



From Closed Banking to Open Banking: Risks and Opportunities

Aytan Zeynalova

Azerbaijan Cooperation University, Azerbaijan

Corresponding Author: aytanzeynalova11@gmail.com

Keywords: *Open Banking, Digitalization, Financial Innovation, Security Risks, Financial Transformation.*

Abstract: *Rapid digitalization and technological advances in the banking sector have moved away from the traditional closed banking model and brought open banking, which is a more open and innovative structure, to the agenda. This article examines the evolution of open banking in the financial sector and the risks and opportunities presented by this transformation. In the introduction part of the article, the purpose and importance of the research is emphasized by focusing on the transformation process in the banking sector and the definition of open banking. Within the scope of the research method, the current situation and future potential of open banking are evaluated by analyzing the data obtained through methods such as current literature review, source selection, surveys and interviews. One of the main sections of the article focuses on the key differences between closed banking and open banking models. The basic principles of closed banking operation and open banking are discussed in detail. This chapter sheds light on the fundamental changes in the industry by focusing on changes in technological infrastructure. Another important part of the research addresses the risks posed by open banking. Security and data privacy concerns, legal challenges, and competition and innovation risks are evaluated in detail in this section. On the other hand, the opportunities provided by open banking are also examined in a separate section. Issues such as improvements in customer experience, increase in financial product diversity and innovation opportunities highlight the positive changes in the sector. In the results and discussion section, the comparison of closed and open banking models, the future of open banking and expectations are evaluated. Additionally, suggestions are offered to reduce risks and evaluate opportunities. The solution section of the article addresses practical solutions such as security strategies in open banking applications, development of regulatory frameworks and training of bank employees. In the References section, basic sources on open banking, literature on transformation in the banking sector and current research on risk-opportunity analysis are presented as resources.*



Introduction

Today, the banking sector is on the verge of a radical transformation as digitalization and technological advances accelerate. Open banking, one of the key actors of this transformation, aims to make financial services more transparent, accessible and innovative by fundamentally shaking up traditional banking models. The transition from closed banking model to open banking creates unique risks and opportunities in the financial sector. In this article, we will discuss in detail the main differences, risks and opportunities between closed banking and open banking in order to understand this transformation that leads the evolution of the financial world. In our introduction, we aim to offer our readers a broad perspective while examining the reasons, importance and effects of this paradigm shift on the industry.

The banking sector has existed in a traditional structure over the years, and the interaction between the customer and the bank has generally been limited to limited and standardized transactions. However, with digitalization, there is a radical change in this paradigm. Open banking offers an ecosystem where financial data and services are openly shared and customers can share their financial data securely (Mishkin, F. S. 1999). The rise of open banking is closely related to dynamics such as the widespread adoption of digital technologies, changing customer expectations and moving competition to a global level. While the traditional banking model offers a limited view of customers' financial situation, open banking aims to create a more comprehensive financial portrait by integrating customer data.

The advantages of open banking include radical improvements in customer experience and the ability to develop and deliver financial products more quickly. While customers can manage their financial situations more effectively thanks to open banking, banks can also gain a competitive advantage by offering customer-specific solutions. This new paradigm brings with it serious risks. Security and data privacy concerns are one of the key challenges facing open banking. While open access to financial data creates new attack and fraud opportunities for malicious actors, it is also critical for the regulatory framework to adapt to this rapid change. (Chen, X., You, X., & Chang, V. 2021)

This article argues that the transition from closed banking model to open banking has revolutionized not only the delivery of financial services but also the fundamental dynamics of the sector. While this democratization of access to financial services can increase customer loyalty and satisfaction, it also intensifies competition and encourages innovation. The rise of open banking will be characterized by its ability to adapt to changes in the financial sector and openness to future financial innovations. This article aims to provide a comprehensive look at readers who want to better understand the financial world's journey to cope with this transformation, anticipate risks and seize opportunities.

