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The Reality of Open Banking in Developing Countries: An Analytical Study of the Case of Algeria

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a r t i c l e i n f o

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This study aims to analyse the limits of implementing the open banking model in developing countries, within the context of the rapid transformations affecting the financial sector due to digitalization and the growing role of financial technology. The research is driven by a central problem that seeks to identify the structural, regulatory, and technological constraints that hinder the adoption of this model, while explaining the existing gap between developed and developing countries in this field.

The study adopts a descriptive-analytical approach, based on a review of recent literature and the analysis of a set of comparative indicators related to regulatory frameworks, the level of digital infrastructure development, and the degree of FinTech adoption. This is conducted through selected case studies from developed countries (the United Kingdom, the European Union, and Australia) and selected Arab countries (Saudi Arabia and Bahrain).

The findings reveal that the successful implementation of open banking is strongly associated with the level of maturity of the digital financial ecosystem, particularly in terms of clear regulatory frameworks, advanced technological infrastructure, and an active FinTech ecosystem. The results also highlight a significant gap in adoption levels, mainly due to limited digital readiness, lack of technical expertise, and challenges related to data security and protection in developing countries.

1. Introduction

Open banking represents a paradigm shift in the path of digital financial transformation, as it allows customers to share their banking data with third parties through APIs, contributing to the development of innovative financial services that focus on their needs. This model has been imposed in the context of the comprehensive digital transformation witnessed by the banking sector, with competitive, regulatory and technical motives, with the aim of achieving financial efficiency and inclusion. However, the adoption of this model in developing countries faces complex challenges, most notably the limited digital infrastructure and the weakness of

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legislative frameworks The Organization for Data Sharing and Protection, coupled with a lack of specialized human competencies in the digital fields, limits the ability of these countries to take full advantage of the benefits of open banking.

Based on the above, this study poses the following problem: What are the limits of the application of open banking in developing countries, and how can the path of digital financial transformation be explained in the light of international experiences?

The study assumes that there are structural and functional limitations that hinder the effective implementation of the open banking model in developing countries, as a result of the gap in regulatory and technical maturity compared to developed countries, which reflects negatively on the path of digital financial transformation. This main hypothesis is divided into a set of sub-hypotheses:

- Limited digital infrastructure and weak cybersecurity in developing countries are hindering the development of secure and reliable APIs, which are essential for the implementation of open banking.
- The absence or immaturity of the legislative and regulatory frameworks governing data sharing and privacy protection in developing countries is creating an unreliable environment that hinders the adoption of this new banking model.
- The scarcity of specialized technical competencies and the weak FinTech ecosystem in developing countries are an obstacle to the development of innovative financial services and products based on open banking.

Importance of the study: The importance of this study lies in the fact that it addresses a modern and pivotal topic in the digital financial services industry, and the study is of practical importance by providing a critical analytical view of pioneering experiences in the field of open banking, and drawing lessons learned that can form a roadmap for decision-makers and regulatory bodies in developing countries when formulating digital financial transformation policies. In addition, it highlights the interactive relationship between open banking and financial transformation, and how this model can contribute in promoting financial inclusion and stimulating innovation, giving the study a forward-looking significance in the context of the quest to build more competitive and digitized national economies.

Objectives of the study: It aims to analyze the concept of open banking, its classifications and advantages, and draw lessons learned from pioneering experiences, with a focus on challenges and opportunities in the context of developing countries.

Methodology: The study relies on a descriptive-analytical approach, through a review of the literature and the analysis of comparative indicators. It concluded that there is a gap in adoption that reflects differences in regulatory and digital maturity. In light of these findings, the intervention provides a forward-looking vision for the implementation of open banking in developing countries, based on a gradual approach that takes into account local specificities. This vision is expected to contribute to enhancing financial inclusion and stimulating innovation in national banking systems, provided that the legislative and digital architecture is developed and the FinTech ecosystem is supported.

