

Digital Banking and Financial Innovation: An Examination of the market Overview, Landscape, Trends and Opportunities

Ayodeji Bamidele Owoeye (PhD)

Royal Agricultural University, School of Business and Entrepreneurship, Stroud Rd, Cirencester GL7 6JS

ABSTRACT: As digitalisation continues to change the financial industry, the banking environment in Europe and throughout the world is changing at unprecedented rates. Several reasons have contributed to the emergence of digital banking, including shifting customer tastes, legislative changes, technology breakthroughs, as well as current macroeconomic and geopolitical developments. There are already more than 500 digital banks globally (BPC and Fincog 2023), and their number and size are continuously increasing.

In this research, the paper focussed on the present situation of the digital banking sector in Europe, including important market trends, business models, and tactics that banks are using to prosper in a quickly changing marketplace.

The research looked at important success criteria and possibilities for banks to differentiate and position themselves in an increasingly competitive market. The research paper will critically assess the European digital banking sector while also providing an outstanding overview of the present competitive situation. This study focusses on the essential prospective market entrance and analyses the ideal posture for establishing a successful company endeavour in Europe. Furthermore, this paper offers a thorough examination of the European banking business, including information on market size, digital banking leaders, and customer behaviour.

Drawing on previous research, this paper will be a significant resource for bankers, investors, entrepreneurs, and other stakeholders navigating Europe's quickly evolving digital banking ecosystem.

KEYWORDS: Digital banking, Financial Innovations, European digital banking sector, Fintech

INTRODUCTION

As digital banking gains traction and expands beyond national borders, it becomes increasingly clear that consumer habits and economic dynamics differ dramatically from one place to the next. To fully comprehend the opportunities and challenges associated with digital banking, it is necessary to first examine what distinguishes Europe as a region, as well as assess how the region's banking infrastructure and the performance of European banks have been influenced by various macroeconomic and geopolitical factors. This will offer a better knowledge of the specific circumstances, as well as prospective benefits and downsides, that may have an influence on the rise of digital banking in Europe.

Europe is considered an important continent with the increasing use of digital innovation. This was supported with its comparative landmass without borders and it demonstrated a vibrant opportunity for digital banking. It is home to a variety of strong and vibrant cultures, creative industries and historic landmarks. In 2024 for example, 34 world heritage sites through four different thematic itineraries including royal Europe, ancient Europe, underground Europe and romantic Europe of all UNESCO cultural world heritage sites were located in EU member states (UNESCO, 2024).

However, not only have its deep cultural origins made it a focus for trade and business for millennia, but other characteristics such as its advantageous geographical location in relation to Asia and Africa, as well as its richness of natural resources, have contributed to Europe's economic strength throughout recorded history. From financial centres in London, United Kingdom and Frankfurt, Germany, to metal mining in the Nordics for the creation of electric automobiles, Europe is a pillar of the global economic landscape.

Underlying its strong historic economic performance, the European Union's combined nominal GDP in 2023 had peaked at \$ 18.35 trillion equalling 17% of the global total GDP value and recovering from a four-year decline in GDP since 2020 due to the aftermath of the Covid-19 pandemic (Statista, 2024). Furthermore, based on the information obtained from Statista (2024) the global gross domestic product valued at 110 trillion U.S dollars.

Regional powerhouses, such as the United Kingdom, Germany, France, and Italy, have contributed to the success in recent years. While the continent is home to some of the world's greatest economies, it also has some of the world's oldest countries.

Eurostat (2023) argued that the EU population was predicted to be 448.8 million individuals, with more than a fifth (21.3%) of them aged 65 and more. The median age of the EU population was 44.5 years. This indicates that half of the EU's population was above the age of 44.5, while the other half was younger.

Eurostat (2024) provided critical information on January 1, 2021, the median age of the EU population reached 44.1 years, 0.2 years higher than in 2020. It grew by 2.5 years (an average of 0.25 years each year) from 41.6 years in 2011. This indicates that half of the EU's population was over the age of 44.1, while the other half was younger. The median age in the EU Member States ranged from 38.0 years in Cyprus, 38.5 in Ireland, and 39.6 in Luxembourg, the only Member States with a median age less than 40, to 47.6 years in Italy, 45.9 in Germany, and 45.8 in Portugal. In all, 15 Member States are under the EU's median age.

This statistic grew in practically all EU Member States between 2011 and 2021, growing by four or more years in Spain, Portugal, Greece, Ireland, and Slovakia but decreasing in Sweden (from 40.8 years in 2011 to 40.6 years in 2021). In Malta, the median age remained constant between 2011 and 2021.

Between 2020 and 2021, the median age grew in 23 Member States, but fell or stayed constant in Belgium, Germany, Lithuania, and the Netherlands. The median age of Ireland, Spain, Italy, and Slovakia increased the most between 2020 and 2021, each by 0.4 years.

As Europeans live longer than ever before, the European population is expected to reach a median age of 48.2 years by 2050. Such changes are expected to have far-reaching consequences, not just for people, but also for governments, enterprises, public services, and banking markets that must adapt to a new era of civilisation.

Since the emergence of the Covid-19 epidemic, the European financial environment has altered dramatically. Consequently, many sectors suffering badly as a result of lockdown measures and social isolation, the profitability of European banks has decreased, particularly for those who were already struggling prior to the epidemic. This research argued that bank profitability has been a major struggle for both European institutions and newcomers, with ultra-low interest rates increasing loan losses. Furthermore, the European banking sector continues to be dominated by banks with large cost structures fighting for the same client base.