Today, there is a rapid transformation process in the field of financial services, especially in the banking sector. This transformation is shaped by the interactions of technological advances, changing customer expectations and global competition. This article was written with the aim of understanding the origins, impacts and possible future directions of this evolutionary change in the banking sector (Chen, X., You, X., & Chang, V. 2021). While traditional banking models generally carry out customer-bank interaction through physical

branches, this paradigm has changed greatly with the rise of digitalization and mobile technologies. Banks have started to actively use digital channels in order to provide faster, more accessible and customizable services to customers (Rochet, J. C., & Tirole, J. 1996).

Digital banking has expanded the boundaries of financial services by providing customers with 24/7 access and the ease of performing a range of financial transactions through mobile applications. In this way, the capacity to provide personalized services that can instantly respond to customers' financial needs has been achieved. An important element in the transformation in the banking sector is the use of data analytics and artificial intelligence technologies. By analyzing large data sets, banks gain significant advantages in understanding customer behavior, assessing credit risk and strengthening security measures. This not only increases customer satisfaction, but also enables managing financial processes more effectively and efficiently (Mishkin, F. S. 1999).

Additionally, the rise of fintech companies has also shaken the traditional hierarchy in the banking sector. These companies are challenging traditional banks in gaining customer loyalty by offering innovative solutions, especially in areas such as payment systems, credit assessments and investment management. In this competitive environment, banks have to make faster decisions, increase their flexibility and develop customer-oriented strategies. Digitalization and technological transformation have affected not only the customer services and operational processes of banks, but also their product and service portfolios. Cryptocurrencies, blockchain technology and other innovative financial tools have led to diversification in the industry by providing alternative solutions to traditional banking models.

However, this transformation process also brought with it some risks. Factors such as cybersecurity threats, data privacy concerns, and regulatory complexities may prevent banks from successfully navigating this new financial paradigm. Regulators are developing various standards and policies to ensure that technology does not threaten financial stability, which brings about compliance for players in the industry (Broby, D. 2021). Transformation in the banking sector in the future will focus on greater innovation, collaboration and sustainability. Banks must constantly update themselves in order to respond quickly to customer demands, follow technological developments closely and create a reliable digital infrastructure. In addition, the transformation in the banking sector is an opportunity not only from a technological perspective, but also to adopt a customer-oriented culture and take ethical responsibilities into consideration (Remolina, N. 2019).

The transformation in the banking sector is fundamentally changing financial services, and the effects of this transformation process lead to the reshaping of the sector not only technologically, but also in terms of business model, customer experience and competitive dynamics. Future banking will evolve towards a fast, reliable and customer-oriented structure integrated with technology, and this process will create new opportunities and challenges for all stakeholders in the sector (Murinde, V., Rizopoulos, E., & Zachariadis, M. 2022). Open banking is a concept that aims to make the provision of financial services more transparent, accessible and innovative by fundamentally shaking up traditional banking models. This article

was written to understand the definition of open banking, to understand how this paradigm emerged, and to evaluate its significant effects in the financial sector.

To focus on the basic definition of open banking, this concept refers to an approach that allows financial institutions to securely share customer data and provide access to this data to external third parties. While in traditional banking models, customer data is usually stored in a closed system and used only by the relevant bank, open banking makes it possible for this data to be under the control of the customer and to share it with the financial institution or non-financial institutions of the customer's choice (Rochet, J. C., & Tirole, J. 1996). The basis of open banking is customer focus and the power of data sharing. This approach gives customers access to more information about their financial situation, enabling them to access personalized financial services. It also makes it easier for customers to switch between different financial institutions, increasing competition and encouraging financial institutions to be more innovative (Chen, X., You, X., & Chang, V. 2021).

Technological developments and digitalization play an important role in the emergence of open banking. APIs (Application Programming Interface) form the basis of open banking. These interfaces enable the systems of different financial institutions to be connected so that customer data can be shared securely. Providing access to customer data through APIs, processing payments, and accessing other financial services are important components that make up the open banking ecosystem. Open banking also allows financial institutions to improve customer experience and provide faster service. For example, a customer can access his accounts at different banks through a single application and instantly see all his financial information. This increases customer satisfaction and makes financial processes more effective (Mishkin, F. S. 1999).