2. Theoretical Framework

2.1. Open Banking

Open banking is one of the most prominent recent innovations in the banking sector, as it reflects a paradigm shift in the way financial services are delivered, based on the principle of

making banking data available to customers in an orderly and secure manner. Know her Both and (Ubakhti, 2023; Bin Salim & al-Ajjaj, 2024) that A banking model based on enabling the customer to share their banking data (transactions, accounts) with third parties from fintech companies and developers, with their explicit permission, via APIs (Application Programming Interface) (API), with the aim of building innovative financial applications and services that focus on their needs. As for Kuwait Finance House, it has known it is: "The process of financial institutions providing their customers' data after obtaining their necessary authorization, and this is on a secure platform that is used by institutions that provide value-added services to bank customers, such as obtaining information that shows the best profit rate that the customer can get to finance a car or get the best offer from insurance companies." (Bayt al-Tamwil al-Kuwayti, 2023)

It is important to emphasize that the term "open" does not mean absolute access to data, but rather refers to an organized and controlled openness governed by strict legal and technical controls, which ensures the protection of users' privacy and data security, through encryption, authentication, and access management mechanisms. which he receives.

Banking services can be divided into three types, which can be summarized as follows:

Table 1
Types of services under open banking

In the development phase	Under trial	Applied / Introduced
Transfer accounts and small savings accounts	Customer lending improves credit profile	Account Aggregation Services
Product Comparison Services	Automated Overdraft Borrowing	Personal Financial Managers
Protecting people's money	Ecommerce Payments Identity Verification, Debt Tips	Financial Management for SMEs
Unexpected innovations	SME Lending	Open Banking as a Service

Source: (Lina, 2021, p. 148)

This table provides us with a precise evolutionary classification of open banking services, reflecting the gradual transition from simple data visualization services (such as account aggregation and personal CFOs) to more complex services that touch the core of banking, such as lending and account transfer. What is striking about this classification is that the services currently in place are primarily focused on "reading" and analyzing data, while services that require the "disposition" or movement of customer funds (e.g., automated lending and e-commerce payments) remain locked in the trial and development fields, reflecting understandable organizational and technical caution in dealing with risk. The presence of "unexpected innovations" in the last column is an important academic acknowledgment that the industry is still in its infancy, and that what we are seeing today is only a prelude to deeper transformations. However, the table, despite its analytical value, does not indicate the degree of risk associated with each service, and represents a general context that does not reflect the specificity of developing countries where infrastructure and legislation may rearrange these services very differently.

As for the most important advantages and benefits of relying on open banking, we mention what he has mentioned in (Buzana & Hamdush, 2022) Which is Enhancing direct innovation processes by developing new financial products in collaboration with fintech companies, where the analysis of transaction data (with the customer's consent) allows the design of customized products that are tailored to their consumption behaviors, creating added value for customers

and additional sources of income for financial institutions; and increase competitiveness by lowering barriers to entry for new players and enabling them to have a deeper understanding of customer needs, helping to offer customized options at competitive prices; Promoting Financial Inclusion by developing targeted products and expanding access to credit to a wider segment of individuals, while improving customers' financial situation and spreading financial awareness, especially for low-income earners, by helping them reduce unnecessary spending and improve saving behaviors; Achieving Efficiency for the Banking Sector by enabling real-time sharing of customer data with third parties, promoting the adoption of effective methods of information management and transaction execution, new technologies contribute to lowering the cost of innovation and facilitating partnerships with other service providers.

2.2. Financial and Digital Transformation

a. Digital Transformation

Considered Digital transformation is one of the pivotal concepts in the contemporary economy, as it expresses a comprehensive strategic process that goes beyond the mere introduction of technology to the redesign of business models and processes within organizations, and is understood in this context as a transformational path that aims to integrate digital technologies into various activities, leading to fundamental changes in the ways of creating and delivering value, improving operational efficiency, and enhancing the user experience (Al-Haddad, 2022; Grozea & Troancă, 2023)

