust in a bank's security standards influences consumer behaviour regarding adopting digital banking technologies. As a nation with underdeveloped e-transaction capabilities, Algeria has challenges such as perceptions of fraud and consequent data losses, which hinder greater use. As a result, financial institutions must enhance their security systems and effectively communicate these steps to their clients, ensuring their personal and financial information is safeguarded. (Kaur & Arora, 2020)

#### **4.5 Enhancing Customer Engagement through Digitalization**

In addition to the technological benefits, digitalisation has significantly enhanced the communication between financial institutions and their consumers. Chatbots, messaging platforms, and automated alerts help banks sustain real-time communication with clients, allowing inquiries or issues to be addressed more efficiently than alternative ways. (Mbama et al., 2018) emphasise that responsive customer service, facilitated by digital technology, is crucial for enhancing the entire customer experience. This boosts pleasure and fortifies the customer-bank connection by cultivating a sense of attentiveness and care. Digitalisation has unequivocally transformed the client experience in Algerian banks by providing enhanced ease, efficiency, personalisation, and security. Clients now have 24/7 access to financial services, expedited transactions, and more customised options aligned with their requirements. Nonetheless, these advantages must be weighed against stringent security protocols to address customers' cybersecurity and privacy apprehension. Algerian financial institutions that continue to enhance digital services while addressing security and customer engagement

challenges will be strategically positioned to achieve superior customer satisfaction and loyalty in the evolving digital banking environment. (Mbama et al., 2018)

## 5. Challenges in Enhancing Customer Experience:

Transformation for financial institutions in Algeria. These encompass, but are not confined to, digital illiteracy among consumers, inadequately established infrastructure, and many cybersecurity-related trust concerns. These criteria significantly influence client engagement and overall experience with digital banking services.

### 5.1. Digital Literacy

The main obstacle to the massive introduction of digital banking in Algeria is that customers are not digitally literate. Many clients, particularly those from older or less urbanised demographics, cannot confidently navigate online banking platforms, mobile apps, and digital payment systems. Research has shown that gaps in digital literacy may significantly hinder financial inclusion, which means large portions of the population may face deprivation of advantages related to digital banking in terms of ease and efficiency (Kebir & Tarik, 2022).

Specialised educational programs that truly work to enhance digital proficiency need to be put into place. These initiatives could include:

- Workshops and Training Programs: Offering in-person and online training sessions to educate customers on effectively using digital banking platforms.
- Simplified User Interfaces: Developing intuitive and user-friendly banking applications and websites to accommodate users with limited digital proficiency.
- Customer Support: Providing 24/7 assistance via phone or chat to guide customers through online banking processes and resolve any issues they encounter.

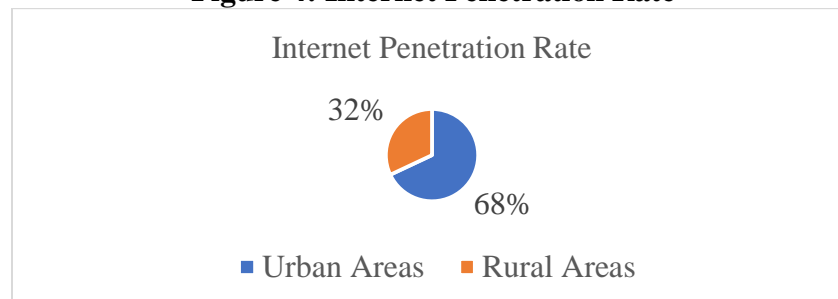
By prioritising education and support, Algerian banks can expand the number of users who confidently utilise digital services, thereby enhancing overall customer satisfaction.

### 5.2 Infrastructure Limitations:

Infrastructure challenges pose a significant obstacle to enhancing the customer experience through digital banking in Algeria. Internet access is often unstable or unavailable in some regions, particularly in rural and remote areas. This digital divide excludes many potential customers from accessing online banking services, forcing them to rely on physical bank branches, which may lack efficiency and convenience (Amrane & Damene, 2023).