As a result of the dominated banks with large cost structures combating customers with the challenger banks, many customers within the European banking system have positively gains from these as seen in the favourable levels of account ownerships reaching a minimum of 89 percent for adults across many countries in Europe.

This overabundance in Europe's banking system has led to many positive effects for customers particularly in Western Europe and the Nordics where we see favourable levels of account ownership reaching a minimum of 89% banked adults across countries. This number still lies well beyond the global level of approximately 76% of worldwide banked adults. While positive from the consumer side, these developments have not only driven low profits and returns for banks during and before the pandemic but in turn, also resulted in an increased consolidation and contraction in the number of credit institutions in the EU.

The banking industry in Europe has seen tremendous change in the last ten years, especially with the rise of online banking. The number of credit institutions and physical bank branches in Europe have significantly decreased, which is indicative of this progression.

There has been a noticeable decline in the number of credit institutions, which dropped to 5,264 in 2021 from a total of 8,525 in 2008. Customers' widespread use of online and mobile banking channels compounded the consequences, resulting in a sharp drop in bank branch locations and job losses to save expenses while simultaneously emphasising the growing trend towards more agile organisational structures. By the end of 2021, there were only over 138,000 domestic bank branches in the EU, down from over 225,000 in 2008. Simultaneously, banks have continuously cut employees since the 2008 financial crisis.

The decrease has levelled off in recent years, and banks continue to play a significant role in the EU labour market, employing almost 2.1 million people by the end of 2021. Many actors have shown resilience and were able to effectively absorb the shock that the Covid-19 epidemic had on global economies, even if continuous restructuring and the recent harsh hits to European banks' earnings and asset bases have occurred. This is partially due to the extraordinary public assistance that governments provided to keep credit flowing throughout the crisis, which enabled banks to adjust to the new conditions.

However, since 2007, banks have gradually increased their capital levels, depending more on deposits for funding, and their overall assets have grown. Furthermore, ROEs have lately had a robust comeback and have stayed positive in the majority of European nations. According to ECB supervisory reporting statistics, ROEs have been increasing because to growing net interest revenue. They peaked in the third quarter of 2022 at a steady 7.55%, up from an aggregate annualised 0.01% at their lowest point in 2020. Slovenia, Romania, and Greece, among others, have demonstrated the greatest ROEs in 2022, with values of about 20%.

Due to weakening economic predictions and unexpected inflation brought on by Russia's invasion of Ukraine, the euro area's financial stability has recently deteriorated. Debt-ridden households that are already struggling with a

fundamental rise in energy and commodity costs will be particularly affected by the increase in interest rates as a response to counter inflation. Concerns over possible asset quality risk are raised by the developments for banks. European Banking Authority (2024) report on Risk assessment emphasized on the asset side that in the recent years, European banks have evidenced improvements in NPL ratios reaching a new low of 1.88% in Q3, 2024 with a total stock of NPLs of 376 billion euros.

But this trend might see a reversal if situations are further deteriorating. On the other end of the spectrum, higher interest rates mean opportunities for growing net interest margins and much-needed top-line growth. Beyond, banks have the possibility to play a crucial role in tackling customers' challenges and supporting economic recovery. In sum, the banking sector has shown resilience to the challenges it faces. But uncertainty remains with the current market conditions, and banks as well as other market participants need to be prepared for a looming recession. For most players, this means to re-visit their market position and explore new opportunities to remain competitive but also to further upscale their operational efficiency and robustness.

This paper tends to answer the followings

1. To provide a robust and detailed overview of the European digital banking market including the key trends and factors driving its growth.
2. A deep dive into the most successful business models and strategies for digital banks in Europe.
3. Identify and provide insights into the opportunities for market differentiation and positioning in this increasingly crowded space.

RESEARCH METHODOLOGY

The systematic literature review (SLR) was used in this work. The SLR identifies, selects, and assesses research that addresses a given topic. Before beginning the systematic review, the criteria should be explicitly established. The author described the key sources of literature for each of the study subjects using SLR. The author conducted an SLR using a sample of 85 research publications. These articles were selected from a pool of 300 papers gathered from various relevant sources. The publications were chosen based on their citation count in Google Scholar, Scopus, and the journal's impact factor.

In addition, the author synthesised the literature using the QCA and applied it to provide answers to the research question. The author chose the most current papers from 2005 to 2025 that were cited by several academics since the growth of entrepreneurship in Nigeria has been a significant topic of research for the past 20 years. According to Okoli and Schabram (2010), the SLR is a methodical, transparent, exhaustive, and repeatable process for locating, evaluating, and synthesising recent academic, research, and practice

literature. Finding pertinent articles, creating a screening strategy, evaluating the quality, extracting pertinent material, and analysing and synthesising the results are the next five phases in the SLR process. Lastly, a report and summary of the review's conclusions are provided (Xiao & Watson, 2017). One method for determining the factors that contribute to certain outcomes is qualitative comparative analysis, or QCA. This research technique aims to draw valid conclusions from contextual data in order to offer understanding, fresh concepts, fact interpretation, and advice for real-world application. Giving a comprehensive picture of the phenomena is the goal. Models, conceptual maps, conceptual systems, and categories are frequently developed using QCA ideas or categories.

There are two possible approaches to QCA: deductive and inductive. When prior knowledge of the subject is inadequate, inductive reasoning is employed. However, deductive content analysis was created to investigate new information or validate hypotheses (Elo & Kyngäs, 2008). In order to critically assess the work, the author employed an inductive approach. Three steps have to be considered. The author started by choosing passages from search articles that addressed the three study topics. The author then addressed the research questions of the study by choosing sentences from each section. This research will examine the critical issues stated above. The next section will provide a comprehensive review and detailed overview of the European digital banking market including the key trends and factors driving its growth.