Another important element of open banking is that it encourages innovation. By gaining access to customer data, financial institutions can develop new and personalized financial products. At the same time, fintech companies and other third parties can also participate in the open banking ecosystem and offer innovative solutions (Remolina, N. 2019). Open banking brings with it various challenges. Security and data privacy concerns are critical issues to consider to ensure customer data is shared securely. Additionally, regulatory compliance is important to comply with financial regulations in different countries. Open banking is a concept that changes the basic paradigm of financial services and adopts a customer-oriented, innovative and transparent approach. This article aims to explain the definition of open banking, providing a broad overview for readers who want to understand the origins, impacts and future potential of this financial revolution. Open banking emerges as an important trend that will shape the future of financial services and carries important opportunities and responsibilities for all stakeholders in the sector (Mishkin, F. S. 1999).

Closed Banking and Open Banking: Key Differences

The banking sector has become a rapidly changing and evolving field today. One of the most important paradigms in this change is the fundamental differences between closed

banking and open banking. This article aims to understand how these two approaches evolved and their impact on the financial sector by comparing closed and open banking models.

It is important to understand closed banking. The closed banking model refers to a structure in which financial services are generally controlled by a single financial institution and customer data is tightly protected. Traditionally, the customer benefits from his bank's own services, which are often limited to the bank's own systems. Customer data is generally confidential and available only to that bank (Bonini, S., & Capizzi, V. 2019).

Open banking offers a completely different model. In this approach, customer data is under the control of the customer and the customer can share this data with different financial institutions or even non-financial organizations. This sharing usually occurs through APIs (Application Programming Interface). Open banking aims to eliminate traditional limitations by offering customers more choice and flexibility in financial services. (Remolina, N. 2019)

It is flexibility in data sharing. In the closed banking model, customer data is generally used only within that bank and is not shared. However, open banking gives customers the ability to share their data as they wish. This allows customers to personalize their financial services.

It is the increase of competition and innovation. In the closed banking model, customers are generally limited to one bank and are satisfied with the services offered by that bank. Open banking increases competition between different financial institutions because customers can combine services from different providers. This encourages financial institutions to be more innovative and customer-focused (Broby, D. 2021).

Open banking creates a broader ecosystem. Closed banking is a system that is generally under the control of a single organization. Open banking, on the other hand, creates an ecosystem between different organizations and offers a wider range of services to customers. This is especially important for fintech companies and other third parties developing financial solutions (Murinde, V., Rizopoulos, E., & Zachariadis, M. 2022).

In terms of customer experience, open banking offers a more effective solution. Customers can access services from different banks or financial institutions through a single application or platform. This simplifies the customer experience and makes financial transactions more user-friendly (Rochet, J. C., & Tirole, J. 1996).

Despite the differences between these two models, the adoption and expansion of open banking presents several challenges. Issues such as security and data privacy concerns, regulatory compliance, and setting standards are issues that need to be resolved for open banking to gain wider acceptance (Murinde, V., Rizopoulos, E., & Zachariadis, M. 2022).

The fundamental differences between closed banking and open banking models show that a significant change is taking place in the financial sector. While open banking offers customers more choice, competition and innovation, the challenges of transitioning to this new paradigm must also be taken into account. The future of financial services will continue to be shaped by evaluating the advantages and disadvantages of both models (Remolina, N. 2019).

Closed banking refers to a traditional financial services model. In this model, a customer establishes a relationship with a particular bank and receives his financial services through that bank. The customer carries out his transactions through accounts, loans and other financial products offered by this bank. The closed banking model is based on the customer meeting their financial needs through a single institution and is generally built on a system in which customer data is controlled by this bank (Mishkin, F. S. 1999).

The operation of closed banking focuses on the customer going to the bank branch and carrying out his transactions using debit cards and checks. The bank evaluates the customer's financial history, provides loans and offers customer-specific financial plans. The customer's accounts are stored in the secure systems of this bank and the customer can only access these accounts through that bank.