In the banking sector, digital transformation is becoming increasingly important as a result of the interaction of a range of interacting factors, summarized by the studies of: (CHAD , 2026) and f (The 2025 Banking Industry Round-Up, 2025)(Frederic , 2025) Y Competition, the latter It is no longer limited to traditional banks, but fully digital banks and fintech companies have emerged that offer faster and easier services, threatening traditional banks' position in the market. At the same time, customer expectations have changed significantly, as they want to easily bank on their smartphones and anytime, as seamlessly as they buy products online. New laws such as Europe's Digital Operational Resilience Act require banks to update their systems to be more secure and reliable. Internally, banks seek to reduce costs and increase efficiency by relying on AI to automate routine tasks and reduce human error, saving employees time to do more important work. Consulting firm McKinsey estimates that AI could add more than $200 billion annually to the global banking sector. In addition, banks are transforming from a mere service provider to an integrated platform by modernizing their legacy systems and relying on cloud technologies, enabling them to collaborate with fintech and provide innovative services. Finally, enhancing operational resilience has become a top priority after service disruptions in 2025, with a recent study showing that improving information security and resiliency are top of banks' investments in 2026.

Banking institutions are seeking to improve their operational efficiency and reduce costs, by relying on automation and digital technologies, in addition to enhancing their operational resilience in the face of crises and disruptions, which has made investing in digital infrastructure a strategic priority in many modern banking systems.

In this context, digital transformation achieves a range of strategic advantages that benefit organizations and beneficiaries alike. It contributes significantly to cost and effort savings by automating processes and reducing the need for paper and human resources in routine tasks. It also improves operational efficiency and streamlines workflows, leading to higher quality and

streamlining procedures to obtain the services provided to the beneficiary easily and easily. Besides, digital transformation creates real opportunities to provide innovative and creative services that go beyond traditional methods, enhancing the customer experience and raising the level of customer satisfaction. Finally, this transformation helps organizations and businesses expand and reach a larger segment of customers and audiences, opening up new horizons for growth and sustainability in the digital age (Uwaynat et al., 2023).

b. Financial Transformation

By definitions, financial transformation refers to a process of fundamental change in financial services systems from a traditional model based on manual and centralized procedures to one based on innovative digital technology. This includes the use of modern technologies such as artificial intelligence (Grozea & Troanc, 2023) (Ping & Yiru, 2024) (Tripathi & Bhushan, 2025) (AI), Big Data (Big Data), Blockchain (Blockchain), and FinTech technologies with the aim of improving financial efficiency, increasing financial inclusion, and enhancing the quality of financial services.

This includes Transformation is a wide range of applications and new technologies that are reshaping the sector, most notably financial technologies (FinTech) It has revolutionized financial transactions through microservices, digital lending platforms, and digital wallets, which has contributed to improving access to finance and facilitating financial operations in an unprecedented way. In addition, artificial intelligence and big data play a pivotal role in improving organizational performance, helping to predict financial risks more accurately, improve the quality of financial reporting, and reduce errors in accounting processes. These technological transformations are increasingly pushing financial institutions to adopt sophisticated systems with the aim of improving overall financial performance and enhancing their competitiveness in a rapidly changing digital environment. (Xinyue , 2024) and (Wang , 2023)

Despite the many benefits that financial transformation offers, it faces a range of challenges that hinder its full implementation, the most prominent of which is the lack of technical competencies and digital skills needed to deal with modern systems, which is an obstacle for organizations to keep pace with rapid developments. Privacy and cybersecurity risks are also emerging as a major challenge, especially with the increasing reliance on digital data and the need to protect it from hacks and cyberattacks. In addition, the transformation process requires appropriate regulatory and legislative requirements that govern digital work and protect the rights of all parties, which may not be available or overdue in some countries. Finally, resistance to change within traditional financial institutions is a fundamental obstacle, as it is sometimes difficult to change an established work culture and persuade employees and management to adopt new approaches that require flexibility and continuous learning. (Joseph ، 2022)

3. Analysis of the Reality of Open Banking in the Light of International Experiences

In analyzing the reality of the application of open banking, the importance of the comparative approach is highlighted as a methodological tool that allows to understand the differences between international experiences, and to reveal the determinants of success or failure in adopting this model. Accordingly, a set of analytical indicators were relied on that reflect the level of maturity of open banking, including the regulatory framework, the degree of user penetration, the evolution of the ecosystem of fintech companies, the level of financial

innovation, and the readiness of the digital infrastructure.