European Digital Banking Landscape

Over the past 20 years, fast technical advancement, changing customer expectations, and extensive legislative reforms have significantly changed the digital banking market in Europe. According to Pousttchi and Dehnert (2018), digital banking is the digitisation of all conventional banking operations, such as loans, digital payments, client onboarding, online and mobile banking services, and personal finance management. Both private sector innovation and government policy actions aiming at establishing a more competitive and connected financial ecosystem have helped to facilitate this transition in Europe.

In recent years, the digital banking industry has led the way in global financial services trends, reinventing the client experience and establishing new benchmarks for the distribution and accessibility of both everyday banking services and more sophisticated goods. The need for digital banking has increased globally due to shifting consumer behaviour and technological developments, and so-called neobanks, also known as challenger banks, have quickly taken market share. With more than 500 digital banks worldwide servicing around 1 billion users as of 2022, it is clear that this trend has been increasing, according to Fincog's

comprehensive database of challenger banks. This indicates that while customers continue to look for solutions that will meet their changing demands, there is an increasing interest in the adoption of digital banking options.

Digital Banking Activities, Market Structure and Major Players

Building on beneficial regulatory reforms like PSD1 and PSD2, Europe has one of the most developed digital banking markets. Additionally, the framework for EMIs has made it possible for start-ups and entrepreneurs to offer their solutions without having to go through the difficult and time-consuming process of obtaining banking licenses and gaining access to customer data from traditional incumbent strongholds. According to research by banking and fintech consultant Fincog, the surge of digital banks across European nations has been fuelled by this advantageous legal climate, and by the end of 2022, there will likely be 162 digital banks in Europe. In addition to encouraging regulators, the technological infrastructure and ingenuity of European centres like London, Berlin, Stockholm, and Paris have made it possible for digital banking to become more widely used.

Additionally, Europe has become increasingly appealing to investors worldwide due to the impressive returns from venture capital-backed companies in the EU over the last 20 years, resulting in a better developed European tech market overall, even though current global economic conditions caused the aggregate worth of European tech companies to drop from a peak of \$3.1 trillion in 2021 to \$2.7 trillion at the end of 2022 (CNBC). However, European tech investment was projected to exceed almost \$50 billion in 2024, despite the recent economic recession. This is a significant increase over prior years (Invest Europe, 2024).

Europe's diverse and sizable population, along with its abundance of highly educated entrepreneurs and research institutions, is another factor contributing to its appeal as a market. According to We Are Social and Hootsuite's research, internet penetration in Europe is expected to reach 86.9% in Eastern Europe and 97.4% in Northern Europe in 2023.

The hybrid structure of the European digital banking market is made up of neobanks, challenger banks, incumbent banks, and fintech firms. By establishing digital-only subsidiaries or partnering with fintech companies, traditional banks such as BNP Paribas, Santander, and Deutsche Bank have made significant investments in digital transformation initiatives (e.g. ING's Yolt, RBS's Bó—later abandoned). However, by providing mobile-first platforms with user-friendly interfaces, cheap fees, and real-time services, digital-native banks like Revolut (UK), N26 (Germany), and Bunq (Netherlands) have upended the sector (Vives, 2019). Younger consumers who seek speed, convenience, and personalization—millennials and Gen Z users in particular—have been successfully attracted to these challenger banks.

The report of Invest Europe (2024) argued that over the past ten years, European technology has expanded quickly, and its early-stage startup environment is among the best in the world. Unlocking growth-stage capital is still difficult. With 20 million world-class workers, European technology might be valued at \$8 trillion in ten years. The author emphasized that there are strong foundations for early-stage startups in European digital space. With 35,000 startups—more than any other region—Europe has emerged as a global leader in early-stage investment. These days, among of the world's leading centres of innovation include cities like Paris, Berlin, and London.

Furthermore, Growth-stage funding challenges in the European digital bank space. European businesses frequently depend on US investors for larger rounds, putting them at risk of talent and economic leakage, even if they have grown eight times since 2014. The need for institutional assistance is shown by the fact that European pension funds only devote 0.01% of their \$9 trillion in assets to European venture capital. Strengths in talent and sustainability with 3.5 million workers, European technology has grown at a rate comparable to the US, adding 2.5 million employment since 2015. Additionally, sustainability efforts receive 21% of European tech investment, which is twice as much as the US average.

Diversification of business models and new competition

The surge in new initiatives may be explained by the fact that digital banking has become a profitable choice for many European market players due to the growing popularity of neobanks. In an effort to improve their market position, conventional incumbents are also implementing their digital strategy and establishing digital greenfield banks, even if independent neobanks like Revolut, Wise, or Monzo are controlling the industry. European start-ups and scale-ups are the target of companies like Hello Bank by BNP Paribas from France and New10 by ABN Amro from the Netherlands.

In addition to established digital banks, a rise in embedded finance and banking as a service solution provider is making it possible for entrepreneurs and vertical movers like Telco's to quickly and easily launch their own stand-alone digital banks and other businesses in the competition for customers in the EU banking market. But why are online banks such a desirable substitute for customers? In order to gain market share from established banks and persuade customers to use their services, neobanks have embraced a variety of business models and differentiation tactics made possible by digital capabilities.