Open banking represents a radical shift in financial services. In this model, customer data is under the control of the customer and the customer can share this data with different financial institutions or non-financial institutions. Open banking aims to offer customers more choice and flexibility in financial services. Its core principles include the sharability of customer data, the integration of financial institutions through APIs, and the promotion of customer-focused innovation and competition (Chen, X., You, X., & Chang, V. 2021).

In the open banking model, the customer can receive services from more than one financial service provider. For example, a customer may perform banking transactions through an application but receive credit card service from another financial institution. This gives customers more choice and personalized service (Zachariadis, M., & Ozcan, P. 2017).

APIs form the basic technological infrastructure of open banking. These interfaces enable the systems of different financial institutions to be interconnected. The customer can access his/her own data securely and share this data with the financial institution of his/her choice. Thanks to APIs, customers can get more comprehensive financial experiences by integrating different services (Rochet, J. C., & Tirole, J. 1996).

Open banking fosters customer-focused innovation. By gaining access to customer data, financial institutions can develop new and personalized financial products. At the same time, fintech companies and other third parties can also participate in the open banking ecosystem and offer innovative solutions. This allows for a continuous innovation and competitive environment in financial services (Bonini, S., & Capizzi, V. 2019).

The open banking model is based on significant changes in technological infrastructure. Traditional banking systems are generally closed and isolated structures, keeping customer data under tight control. However, for open banking, these systematic structures undergo change (Mishkin, F. S. 1999).

First, APIs connect financial institutions' systems. This ensures that customer data can be shared securely. APIs simplify integration processes by standardizing data communication between different systems. This allows customers to seamlessly share data between different financial service providers (Broby, D. 2021).

Blockchain technology also plays an important role in open banking. This technology aims to carry out financial transactions more securely and transparently. Blockchain

contributes to the secure storage and sharing of customer data. This provides customers with a safer financial experience (Murinde, V., Rizopoulos, E., & Zachariadis, M. 2022).

It is also closely related to other technological developments such as open banking, cloud computing and big data analytics. Financial institutions can analyze customer data more effectively and provide personalized services through these analyses. Cloud computing provides financial institutions with flexibility and scalability, enabling them to respond faster to customer demands (Chen, X., You, X., & Chang, V. 2021).

The fundamental differences between closed banking and open banking models are one of the important dynamics shaping the future of financial services. The transition from the traditional structure of the closed banking model to the open banking model has brought about significant changes in the technological infrastructure. These changes point to a financial future that aims to offer customers more choice, competition and personalized services.

Risks Brought by Open Banking

Although open banking represents a revolutionary change in the financial sector, it also brings with it a number of potential risks. This article will focus on the risks posed by open banking and discuss various aspects to understand these risks.

Security risks are at the forefront. The open banking model relies on sharing customer data between different financial institutions and third parties. This may increase the likelihood of customer data being exposed to malicious attacks. Data leaks, identity theft and various attacks are among the risks that threaten the security of open banking (Rochet, J. C., & Tirole, J. 1996).

Regulatory risks should also not be ignored. Any innovation in the financial sector attracts the attention of regulators, which raises various compliance issues. Open banking poses a significant risk in this area as it has to comply with different regulations in different countries. Adapting to different legal frameworks can be a complex process for financial institutions.

Technological risks should also be included in the risk profile of open banking. Sharing data through APIs increases the risk of technical errors, system crashes, and malware attacks. Additionally, vulnerabilities in security protocols may allow the technological infrastructure to be exploited, which may damage system integrity (Mishkin, F. S. 1999).

Customer trust and privacy issues are also important factors affecting the risk spectrum of open banking. Customers may be concerned about the security of their financial data, and this requires financial institutions to be vigilant in ensuring customer satisfaction and trust. While open banking offers customers greater control and transparency, it also carries the risk of abuse of this control (Remolina, N. 2019).

Operational risks are another category of risks arising from the complexity of business processes in the open banking ecosystem. Operational challenges such as integration between different financial institutions, regulation of data flow, and rapid response to customer demands may increase the operational risks of open banking. This creates a complex backdrop that financial institutions must manage effectively (Chen, X., You, X., & Chang, V. 2021).