Figure 4 highlights the pronounced disparity in internet distribution between urban and rural regions in Algeria, as emphasised by:

**Figure 4: Internet Penetration Rate**



**Source:** prepared by the researchers based on: (Kankara & Abdelkabir, 2023).

Enhancing infrastructure, particularly in isolated rural areas, is crucial for increasing inclusion in digital financial services. This can be achieved through collaboration with telecommunications companies, as financial institutions can partner with telecom operators to improve internet connectivity in underserved regions.

**Mobile Banking Solutions:** Leveraging mobile technologies and SMS-based banking can provide clients in areas with limited internet access with essential financial services.

Additionally, increased investment in telecommunications infrastructure, alongside developing and optimising lightweight mobile banking applications, could streamline this process more effectively (Kankara & Abdelkabir, 2023).

### **5.3 Trust and Security Concerns:**

Concerns about trust and cybercrime remain the primary barriers to the widespread adoption of digital financial services in Algeria. Many clients, particularly high-profile users, are sceptical of such platforms due to significant fears of fraud, identity theft, and data breaches. The evolving nature of Algeria's legal and regulatory framework for cybersecurity further heightens the perceived vulnerability of online transactions (Kankara & Abdelkabir, 2023).

Studies reveal that weak security legislation and limited communication about security measures implemented by financial institutions exacerbate client reluctance to adopt digital services. To address these challenges, banks can implement the following strategies (CMS Law, 2023):

**Enhanced Security Features:** To safeguard client information, deploy advanced security protocols, such as two-factor authentication, data encryption during transmission, and regular security audits.

**Transparent Communication:** Educate customers about their rights and the measures they can take to protect their personal and financial data. Clear communication about the bank's security infrastructure can help build trust.

**Public Awareness Campaigns:** Launch initiatives to reduce fears by emphasising the security benefits of digital banking platforms and promoting best practices for online safety.

## **6. Case Studies and Best Practices:**

Advanced technology has been integrated into banking, revolutionising customer satisfaction. This section includes an overview of select case studies demonstrating successful digital transitions, highlighting key breakthroughs, and delineating best practices for enhancing customer experience.

### **6.1. Successful Digital Transformations**

#### **6.1.1. Algerian Banks:**

##### **A. Banque Nationale d'Algérie (BNA)**

The creation of BNA's mobile banking application has revolutionised consumer interaction with their financial institution. This application enables various transactions, including cash transfers and bill payments, significantly improving ease and customer satisfaction. Its widespread adoption and positive user reviews show the application's success. Furthermore, BNA's dedication to digital literacy training for its clients has enhanced their ability to effectively utilise these digital services (Klika).



**Klika's Mobile Banking App:** Klika developed one of Algeria's first mobile banking applications. This app allows customers to open accounts and manage smartphone services. It improved accessibility, growing from 20,000 to over 500,000 users, demonstrating its effectiveness in meeting customer needs. (Klika, 2024)

### **B. Algérie Poste**

**Edahabia Card and E-Payment Solutions:** The introduction of the Edahabia card has facilitated online transactions and e-commerce, consequently improving customers' experience with safe and more convenient payment methods. The transition to digital payment systems has significantly enhanced consumer satisfaction by providing contemporary payment methods.

**Digital Financial Services (DFS):** The integration of DFS in Algerian banks has facilitated economic recovery and financial inclusion, particularly for underserved populations. It enhances customer satisfaction by providing more accessible banking services. (World Bank, 2024)

### **C. Société Générale Algérie**

The comprehensive digital strategy executed by Société Générale Algérie includes online banking services, mobile applications, and sophisticated cybersecurity measures. The main goal of this effort is to improve client interaction and streamline banking operations, increasing customer satisfaction. (Hassnaoui & Belkasmi, 2022).