European digital banks have often used rapid and effective client acquisitions and growth in a short period of time to gain a foothold in the market and draw in enough investors to last in the near future. Neo banks use a variety of tactics to draw clients and accomplish their goals, from creative marketing

plans to excellent front-end customer service to extremely aggressive pricing plans. High client growth rates are only one aspect of the equation, though, and digital banks eventually reach a turning point where revenue and income diversification, as well as cost management discipline, become much more crucial.

Many digital banks in Europe have traditionally battled with profitability and continue to do so in the present market context due to the prevalent priority for client expansion above economic sustainability. However, there has been an increase in the number of competitors that have lately begun to break even and turn a profit, particularly those that have centred their offerings on lending, which has historically been advantageous for bank profitability. One of the few successful neobanks in Europe is Aprila Bank, a SME-focused neobank from Norway that joined OakNorth and Starling Bank in 2022. But generally speaking, neobanks' profitability varies widely depending on the locale and is fuelled by distinct goods and services.

As digital banks work to keep their current clientele and lower attrition rates, customer engagement has emerged as a crucial component of increasing overall profitability, second only to the significance of a strong product range. Digital banks can give their clients a more engaging and dynamic banking experience with the introduction of innovative engagement elements like gamification ideas and customised money management tools. Features like budgeting tools that help consumers save during uncertain times might be a good strategy to increase customer stickiness, especially in light of the worsening cost of living problem. Bunq, an Amsterdam-based Dutch challenger bank that was among the first neobanks to declare a profit for 2022, is one example. The news comes after a number of purchases over the previous two years, including the Irish lending firm Capital Flow and the mobile money management tool Tricount, which enables users to control their collective spending.

Digital banks that are successful

Given the wide range of digital banks that open their doors each month, the European digital banking scene is rather varied. However, number does not equate to quality, and many digital endeavours continue to fail along the way. Those that are successful typically do so because their business models differ greatly from those of conventional banks. Instead of attempting to set themselves apart by the calibre of their branch networks, relationship managers, and wide range of products, digital banks frequently focus on identifying a distinctive way to serve their clientele. For instance, it is critical for neobanks that target a specific customer segment to identify a specific pain point that resonates with their niche and for which the customers are actually willing to pay, regardless of whether that differentiation stems from

focussing on a particular niche or offering a superior user experience.

Without this, businesses run the danger of failing because they lack size and distinction. As an illustration, Aprila Bank, which became profitable in 2022, was able to pinpoint a monetizable pain point: the difficulty small business owners and entrepreneurs have in securing flexible and reasonably priced overdraft facilities as well as business loans to get past temporary obstacles. This has enabled them to provide their clients with a special and worthwhile solution. Digital banks also use other tactics, such as developing marketplace solutions, embracing the idea of establishing financial and nonfinancial Super Apps, and investigating other income sources and cross-selling opportunities.

Examples of Successful Digital Banks in Europe

In Europe's quickly changing financial landscape, a number of digital banks have become major participants throughout the last ten years. These totally digital, branchless financial institutions, known as neobanks, have challenged conventional banking structures by using technology, user-centric design, and innovative regulations. Some of the more noteworthy success stories are listed below:

Revolut (United Kingdom) established in 2015 with over 40 million estimated user has presence in UK, European Economic area, United States, Australia and Singapore. Revolut is maybe the most well-known online bank in Europe. Originally introduced as a travel card with cheap foreign exchange fees, it has now developed into a "financial super app" that provides services including savings vaults, cryptocurrency trading, stock trading, insurance, and multi-currency accounts. A robust mobile experience, regular feature rollouts, and aggressive expansion are key components of its success. Revolut has obtained full banking licenses in a number of nations and is pursuing a UK banking license to provide lending services, despite not yet turning a profit.

N26 (Germany) established in 2013 with over 8 million users focussed on the Eurozone excluding United Kingdom and United States. N26 is renowned for its user-friendly, Google Pay and Apple Pay connectivity, and simplicity of usage. It provides: Real-time alerts, Tools for creating a budget as well as savings and overdraft accounts. It may fully function as a bank under EU passporting regulations thanks to its German banking licence. N26 prioritises product simplicity and has tightened its operational emphasis (e.g., by leaving unproductive areas like the US and UK) in order to progress towards profitability.

Bunq (Netherlands) was founded in 2012 with over 9 million users as at 2024. Bunq, also referred to as "the bank of The Free," is based on user freedom, transparency, and sustainability. It is the first digital bank in the EU to fully customise accounts for users. Among the main features are

real-time multi-user budgeting, group spending control, and a tree-planting program for each €100 spent. One of the few online banks to make a profit, Bunq has a sustainable business strategy that puts the needs of the community and the environment first.

Monzo (United Kingdom) was founded in United Kingdom with over 9 million users. Monzo is a digital-only bank that provides joint accounts, loans, savings accounts, and current accounts. Transparent pricing structures, user-friendly mobile banking, and robust community involvement are the foundations of its success. With tools like "Salary Sorter" and "Pots" for savings, Monzo has received accolades for its customer service and is coming up with new ideas. It has lately ventured into business banking and premium account tiers (such as Monzo Plus and Premium) and has a complete UK banking licence.

Wise was formerly TransferWise, UK-based but pan-European, founded in 2011 with over 16 million users. Wise is essential to the digital banking industry despite not being a full bank because of its borderless banking and multi-currency accounts. It provides: euros, UK pounds, US dollars, and more than 50 additional currencies under a single account; cross-border payments using mid-market exchange rates. A rarity in the industry, Wise has continuously generated positive cash flow and earnings and is listed on the London Stock Exchange.