Competition risk is another important risk arising from the competitive environment brought by the open banking model. Financial institutions must offer competitive services to retain their customers and attract new customers. However, this competitive environment may lead some financial institutions to face the risk of withdrawing from the market.

Open banking also poses risks to data integrity and accuracy. Incompatibilities between different data sources, incorrect data transfers and system errors can threaten the reliability of financial data. This may prevent financial institutions from making the right decisions.

Legal risks are another important factor to consider in the open banking model. Open banking requires clear legal frameworks around the sharing and use of customer data. Changes or uncertainties in legal regulations may leave financial institutions in a difficult situation regarding legal responsibilities (Murinde, V., Rizopoulos, E., & Zachariadis, M. 2022).

Since open banking fundamentally changes the business model of financial institutions, personnel training and compliance management may also be an important risk factor in this change process. Staff who cannot keep up with innovations or adapt to new business processes may increase the risk of failure of the open banking model (Walter, J. R. 2004).

Although open banking provides significant benefits to the financial sector, it also brings various risks. These risks arise in various areas such as security, regulatory compliance, technological issues, operational difficulties, loss of customer trust, competition, data integrity, legal responsibilities and personnel compliance. It is critical for financial institutions to effectively manage these risks to fully realize the potential of open banking.

The adoption of the open banking model brings to the fore security and data privacy concerns in the financial sector. Sharing customer data between different financial institutions and third parties can pose potential challenges to data security. Security issues such as data leaks, malicious attacks and identity theft are among the significant risks faced by open banking.

The basis of the open banking model is that customer data can be shared. However, it is critical that data is transmitted and stored securely during this sharing process. Data transfers via open APIs must be protected against malicious attacks and subject to security protocols consistent with industry standards. In this way, the confidentiality and integrity of customer data can be protected (Murinde, V., Rizopoulos, E., & Zachariadis, M. 2022).

Additionally, financial institutions need to communicate openly about security in order for customers to gain trust and adopt this model. Financial institutions should be transparent about how they protect their customers' data and what security measures they take. Increasing security awareness can reduce customers' concerns about using this new financial service model (Bonini, S., & Capizzi, V. 2019).

Open banking may face legal and regulatory challenges as it is subject to different regulations in different countries. Financial institutions must comply with strict legal regulations regarding the sharing, use and storage of customer data. Changes or uncertainties in these regulations may leave financial institutions vulnerable to legal risks.

At the same time, lack of coordination between regulatory authorities in different countries is also a risk factor. The open banking model often involves a cross-border service

offering, which can make it difficult to ensure compliance across different regulators. As financial institutions operate in different markets, they must understand and comply with the regulatory requirements of each (Remolina, N. 2019).

Legal and regulatory challenges of the open banking model may also impact customer trust. Customers want to be sure that their data is secure and processed in accordance with legal regulations. Financial institutions must be transparent in this regard and reassure their customers of their legal and regulatory compliance (Broby, D. 2021).

Open banking encourages innovation by increasing competition in the financial sector. However, this competition and innovation brings with it some risks for financial institutions. First of all, customer loyalty may be challenged as competition increases. Customers may switch financial institutions more frequently because they have more options. This requires financial institutions to make more efforts to increase customer satisfaction and maintain customer loyalty (Mishkin, F. S. 1999).

Innovation risks include financial institutions having to adapt to new technologies and business processes. While open banking is radically changing traditional financial service models, financial institutions need to make great efforts to keep up with this change. Inadequate innovation efforts can increase the risk of losing competitive advantage.

At the same time, legal and regulatory uncertainties associated with the launch of innovative financial products and services may also pose a risk. Financial institutions must evaluate whether the innovative solutions they offer comply with current regulations and manage uncertainties in this area. Otherwise, they may face regulatory problems (Mishkin, F. S. 1999).

Security concerns, legal and regulatory challenges, and competition and innovation risks brought by the open banking model are critical factors that financial institutions should pay attention to when adapting to this new model. Effectively countering these risks is important for financial institutions to pursue a successful open banking strategy (Remolina, N. 2019).

