

# **Proceeding of the Perbanas International Seminar on Economics,** Business, Management, Accounting and IT (PROFICIENT) 2023

"Enhancing The Role of Banking Industry on Supporting Sustainable & Inclusive Economic

## REDEFINING THE MARKET POSITION OF BANKS IN THE AGE OF FINTECH AND BIG TECH

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Abstract - This research uses a literature review approach focusing on the Resource-Based View theory to explore how traditional banks adapt to fintech and big tech advancements, including the challenges they face and the opportunities that arise from collaborations. The study analyzes existing academic and industry literature, identifying trends and insights on the strategies employed by banks to adapt to the changing landscape. The findings reveal that traditional banks are embracing digital transformation, collaborating with fintech and big tech players, focusing on customer-centricity, and utilizing advanced data analytics. Banks are redefining their market position in the fintech and big tech age, leveraging their unique resources and capabilities as identified through the Resource-Based View framework. They face challenges from non-bank fintech and big tech companies, which have unique advantages that banks cannot easily replicate. Fintech firms benefit from being less regulated than banks, allowing them to challenge banks for specific products. However, they cannot replace banks entirely. Big tech firms, on the other hand, present a much stronger challenge to established banks, particularly in consumer finance and loans to small firms. Digitalizing financial activities has led to a more concentrated banking industry, with smaller and less tech-savvy banks struggling to survive. The study concludes that the banking industry is fundamentally transforming, with technology-driven initiatives and partnerships presenting opportunities. However, challenges of regulatory compliance, data security, and customer expectations need to be addressed.

Keywords: bank, big tech, customer-centricity, digital transformation, fintech.

## I. INTRODUCTION

The business of banks has evolved through various changes and innovations. Banks have transitioned from a traditional intermediation approach to a one-stop shop approach, offering various financial services and integrating with financial markets (Ayadi, 2019). Banks have improved their management and implemented innovations to secure a competitive advantage in the market (Jatić & Ilić, 2018). Liberalization, deregulation, and technological advances have changed the financial landscape, increasing competition from non-banking financial institutions and the financial markets (Cetorelli et al., 2014). Relationship banking has been emphasized as a source of comparative advantage for banks, but the proliferation of transaction-oriented banking has challenged this approach (Boot & Marinč, 2008). Banks' business models and strategies have adapted to the changing financial industry and competitive environment.

The history of fintech can be traced back to the 1980s when the term "fintech" was first used as an abbreviation for "financial technology" (Kaji, 2021). However, in the last quarter of the twentieth century and the early years of this century, the financial services sector, particularly banking, became a driver for ICT development (Griffiths, 2021). The emergence of fintech as a new industrial sector was facilitated by three external forces on the technological, social, and financial fronts led to a shift from an industrial economy to a knowledge economy(Kalra, 2019). Initially, fintech was limited to back-office processes of banks, but with the advent of smartphones and high-speed internet, it has grown through customer-facing apps (El Amri & Mohammed, 2021). Global investment in fintech companies has been steadily increasing, with over \$50 billion invested since 2010 (Ratecka et al., 2020). Fintech has created a new paradigm in the financial sector, where modern technology is used to create innovations.

Big tech refers to the largest multinational online service or computer hardware and software companies, including Amazon, Apple, Facebook, Google, and Microsoft (Boissay et al., 2021). These companies have grown significantly over the past three decades due to various factors such as network effects, innovative business models, and acquisitions of smaller rivals (Moss, 2019). While big tech has benefits, concerns have arisen regarding its role in society and competition issues, including effects on innovation, market entry, and privacy (Birch & Cochrane, 2021). The entry of big tech into finance has also raised questions about market power and data privacy (Graef, 2020). The US government has initiated legal suits against some big tech firms, highlighting the need for more vigorous enforcement and policy implications (Rikap & Lundvall, 2020). The role of competition authorities and the interpretation of existing regulations will determine the appropriate response to big tech's influence. Tech giants are seen as active drivers of globalization, particularly in digital services trade and the shift to intangible assets.

The rise of fintech and big tech has disrupted the banking industry in several ways. Advances telecommunications. information technology, big data, and artificial intelligence development have led to new technologies like blockchain (Li, 2022). These technologies can change the entire banking industry faster and more disruptive. Fintech and big tech platforms have expanded their lending globally, with significant credit flows in countries like China, the United States, and the United Kingdom (Stoica & Sitea, 2021; Tuch, 2020). This expansion has been driven by higher GDP per capita, less stringent banking regulation, and

advanced investor protection and judicial systems (Cornelli et al., 2020; Ofir & Sadeh, 2021). Overall, fintech and big tech financial features complement traditional banks rather than substituting for them.

Considering bank business in the future is essential due to several reasons. The progress in information technology is changing traditional business models, including banking (Ayadi, 2016). Analyzing bank business models can provide a better understanding of the nature of risk and its contribution to systemic risk (Ayadi, 2016). The development of the industrial revolution and the shift toward digital technology have significantly impacted banking services (Tarigan & Purnomo, Maintaining a large client base and predicting future potential is crucial for banks to stay competitive (Nayeri & Hakim, 2016). Central banks must consider their role in supporting financial inclusion and mitigating threats to consumer protection and the global economy (Harris & Barr, 2019). Overall, considering bank business in the future allows for adaptation to technological advancements, understanding risk, serving customers effectively, and promoting financial inclusion.

Given the contextual information and the inescapable reality of fintech and big tech competition, our investigation seeks to answer the fundamental question: "How are Banks redefining their market position in the age of fintech and big tech?" This query will be scrutinized through the employment of the literature review methodology.