In summary, Digital banks like as Revolut, N26, Bunq, and Monzo have revolutionised retail banking in Europe by fusing state-of-the-art technology with customer-focused design and fast product development. Their success provides important insights into the future of banking, which is becoming more global, transparent, and mobile-first.

Key Drivers and Successful business models and strategies adopted by digital banks in Europe

Customer-Centric UX Focussed and Customer Behaviour

Digital banks adopted a customer-centric UX approach which came with simplicity, real-times updates and visual spending insights. This approach made many clients easily use their services at very reduced fees. Due to its ease, user-friendliness, and speed of service, digital banking has become more and more popular among European customers. With several banks reporting notable increases in online transactions, digital onboarding, and mobile app usage, the COVID-19 epidemic sped up the implementation of digital technology (EY, 2021). However, because of variations in infrastructure, culture, and regulations, adoption differs throughout nations. For instance, although Southern and Eastern Europe show more modest adoption rates, Nordic nations (such as Sweden and Finland) dominate in the penetration of digital payments and mobile banking (Statista, 2023).

Regulatory Frameworks

The regulatory framework in Europe has significantly influenced the development of digital banking. Among the notable frameworks are: Payment Services Directive (PSD2) revision which encouraged digital banking and promoted open banking and increased competition. PSD2 was introduced in 2018 and requires banks to let third-party providers access to client account data (with the approval of the consumer). The General Data Protection Regulation (GDPR) ensures that digital banks adhere to stringent data privacy standards by regulating the processing and safeguarding of personal data. The Markets in Crypto-Assets Regulation, or MiCA, seeks to standardise the legal environment for cryptocurrencies and tokenised assets across the EU. The Digital Operational Resilience Act (DORA) improves risk management and IT security for financial organisations. Together, these rules safeguard fair competition, consumer protection, and financial stability while encouraging innovation.

Technological Drivers

Artificial Intelligence (AI) and machine learning for credit scoring, fraud detection, and personalisation are two important technical advancements supporting the digital banking revolution. Distributed ledger technology (DLT) and blockchain for smart contracts and safe transactions. Rapid scalability and open banking are made possible by cloud computing and API connections. Secure onboarding and access are supported by digital identity verification and biometric authentication. With APIs allowing "banking-as-a-service" (BaaS) models and increased interoperability across financial ecosystems, these technologies have reduced entry barriers and enabled modular service delivery (Zachariadis & Ozcan, 2017).

Low Cost Structures

One of the key drivers that encouraged digital banking in Europe is the very low-cost structures. The cost structures of digital banks, also referred to as neobanks, are substantially cheaper than those of traditional banks. They have been able to provide competitive pricing, including free accounts, reduced transaction fees, and greater interest rates on deposits, in large part due to their cost effectiveness.

There is no physical branch network. Digital banks don't have physical branches and do all of their business online, in contrast to traditional banks. This removes: Branch site rent and utilities costs, Pay for in-branch employees (administrators, security, and tellers), as well as expenses for infrastructure and physical upkeep. For instance, a digital bank can service millions of clients from a centralised digital infrastructure, while a traditional bank may spend millions on its branch network each year.

Lean Staffing Models. Comparing digital banks to traditional banks, the former employ fewer people per client.

Numerous tasks are self-service or automated: AI technologies help with loan evaluations and spending insights, chatbots answer frequently asked questions, and digital onboarding eliminates the need for face-to-face communication. Lower pay and HR expenses result from a smaller staff.

Agile Product Development. The majority of digital banks make use of contemporary, modular technology stacks (APIs, microservices), which enable: Quicker release of new features, Reduced development cycle time and expense, little problems with legacy integration or system outages. Over time, this agility lowers development and IT expenses, particularly when compared to institutions using systems that are decades old.

Key Trends Shaping the Market

Even though banking services have advanced significantly throughout the European Union in recent years, the continent's current economic climate poses a number of difficulties that call for creative thinking and practical solutions from both businesses and entrepreneurs. Among the major challenges confronting European economies today are the escalating cost-of-living crises, the continuous migration wave, and disruptions in global supply systems. Customer-focused banking and financial services solutions are in greater demand as a result of these difficulties. Digital banks now have more chances to increase their market share and take advantage of the rising demand as a result of this change in consumer behaviour.

A cost-of-living crisis is altering demand among consumers and businesses

Stunting inflation and continuous geopolitical tensions are driving Europe's cost-of-living issue, which is making many Europeans anxious and their economic outlooks worse. People's everyday lives are being impacted by the notable rise in the price of necessities. Food costs have increased due to inflation, and supply chain problems have made it challenging for goods to get to customers. In a similar vein, rising energy prices have resulted in increased gas and electricity bills throughout Europe. These problems have been made worse in large part by geopolitical conflicts.

Gas and food items have been disrupted by the ongoing war between Russia and Ukraine, but it has also exacerbated previous supply chain problems like the US-China trade dispute, which recently resulted in tariffs and export limits within the semiconductor sector. The foundation of 21st-century industrial and technological policy is semiconductors. A possible scarcity brought on by US export restrictions may soon even impact European nations by making it more difficult for companies to obtain the supplies and technology they require to function. The European Commission has been more concerned with promoting the independence of European economies as a result of growing

awareness of the EU's dependency on global powers like the US, China, or Russia.

For instance, the European Commission hopes to raise Europe's proportion of the world's chip output from 10% to 20% by introducing its own Chips Act in February 2022. For instance, these advancements open up new avenues for banks and financial services providers to assist SMEs, start-ups, and scale-ups in obtaining sufficient funding and financial solutions to support their projects. Rising costs cause consumers to worry about their financial status, which gradually changes consumer demand and behaviour throughout European nations.