Opportunities Provided by Open Banking

One of the most important opportunities of open banking is the positive changes in customer experience. Offering customers greater choice and flexibility between different financial service providers enables more customized solutions to individual needs. This helps customers manage their financial services more effectively and achieve their personal financial goals.

Open banking fosters innovation by facilitating the integration of fintech companies and other third parties into the financial ecosystem. This enables financial institutions to diversify and improve the services they offer to customers. The introduction of innovative products and services increases competition while also providing consumers with more diverse choices.

Open banking allows financial institutions to increase cost efficiency. Data sharing and collaboration between different service providers increases the operational efficiency of financial institutions. Additionally, integrations through open APIs enable financial institutions to adapt to new technologies more quickly (Broby, D. 2021).

This model also offers financial institutions the opportunity to reach a wide customer base. Open banking is an important tool for providing access to customers in different markets and creating a customer base on a global scale. This allows financial institutions to expand their market share and gain a competitive advantage in the international arena.

Open banking enables greater integration and aggregation of financial products and services. This offers customers the advantage of meeting their different financial needs in one place, through an app or platform. For example, a customer can track credit card transactions, manage different bank accounts, and monitor their investment portfolio through the same application (Chen, X., You, X., & Chang, V. 2021).

Open banking increases competition in the financial sector and provides more affordable and transparent services to customers. Financial institutions may be challenged to offer more competitive interest rates, lower fees and more advantageous financial products in order to retain or attract customers. This creates a positive impact in providing cost advantages for consumers (Murinde, V., Rizopoulos, E., & Zachariadis, M. 2022).

Open banking enables financial institutions to use customer data more effectively. Sharing customer data offers financial institutions the opportunity to better understand customer behavior and preferences. This data analysis is an important tool to provide more personalized services and increase customer satisfaction (Mishkin, F. S. 1999).

Open banking allows financial institutions to manage risk more effectively. Sharing customer data provides financial institutions with the opportunity to evaluate customer risk profiles from a broader perspective. This enables more accurate decisions regarding credit assessments and risk analyses (Remolina, N. 2019).

This model allows financial institutions to perform better customer relationship management. Having customer data shareable helps financial institutions take a more informed and customized approach to their interactions with customers. This increases customer satisfaction and supports customer loyalty (Bonini, S., & Capizzi, V. 2019).

The open banking model offers many opportunities in the financial sector. Opportunities such as improvements in customer experience, innovation promotion, cost effectiveness, broad customer access, integration opportunities, competitive advantage, data usage, effective risk management and better customer relationship management represent the gains that financial institutions can achieve if they adopt this model (Rochet, J. C., & Tirole, J. 1996).

Perhaps the most obvious of the opportunities brought by open banking is the improvements in customer experience. Compared to traditional banking models, open banking offers customers more choice, faster service and customized solutions. By sharing data between different financial institutions, customers can better understand their financial situation and make more informed decisions based on this information. Additionally, apps and digital tools available to customers make financial transactions more user-friendly and accessible. This strengthens the competitive advantage of financial institutions by increasing customer satisfaction (Saritha, M. 2021).

These improvements in customer experience allow financial institutions to establish a closer bond with their customers and develop long-term relationships. Additionally, increasing

customer loyalty makes customers more likely to keep their financial products and services with the same organization. This paves the way for financial institutions to create a sustainable customer base (Murinde, V., Rizopoulos, E., & Zachariadis, M. 2022).

Open banking provides a significant increase in the variety of financial products and services. While traditional banking models generally offer a limited range of products, the open banking model allows different financial institutions to come together and offer their own customized services to customers. This allows customers to be offered a wider range of financial products and services (Chen, X., You, X., & Chang, V. 2021).

Customers can find a variety of financial products in different areas such as credit, investment and insurance through the integrated services of several different financial institutions. Thanks to open APIs, switching between these products provides a faster and more user-friendly experience. This allows customers to choose and customize a variety of financial products to suit their needs.

The increase in the diversity of financial products and services also expands access to financial markets. Especially with the involvement of fintech companies and other third parties, the chance of encountering more innovative and original financial solutions outside of traditional banks increases. This brings with it the potential to offer better conditions and advantages to customers by increasing competition in the financial sector (Rochet, J. C., & Tirole, J. 1996).