#### **6.1.2. Global Banks**

##### **A. Bank of America**

**Bank of America's Erica:** An AI-driven virtual assistant that provides notifications, balance information, and money-saving tips. With over 6 million users and 35 million service requests handled, Erica exemplifies how chatbots can streamline interactions and improve customer satisfaction. (Sewoong & Jonghyuk, 2021)

##### **B. HDFC Bank**

**HDFC Bank's EVA:** This virtual assistant uses natural language processing to handle over 5 million queries efficiently, showcasing the potential of AI-powered chatbots in enhancing service efficiency. (Mogaji, 2020)

##### **C. Commonwealth Bank of Australia**

**Commonwealth Bank of Australia's Ceba:** A virtual assistant capable of assisting with over 200 tasks, significantly enhancing user experience and operational efficiency. (Trivedi, 2019)

#### **6.2 Innovations Enhancing Customer Experience:**

##### **6.2.1 Chatbots for Customer Service:**

- 24/7 Support: Chatbots, such as Bank of America's Erica, offer round-the-clock assistance, minimising wait times and enhancing customer engagement (Miklošik et al., 2021).
- Cost Efficiency: Automating routine inquiries helps banks save approximately \$8 billion annually, enabling human agents to concentrate on more complex issues (Nguyen et al., 2021).

##### **6.2.2 AI-Driven Financial Advisory Services**

- **Personalized Advice:** AI systems leverage data analysis to provide customised financial recommendations, enhancing client satisfaction and strengthening relationships (Payne et al., 2021).

- **Risk Management:** AI improves risk management by detecting potential fraud, ensuring regulatory compliance, and fostering client trust (Berrin, 2021).

### 6.2.3 Mobile Banking Platforms

- **Biometric Authentication:** Features like fingerprint and facial recognition enhance security and boost user confidence (Mydyti & Kadriu, 2021).
- **Digital Wallets:** Digital wallets improve transaction security and efficiency, enhancing the overall user experience (Bellahcene & Latreche, 2023).

### 6.3 Best Practices:

- **Customer-Centric Innovations:** To meet the growing demand for convenience and personalisation, prioritise enhancing the customer experience through digital channels, such as mobile applications and AI-powered chatbots (Berrin, 2021).
- **Omnichannel Experience:** Provide a consistent service across all platforms, enabling seamless transitions between mobile apps, websites, and physical branches (Hassnaoui & Belkasm, 2022).
- **Robust Cybersecurity:** Implement multi-factor authentication and continuous monitoring to safeguard customer data and foster trust (Nguyen et al., 2021).

## 7. CONCLUSION:

The digital revolution within Algerian banks has significantly improved their operations, leading to an enhanced customer experience defined by convenience, speed, and personalisation. Banks have transformed how they interact with consumers by incorporating modern technology and innovative service delivery models. A distinct array of obstacles exists inadequate digital literacy, underdeveloped infrastructure that hinders the proliferation of digital banking services, and other security-related concerns. Effectively tackling these difficulties is crucial for continued success, and the advantages of digitalisation can extend to a broader audience. The paper emphasises the necessity of a prudent equilibrium between technological advancements and strategic methods for overcoming such obstacles.

### 7.1 Study Results:

- The use of digital tools and services enhanced consumer satisfaction by providing 24/7 access to banking services, expediting transaction speeds, and offering tailored financial advice.
- Insufficient digital literacy among specific demographics, inadequate internet infrastructure in remote regions, and overarching data security issues are significant problems. These have hindered the full actualisation of digital banking's potential.
- Case examples from the Algerian and international banking sectors substantiate the assertion that creative approaches and customer-centric strategies are essential for facilitating digital transformation in banks. Examples comprise a smartphone application from Banque Nationale d'Algérie and an AI-driven virtual assistant created by Bank of America.
- Financial institutions with adeptly integrated mobile banking apps, digital payment systems, and robust security measures have observed positive consumer engagement and confidence outcomes.

## 7.2 Study Recommendations:

- The training sessions offered to consumers will enhance their digital literacy. It may encompass courses on utilising basic rules or round-the-clock customer service to assist consumers in navigating the platforms.
- Infrastructure Investment: This may be achieved through partnerships with communications service providers dedicated to enhancing internet access, particularly in rural regions. An alternative approach may involve seeking mobile banking solutions with little internet connectivity.
- Enhancement of Security: Provide resources for two-factor authentication and data encryption. Customers will be forthcoming because of the assurance of transparency regarding the security policy applied.
- Augmented Digital Services: Incorporate an extended digital portfolio, including online credit and investment applications and a digital wallet introduction. This addresses consumers' rising expectations for convenience.
- Establish fintech partnerships by employing technology and innovative solutions. Banks will receive prompt information on technological advancements and develop superior digital solutions by actively engaging with fintech incubators.

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