A recent McKinsey poll found that 58% of European consumers rank price increases as their top concern, surpassing even other global crises including the conflict in Ukraine, extreme weather, joblessness, and political unpredictability. Customers in Europe are cutting back on purchases and becoming more frugal with their spending as their purchasing power and, consequently, their optimism, are plummeting. Consumers may save money on everyday costs, but this does not necessarily translate into real savings being deposited into bank savings accounts.

Another finding from McKinsey's European consumer study is that more than one-third of European consumers, especially in Italy, the UK, and Spain, claim to have deducted money from their savings to pay for regular bills. In the long run, increased interest rates, lower spending, and higher energy costs might have an adverse effect on bank transaction volumes and mortgage affordability. The financial well-being of many households is deteriorating, and the banking industry must be ready to assist customers during these difficult times, even though the European consumer market as a whole does not yet exhibit significant symptoms of distress.

CommBank is an excellent example. In order to tailor banking services, the Australian bank introduced an app function called Fuel Finder that looks at clients' transaction histories and forecasts when they would need to fill their vehicles. However, banks in Europe have not yet responded to the cost of living problem and are being advised to do so in a way akin to that of the COVID-19 epidemic, in which several market participants responded to the novel situation with compassion and understanding.

The climate-related challenges and the impact of Digital banks in Modernity

Climate change is a major worry for many stakeholders, including consumers (Onyebuchi N and Owoeye, A.B (2025), in addition to price increases. As of right now, the climate catastrophe has significantly impacted both economy and the lives of millions of people. Extreme weather and rising temperatures result in lower profitability for enterprises and worse living conditions and financial hardship for consumers.

However, banks are already beginning to feel the strain that climate-related problems might soon exert on them on a greater scale. For instance, there may be a greater chance of significant credit losses in the banking industry due to harsh weather and the devastation of farmers' and other enterprises' financial assets that were pledged as security for loans.

If governments decide to crack down on fossil fuel companies by raising carbon taxes, banks run the risk of holding a carbon-intensive credit portfolio. This could have a big effect on financial institutions that are exposed to the fossil fuel industry and other industries that depend on it. Decarbonising assets at scale and realigning portfolios to invest in green and carbon-neutral businesses, on the other hand, may soon provide banks with an increasing number of advantages. The most pressing concern about sustainability, nevertheless, is the growing pressure on banks to meet their obligation to assist the economy in its energy transition.

Banks around Europe are being asked to help create a more sustainable and ecologically conscious society due to customer demand for sustainable banking products, investor interest in green alternatives, and employee expectations of their companies' environmental records. Nevertheless, consumers in Europe are becoming more conscious of sustainability and considering the effects of their consumption patterns and decisions on the environment. This awareness is particularly prevalent among millennials, who are also the ones who use digital services the most. In response to the trend, banks and fintech companies are already providing product solutions that let consumers learn about their carbon impact or donate to worthy causes.

For instance, Bunq, a challenger bank in the Netherlands, provides an account where a tree is planted in the account holder's name for every \$100 spent. In the upcoming years, there will probably be a greater demand for items that are ecologically friendly, thus European banks would be well to revisit their customers' sustainability demands. As an additional illustration, several banks give enticing mortgage interest rates for homes with higher energy efficiency and offer guidance on potential sustainable improvements for a client's new residence.

Using embedded finance and BaaS to enable the digital economy

This paper emphasized the critical impact of BaaS activities to Digital Bank and the digital economy at large. This is based on the premise that Banking-as-a-Service (BaaS) as business model enhance licensed financial institution to provide the essential banking infrastructure and services to start up fintech companies through APIs. As a consequent of the activities, it enables non-financial companies to provide the basic banking products and services to the clients, thus providing alternative the traditional banks.

Because banking is shifting from a product-to-customer perspective and because many financial services are now provided by a wide range of providers in the digital ecosystem outside of traditional financial institutions, this has gained popularity in Europe. Embedded finance is a novel phenomenon that helps to facilitate this new paradigm in the financial services industry. Embedded finance as a non-financial software platform that offers a related financial service and assumes some financial ownership of that service. This indicates that, from the perspective of the user, embedded finance provides access to financial services as a platform byproduct.

However, the phrase Banking-as-a-service (BaaS) is also used. When considering the platform itself, BaaS becomes more pertinent. Although the phrase "embedded finance" refers to the general idea of integrating financial services into a platform, BaaS makes this possible by giving companies the ability to provide digital banking services. These capabilities can vary from merely technical to full-stack solutions, including operational support like customer management and regulatory licensing, depending on the degree of embeddedness. In addition to being useful for non-financial organisations, these technologies are currently used by several digital banks and competitors to run more economically and swiftly provide new products to the market using a plug-and-play methodology. Generally speaking, both BaaS and embedded finance enable companies, whether or not they are banks, to offer a better value proposition by quickly and easily incorporating new financial services into their current product line. Whether it's a digital bank introducing a new lending offering without the need for complicated regulatory licensing or an online retailer offering a checkout solution with integrated payment capabilities, embedded finance offers customers a better customer experience and easier access to financial services for lower prices.

Recent technological developments combined with a changing regulatory environment have been a major facilitator in the growth of BaaS and embedded finance. Governments levelled the playing field and promoted competition in the banking industry by enacting new financial legislation that let non-bank entities to offer financial services. Driven by leading embedded finance industries like retail and e-commerce platforms like Shopify or food delivery and mobility service providers like Uber, Payments continues to be the top market served by BaaS and embedded finance solution providers in both the B2C and B2B space. Nevertheless, embedded finance's primary business is expanding beyond payments.