Open banking creates new opportunities by supporting financial innovation and entrepreneurship. Financial institutions can easily integrate and develop their own solutions through open APIs. This provides a great advantage, especially for fintech companies. Fintech entrepreneurs have a wide playing field to develop innovative applications and services within the open banking ecosystem (Remolina, N. 2019).

Open banking makes it easier for entrepreneurs to do business in the field of financial technology. By gaining access to customer data, fintech companies can offer more personalized solutions and implement innovative projects that will shake up traditional banking models. This increases competition in the industry while also bringing the potential to offer consumers more choices (Murinde, V., Rizopoulos, E., & Zachariadis, M. 2022).

Open banking also supports non-traditional financial players entering the market. This increases the likelihood that large technology companies, entrepreneurs from the retail sector and players from other sectors will enter the financial services space. New entrepreneurs can change the current financial system in a more effective and innovative way (Mishkin, F. S. 1999).

Improvements in customer experience, increase in financial product and service diversity, and new opportunities in innovation/entrepreneurship are the important advantages that open banking brings to the financial sector. These advantages enable both customers and financial institutions to engage in a more effective, diverse and innovative financial services ecosystem.

Research Method

Research method refers to a systematic approach that forms the basis of a study and is chosen to ensure the accuracy and reliability of the data obtained. In this article, under the title of "Research Method", we will explain in detail subheadings such as literature review and source selection, data collection and analysis methods, surveys and interviews on the current status of open banking (Broby, D. 2021).

Literature review and source selection, which form the basis of the research, include the stages of determining the available information on the subject, examining previous studies and collecting data obtained from similar studies. Scanning the existing literature on the economic and financial impacts of open banking will form the knowledge base of this article and ensure that the research is placed on a solid theoretical framework.

Source selection includes selecting articles, reports and books that are reliable and academic in nature. This is important to ensure the accuracy and reliability of the information that will form the basis of the research. Literature review is also important to understand current developments, applications and issues in open banking. (Rochet, J. C., & Tirole, J. 1996)

Data collection and analysis methods determine the focus of the research. To evaluate the effects of open banking on economic development, it must first be determined what data will be collected and how it will be analyzed. Methods such as numerical data, statistical analysis, content analysis or case studies can be used (Bonini, S., & Capizzi, V. 2019).

The data collection process follows the literature review and often includes data from surveys, interviews, available statistics, or other sources. This phase ensures that the research is based on hard data and provides the information necessary to understand the effects of open banking on economic development (Remolina, N. 2019).

Analysis methods involve analyzing the collected data. It is aimed to make sense of the data obtained by using methods such as statistical analysis, content analysis or qualitative analysis. This phase is critical to reveal the main findings of the research and understand the role of open banking on economic development (Chen, X., You, X., & Chang, V. 2021).

Surveys and interviews on the current state of open banking can be used to ensure the originality and timeliness of the research. Surveys offer an effective way to collect opinions and experiences from a wide range of participants. Interviews can be used to gain a deeper understanding of expert opinions, perspectives of industry leaders, and current practices of open banking (Mishkin, F. S. 1999).

Surveys and interviews are important to obtain up-to-date, in-field data on the current state of open banking. These methods allow participants to share real-world experiences and focus the research on practical applications.

Result and Discussion

This article aims to discuss the transformation in the financial sector, compare closed and open banking models, evaluate the future and expectations of open banking, and examine the mitigation of risks and evaluation of opportunities. It is important to highlight the key differences between closed and open banking models. While traditional closed banking is

characterized by strict regulations and a generally closed structure, open banking offers a more flexible, customer-focused model that encourages data sharing. With the adoption of open banking, cooperation between financial institutions increases, offering a wider range of services to customers. However, the security concerns and regulatory challenges that arise with the adoption of this model must also be taken into account.