A sample of developed countries, including the United Kingdom, the European Union, and Australia, was selected as one of the leading experiences in the field of open banking, compared to some Arab countries, such as Saudi Arabia and the Kingdom of Bahrain, as one of the first countries in the region to adopt this model within digital financial transformation strategies.

Based on the study, and the Financial Stability Report in the Arab Countries 2019, the following table presents an analytical comparison between these countries, with the aim of highlighting the gap in the levels of adoption, and explaining it in light of the different regulatory frameworks, levels of technological development, and the dynamism of the fintech ecosystem. (Bouchelit & Benouziane, 2023) (Melakhessou & Ghalem, 2025)

Table 2
Comparative Table of the Level of Open Banking Adoption among Some Developed and Arab Countries

Indicator (Standard)	United Kingdom	European Union	Australia	Saudi Arabia	Bahrain
Year of Launch of Open Banking	2018	2018	2020	2022	2019
Regulatory Framework	Mandatory	Mandatory via PSD2	Advanced Organizational	Progressive	Advanced Organizational
Organizer	Open Banking Authority	European Commission	Competition and Consumer Protection Authority	Saudi Central Bank	Central Bank of Bahrain
Number of Users	More than 15 million	Growing	In Growth	Limited	Limited
FinTech Companies	More than 1000 companies	High	High	In Growth	Medium
Number of Service Providers	More than 140 companies	Dozens of companies	Dozens of companies	Limited	Limited
Digital Architecture Readiness	High	High	High	Medium	Good
Level of Financial Innovation	High	High	High	Medium	Medium
Main Objective	Promoting competition and innovation	Capital Market Integration	Consumer data empowerment	Financial Digital Transformation	Attracting FinTech companies

4. Explaining the Gap in Open Banking Adoption

In developed countries such as the United Kingdom, the European Union, and Australia, open banking has been implemented within a mandatory and proactive regulatory framework that

forced banks to open their data sharing software interfaces, which has led to the creation of an integrated fintech ecosystem characterized by a variety of services such as open lending, personal finance management applications, and high rates While in the Arab countries, especially Bahrain and Saudi Arabia as leading countries in the region, the implementation began relatively later through ambitious government initiatives to build legislative and technical frameworks gradually, and although these countries have achieved qualitative leaps in the development of digital infrastructure, the level of use is still almost limited compared to developed countries, which is reflected in the novelty of the experience that is still in the gap in adoption can be explained in terms of maturity, as developed countries have made strides in transforming open banking from a mere regulatory obligation to a market-rooted digital financial culture, while Arab countries (albeit late) have the advantage of benefiting from the experiences of their predecessors Adopting international best practices and adapting them to local specificities, which could enable them to make faster qualitative leaps if efforts are focused on developing digital infrastructure, enhancing cybersecurity, and expanding public-private partnerships to build an inclusive and sustainable open financial system.

5. The forward-looking vision for the implementation of open banking in Algeria

In light of the pioneering international experiences in the field of open banking, it can be said that Algeria has a promising potential to adopt this model in the future, especially in light of the remarkable acceleration in the path of digital transformation of the national banking sector, as the country is witnessing an increasing dynamism in the modernization of payment systems and the introduction of electronic banking services, but the implementation of this model requires the provision of a set of basic conditions that international experiences, especially in the United Kingdom and Australia, have proven to be crucial pillars for success, foremost of which is the development of a legislative framework An integrated system that regulates and ensures the security of financial data sharing, in addition to enhancing the digital infrastructure of the banking sector to be able to accommodate open software interface (APIs) technologies, in addition to supporting and developing the ecosystem of fintech startups that will be the key partner in this ecosystem.