Businesses are increasingly seeking capabilities that enable them to provide bank accounts and cards in addition to lending options like personal loans, company loans, or point-

of-sale lending (e.g. BNPL). It is anticipated that embedded financial services will continue to develop in the future. Offerings are probably going to grow from debt and payment-related services to new value-added services like payroll, tax, and insurance. Additionally, although some sectors continue to lead embedded financial use cases, other emerging areas like the tourism sector, real estate brokers, or healthcare providers have not yet fully explored embedded finance's possibilities. In conclusion, BaaS and embedded finance produce a situation where clients, financial service providers, and non-banking businesses all benefit.

While NFIs and banks may swiftly develop and introduce financial services with the assistance of registered financial service providers, customers enjoy straightforward solutions at low rates.

Europe's Digital Banking Opportunity

Digital banks have been steadily expanding in recent years, particularly in European countries. These banks have successfully taken significant market shares from established banks by reimagining banking through creative neobank models. Notwithstanding the enormous success and exorbitant valuations, current market turbulence has presented difficulties for both new and incumbent digital banking firms. Consequently, market values plummeted, employees were let go, and the majority of businesses are preparing for a downturn. However, opportunity also accompany change. A wide range of structural factors in Europe have the potential to permanently alter the banking industry's destiny. However, in order for challengers to capitalise on those trends and effectively develop their businesses, it is essential to first have a thorough awareness of the opportunities presented by the European market as well as the critical success criteria to capitalise on the continuous shift.

Recommendations for Europe's Digital Banking Sector

This paper emphasized the importance of Digital Banking in Europe particularly in the post pandemic era. As a consequence of the extensive research this paper proposed the followings recommendations.

1. Enhance Cross-Border Regulatory Harmonisation.

The researcher is of the view that in order to enhance the contribution of Digital Banking to the development of the European market and Economy, there was to be Cross—border regulatory harmonisation. This is because the Digital banks often face regulatory fragmentation across EU member states, limiting scale and efficiency. As a consequence of this, the researcher recommends a promote deeper collaboration between EU regulators and national authorities to standardise licensing, AML/KYC protocols, and data protection rules (while aligning with GDPR). This will benefit the financial landscape and supports seamless pan-European digital banking operations and reduces compliance costs.

2. Invest in Cybersecurity and Digital Resilience

The researcher recognized the challenging nature of Digital banking activities because there are mainly engaged online. This poses significant threats to the abilities of Digital Banks to function very well. This is particularly important in the post pandemic era and the growing digital transactions which make Digital Banks vulnerable to cyber threats. The paper recommends significant increase investment in advanced cybersecurity infrastructure, implementation of AI-based threat detection systems and furthermore, emphasized the compliance with the established EU Digital operational resilience act (DORA). The paper's position is that if this is implemented, the benefits are many which include the building of consumer trust and safeguarding the financial stability of the European financial system.

3. Foster Financial Inclusion Through Digital Channels

The paper argued of the importance of financial inclusions among other activities of the Digital Banks. This is because Digital Banks provide many products via many digital channels to the unbanked and underbanked in the society. This cut across all demographics such rural, elderly or digitally excluded that may not benefit from the digital-only banking models. The paper recommends the design of an inclusive digital solutions such as simplified mobile apps, multilingual interfaces, and digital literacy initiatives which will provide the needed digital banking services to the underserved populations popularly in the rural Europe. With the approach, the customer base will increase and the banks will fulfil its corporate social responsibility objectives (Owoeye, 2025).

4. Promote Open Banking and API Innovation

This paper argued that the effectiveness of Digital Banking in Europe is centred around Financial Innovation. More emphasizes are on regulations such as PSD2 which provided the groundwork for the adoption of the Digital Banking framework. However, despite the promoting open banking and API Innovations, the level of adoption of these in digital banking remain uneven. This paper recommends that the encouragement of open banking collaboration through well-regulated API ecosystems and partnerships between traditional banks, fintechs and well established BigTechs businesses in Europe. This will drive competition, reduce product fees, product innovation and overall, better customer experience thus increase customer numbers.

5. Accelerate Use of Artificial Intelligence and Data Analytics

The roles of Artificial Intelligence in Digital Banking can not be underemphasized (Owoeye, 2023). This is centred on the argument that digital banking encourages use of AI enabled smarter customer services activities, robust ways of fraud detection and provide more accurate credit scoring (Owoeye,

2024). This paper recommends that Digital Banking activities should ensure with a high degree of responsibility encourage the deployment of AI with clear guidelines on the use of data, bias mitigation and explainability. This is important because it will improve decision-making and personalisation while maintaining customer trust with their personal and financial data.

6. Support Sustainable Financial Integration.

The roles of ESG (Environmental, Social and Governance) is critical to the digital banking sector (Owoeye, 2025). This ensure compliance with the growing regulatory and customers focus particularly in Europe post pandemic. This paper recommends the robust integration of ESG data tools, green investment products and carbon tracking features into digital banking platforms. This paper is of the view that this will benefit digital banking in Europe by meeting the growing demand for sustainable financial services and thus aligns with EU Green Deal objectives.

7. Encourage Digital Identity Infrastructure

This paper of the view that centre to the digital banking activities is criminality and financial crime. That is why the digital identity infrastructure is essential here. This will encourage, secure and seamless onboarding for customers used the various digital banking platforms. The paper recommends that Digital Banking in Europe should provide adequate support and embrace the EU Digital Identity Wallet initiative and emphasize the banks particularly digital banks to adopt e-ID solutions. This will reduce fraudulent activities, enhances excellent user experience and provide robust financial inclusion.