The future of open banking is shaped by rapidly changing technology and customer expectations. Elements such as technological developments, digitalization and artificial intelligence create new opportunities in the provision of financial services. In the future of open banking, while more financial institutions are expected to switch to this model, regulators will also need to guide and supervise this process. In this context, it is anticipated that open banking will further strengthen its role in the financial sector as digitalization accelerates (Rochet, J. C., & Tirole, J. 1996).

Adoption of open banking brings with it various risks. Security concerns, data privacy issues and regulatory uncertainties force financial institutions to be careful. To mitigate these risks, it is critical to establish standards and guidelines in the industry, implement strict security protocols, and ensure effective communication with regulators. On the other hand, despite the risks that arise during this transformation process, open banking also offers great opportunities for financial institutions. Opportunities such as increase in customer satisfaction, rapid innovation, access to a wide customer base and competitive advantage are among the gains that can be achieved with the adoption of open banking. (Broby, D. 2021).

This article, which includes topics such as this transformation in the financial sector, comparison of closed and open banking models, the future and expectations of open banking, mitigating risks and evaluating opportunities, aims to guide readers in understanding the complexity of this evolving ecosystem and adapting to these changes.

Conclusion

This article discusses security strategies, development of regulatory frameworks, and training and competence of bank employees in open banking applications. These elements are critical to ensuring the security of the open banking ecosystem, supporting effective enforcement of regulations, and enabling financial institutions to thrive in this new model.

Open banking also poses new security challenges with elements such as sharing customer data and integration of digital services. Therefore, financial institutions must create and implement strong security strategies. These strategies should include encryption methods that comply with industry standards and adopt secure APIs and authentication mechanisms. Additionally, measures such as the ability to respond quickly to potential security breaches and establishing continuous security monitoring systems should be taken.

Open banking requires financial regulators to create more effective and comprehensive regulations. This is important both to ensure the protection of customer data and to promote fair competition in the industry. Regulators must establish a strong framework to oversee open banking applications and tightly control organizations operating in this space. This framework

should include data security standards, customer privacy rules, and a comprehensive approach to auditing open banking platforms.

Open banking requires employees in financial institutions to adapt to new technologies and business models. In this context, training and qualification of bank employees plays an important role. The financial sector should organize training programs and internal training sessions to train experts with digital skills. This will enable open banking applications to be managed effectively while also helping professionals in the industry maintain a competitive advantage.

Security strategies in open banking applications, development of regulatory frameworks, and training and competence of bank employees should be addressed as a whole to ensure the successful management of this transformation in the financial sector. Effectively integrating these elements will be an important step towards increasing customer trust while ensuring the best use of the potential of open banking.

References

- Bonini, S., & Capizzi, V. (2019). The role of venture capital in the emerging entrepreneurial finance ecosystem: future threats and opportunities. *Venture Capital*, 21(2-3), 137-175.
- Broby, D. (2021). Financial technology and the future of banking. *Financial Innovation*, 7(1), 1-19.
- Chen, X., You, X., & Chang, V. (2021). FinTech and commercial banks' performance in China: A leap forward or survival of the fittest?. *Technological Forecasting and Social Change*, 166, 120645.
- Mishkin, F. S. (1999). Financial consolidation: Dangers and opportunities. *Journal of Banking & Finance*, 23(2-4), 675-691.
- Murinde, V., Rizopoulos, E., & Zachariadis, M. (2022). The impact of the FinTech revolution on the future of banking: Opportunities and risks. *International Review of Financial Analysis*, 81, 102103.
- Remolina, N. (2019). Open banking: Regulatory challenges for a new form of financial intermediation in a data-driven world.
- Rochet, J. C., & Tirole, J. (1996). Interbank lending and systemic risk. *Journal of Money, credit and Banking*, 28(4), 733-762.
- Saritha, M. (2021). Open Banking in India—A Technology Revolution in the Banking Sector. *IUP Journal of Accounting Research & Audit Practices*, 20(4), 572-577.
- Walter, J. R. (2004). Closing troubled banks: How the process works. *FRB Richmond Economic Quarterly*, 90(1), 51-68.
- Zachariadis, M., & Ozcan, P. (2017). The API economy and digital transformation in financial services: The case of open banking.