For example, in the United Kingdom, the Competition and Markets Authority (CMA) has played a pivotal role in enforcing uniform standards for software interfaces, while the Reserve Bank of Australia has contributed to the development of an advanced governance framework that protects consumer rights while encouraging innovation On the other hand, the Arab experiences in both Bahrain and Saudi Arabia provide valuable lessons for Algeria, as these two countries have succeeded in achieving qualitative leaps despite the novelty of their experience, by adopting gradual strategies that focused first on the development of digital infrastructure and enhancing confidence in digital financial services, before moving to advanced stages of open data sharing. In this strategic context, Algeria can benefit from these pioneering experiences by adopting a gradual and deliberate approach that starts with the development of existing digital banking services and the enhancement of financial inclusion indicators, especially in remote areas that suffer from weak traditional banking services, and then move later and deliberately to the application of the open banking model in a clear and secure regulatory framework, taking advantage of the lessons learned in the neighboring Arab experiences that have faced similar challenges in building confidence and developing legislation, and this preparatory phase requires Conducting a rigorous assessment of the technical readiness of both public and private banks, developing specialized training programs for human competencies in the areas of

cybersecurity and data analytics, as well as creating a sandbox regulator that allows fintech startups to test their innovative solutions under the supervision of regulatory authorities and before widespread implementation.

Success in this path requires a comprehensive approach that does not focus only on the technical aspect, but extends to building a digital banking culture among citizens, enhancing confidence in digital financial services through extensive awareness campaigns, developing effective mechanisms for resolving disputes and protecting the digital consumer, in addition to benefiting from international partnerships with international financial institutions and advanced regulatory bodies to transfer expertise and knowledge. While preserving the specificity of the Algerian model and taking into account the local characteristics of legislation and economic structures, which will enable the country to achieve a qualitative leap towards a more inclusive and competitive digital economy, capable of attracting investments and providing innovative financial services that meet the aspirations of citizens and companies alike.

6. Conclusion

In light of the rapid transformations witnessed by the global financial sector as a result of technological development and the increasing spread of FinTech, open banking has become one of the most important modern models that contribute to reshaping the nature of banking services and promoting financial innovation. The study showed that developed countries have been able to achieve significant progress in implementing this model thanks to the availability of a clear regulatory environment, advanced digital infrastructure, and a vibrant ecosystem for fintech companies. In contrast, Arab countries are still at various stages of adopting open banking, with some countries such as Bahrain and Saudi Arabia beginning to develop regulatory frameworks that support this model as part of financial sector digital transformation strategies. However, the level of use and application is still limited compared to developed countries, reflecting the challenges associated with digital infrastructure, legislative frameworks, and the level of readiness of financial institutions.

In this context, international experiences are an important source of inspiration for developing countries, including Algeria, which has the potential for a gradual transition towards the implementation of open banking in the future, provided that the legislative and technical environment is developed and confidence in digital financial services is enhanced.

7. Results

The study reached a set of results, the most important of which are:

- Open banking is one of the most important innovations related to the digital financial transformation in the banking sector.
- There is a clear gap in the level of adoption of open banking between developed and developing countries.
- The success of the Open Banking app depends on having a clear regulatory framework that regulates the sharing of financial data and protects users' privacy.
- FinTech companies play a pivotal role in the development of innovative financial services within the open banking ecosystem.
- Digital infrastructure and cybersecurity are two of the most important factors influencing the success of the implementation of this model.
- Arab experiences in this field are still in the stage of gradual development, although some

progress has been made in digital infrastructure.

8. Recommendations

Based on the findings, the study proposes a set of recommendations, the most important of which are:

- Develop a clear legislative and regulatory framework that regulates the sharing of financial data and ensures the protection of users' privacy.
- Promoting investment in the digital infrastructure of the banking sector to support the application of open banking technologies.
- Supporting the FinTech ecosystem and encouraging financial innovation in the banking sector.
- Creating regulatory sandboxes that allow digital financial services to be tested before they are mainstreamed.
- Strengthen collaboration between traditional banks and fintech companies to develop innovative financial services.
- Spreading financial and digital awareness among customers to enhance confidence in digital banking services.

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