8. Digital Banking Literacy Awareness and Transparency

The level of awareness of Digital Banking and transparency is still very low in Europe and this is evidence in the low number of customers patronizing Digital Banking products compared to the traditional banking. This paper argued that customers should understand digital banking services, risks and their right regarding their services. The recommendation from the perspective of the author is for the digital banking businesses should launch educational campaigns and ensure transparent communication around digital banking features, fees, data use and various risks attributed to their product. Furthermore, customers should be aware of data protection and data mining activities. This will increase adoption, reduces misuse, and strengthens customer trust.

REFERENCES

1. BPC (2023), Digital banking in Europe, <https://www.bpcbt.com/report/digital-banking-in-europe>
2. De Meyer B, (2024), French Bank CCF to cut more than 1,000 Jobs, Reuters, <https://www.reuters.com/business/finance/french-retail-bank-ccf-plans-shed-more-than-1000-jobs-sources-say-2024-10-03/> Accessed 10-03-2025
3. Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of advanced nursing*, 62(1), 107-115.
4. Eurostat (2024), EU's Median Age Increased to 44.1 years in 2021, <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20220228-1#:~:text=EU's%20median%20age%20increased%20to%2044.1%20years%20in%202021%20%2D%20Products%20Eurostat%20News,-Back%20EU's%20median&text=On%201%20January%202021%2C%20the,from%2041.6%20years%20in%202021>. (Accessed on 03-08-2024)
5. Eurostat (2023), Population Structure and Age, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_structure_and_ageing
6. EY (2021). *Global FinTech Adoption Index 2021*. Ernst & Young.
7. Heraghty, M (2024), The digital transformation divide in Europe's banking industry, <https://www.fintechfutures.com/2024/05/the-digital-transformation-divide-in-europes-banking-industry/>
8. Invest Europe (2024), State of European Tech 2024: A decade of progress and the road ahead, <https://www.investeurope.eu/news/newsroom/state-of-european-tech-2024-a-decade-of-progress-and-the-road-ahead/#:~:text=Since%202015%2C%20European%20tech%20companies,the%20heartbeat%20of%20Europe's%20future>
9. Lloyds Banking Group, Lloyds Banking Group to shut another 136 UK high street branches, <https://www.theguardian.com/business/2025/jan/29/lloyds-halifax-bank-of-scotland-uk-high-street-branch-closures>? Accessed on 10-03-2025
10. Okoli, C., & Schabram, K. (2010). A guide to conducting a systematic literature review of information systems research. <https://doi.org/10.2139/ssrn.1954824> 20.
11. Onyebuchi N.O & Owoeye, A.B (2025), The Impact of Climate Change on Nigerian Agricultural Enterprises: A Rural Community Farmer Stakeholders Perspective, *International Journal of Economics, Business and Management Research*, Vol 9, Issue 7, Pages 212-229, DOI: [10.51505/IJEBMR.2025.9712](https://doi.org/10.51505/IJEBMR.2025.9712)
12. Owoeye A. B (2025), Analysing the impact of Corporate Social Responsibility (CSR) on Business

- Sizes, Entrepreneurship Growth and Profitability: A Case Study of UK Companies. *International Journal of Multidisciplinary Research and Analysis*, Vol 8, Issue 6, pages 3170-3182.
13. Owoeye, A. B (2023), The Integration of Artificial Intelligence and Blockchain in the Banking Industry: A Critical Practice Based Evaluation of the Present Applications, Adoption, and Future Issues, *Central European Management Journal*, Vol 31, Issue 1, pages 604-617.
 14. Owoeye A.B (2024), A Critical Examination of the Strategies for preventing Synthetic Identity Fraud: The Roles of Machine Learning and Behavioural Analysis in Improving Financial System Security and Cybersecurity, *Scandinavian Journal of Information Systems*, Vol 36, Issue 2, Pages 1-17.
 15. Owoeye A. B (2025), Sustainability in Finance: Examining the Integration of ESG Principles in Nigerian Financial Institutions, *Journal of Economics, Finance and Management Studies*, Vol 8, Issue 7, Pages 4564-4570, <https://www.ijefm.co.in/v8i7/Doc/46.pdf>
 16. Pousttchi, K., & Dehnert, M. (2018). Exploring the digitalization impact on consumer decision-making in retail banking. *Electronic Markets*, 28(3), 265–286
 17. Raman, P (2024), Digital Banking in Europe Revolutionizing Financial Services, <https://experionglobal.com/digital-banking-revolutionizing-financial-services/>
 18. Statista (2023). *Digital banking penetration by country in Europe*
 19. Statista (2024), The 20 Countries with the largest gross domestic product (GDP) in 2024, <https://www.statista.com/statistics/268173/countries-with-the-largest-gross-domestic-product-gdp/>
 20. UNESCO (2024), UNESCO Cultural World Heritage Sites in Europe, <https://whc.unesco.org/en/activities/875/> (Accessed in 03-08-2024).
 21. Vives, X. (2019). Digital disruption in banking. *Annual Review of Financial Economics*, 11, 243–272
 22. Xiao, Yu & Watson, Maria. (2017). Guidance on Conducting a Systematic Literature Review. *Journal of Planning Education and Research*. 39. 0739456X1772397. 10.1177/0739456X17723971.
 23. Zachariadis, M., & Ozcan, P. (2017). The API economy and digital transformation in financial services: The case of open banking. *Working Paper*.