### II. METHODS

Our research used the SCISPACE website (https://typeset.io) and its advanced features to comprehensively explore prior scientific articles as part of our efforts to address the established research questions. SCISPACE is a powerful tool that simplifies literature reviews by leveraging sophisticated natural language processing techniques. Furthermore, this tool integrates with academic databases, granting access to the most current scholarly information and empowering researchers to remain at the forefront of their respective fields while making informed decisions.

We employed the 'Literature Review' menu feature on SCISPACE to collect and scrutinize the extractable constituents of each paper or article that applied to the research question used as the article search input.

After searching, we focus our analysis on the top 70 most relevant articles generated by the search using the SCISPACE menu feature.

## III. RESULTS AND DISCUSSION

We employed the resource-based view (RBV) theory to identify crucial elements that are analyzed. This managerial framework accentuates harmonizing internal resources and competencies with the external market engendering environment, a culture of innovation, and prioritizing customer requisites to attain exceptional performance and attainable competitive edge.

#### Market Environment

Banks still have a future but must adapt to the challenges of financial technology and digital advancements to stay competitive (Stulz, 2019). Fintech firms can challenge banks in certain areas but need help entirely replacing them (Stulz, 2019). Banks and fintech companies are not enemies but rather partners, with banks incorporating fintech technologies to enhance their services (Kokh & Kokh, 2020; Suryanto, 2020), although the impact of new technology on the banking industry has been mixed and contradictory (Lapavitsas & Dos Santos, 2008). We also know that the banking sector already faces intense competition and rapid changes in the financial landscape (Boot & Marinč, 2008). The rise of fintech and big tech is impacting the competitive viability of banks (DeYoung & Hunter, 2001a). So. from the market environment point of view, banks must redefine their market position in the age of fintech and big tech as they face competitive pressure and incorporate technologies implemented by

fintech and big tech companies (Cummins, 2013; Rühl & Zurdo, 2020). Fintech companies are introducing new competition in the banking sector, challenging traditional banks and increasing competition (Lautenschläger, 2016).

#### Collaboration and Innovation Culture

One of the most positive influences on the banking industry, fintech, and big tech pose competition to banks, which presents opportunities and challenges (Tanda & Schena, 2019). FinTech is changing banking by shifting traditional transaction services to modern banking services and introducing innovative technology-based financial products (Campino et al., 2020; Mărăcine et al., 2020; Suryanto, 2020). Fintech companies are bringing radical innovation to the banking industry by specializing in specific services and leveraging new technology (Flejterski & Labun, 2016), and also providing innovative solutions and different approaches to business transactions by disaggregating the value chain and challenging the bank-customer interface (Alam & Zameni, 2021). Technological innovations in the financial services industry have significantly impacted banks' financial structure, competencies, abilities, organization, and economic results (Campanella et al., 2017).

To be innovative, banks are adopting different approaches: developing in-house technological solutions; partnering with new entrant Fintech firms; opting for complete outsourcing of financial innovation; or participating in business incubators or accelerators (Sibilio et al., 2019). In the end, banks have a future as they are evolving to provide the same essential functions in new, more efficient ways (Hunter, 2001; Oney, 2017) and by focusing on technological aspects and collaborating with new players (Omarini, 2018). On the other side, the COVID-19 pandemic has accelerated the adoption of technology by traditional banks and opened new partnership opportunities for nonbank fintech companies (Hill, 2021).

#### Customer Centricity

Fintech supports banking by providing innovative technology-driven solutions and meeting new customer demands (Drasch et al., 2018). The main challenges facing the retail banking industry in the era of digitalization include increasing competition from FinTech and meeting new client expectations (Swacha-Lech, 2017). Fintech is reducing search costs and allowing buyers and sellers to connect directly, potentially leading to a system change in the banking industry (Lenz & Rainer, 2016). Five main areas exist where fintech and big tech can provide improvements in business models introducing for the banks: specialized platforms, covering neglected customer segments, improving customer selection, reduction of the operating costs of the banks, and optimization of the business processes of the Banks (Mărăcine et al., 2020).

The traditional role of banks in the economy evolved from the traditional intermediation approach to a one-stop shop approach, in which banks offer a wide range of financial services enhanced by a widespread wave of financial innovations (Ayadi, 2019). The implications of fast-growing fintech and big tech challenges on bank competitiveness explore the factors that could support digital advancement in banks and suggests that ongoing efforts to catch up to the digital frontier could lead to a more concentrated banking industry as smaller and less tech-savvy banks struggle to survive (Liu, 2021). Fintech has the potential to impact financial decisions by offering new tools and reducing distribution costs, but the specific effects may vary (Serge, 2016).

## Business Strategy and Performance Improvement

Developing digital bank products is one of the bank's strategies to combat fintech and big tech. The critical success factors for digital banks include developing individual strategies and business models, risk management, and risk culture (Kurkliński & Kasiewicz, 2020).

Technological innovations in the financial services industry have improved costs, lending capacity, consumer benefits, overall industry consolidation productivity, and (Sontakke & Gajbhiye, 2013). Fintech can improve commercial banks' profitability, financial innovation, risk control, and

customer-oriented business models, enhancing their overall performance (Wang et al., 2021), reducing expenses, and increasing revenues (Paulet & Mavoori, 2020). Fintech is also changing banking by introducing online marketplace lending platforms and neo-banks, which reduce intermediation costs and offer innovative services (Molnár, 2018).

Fintech and big tech credit growth is driven by higher GDP per capita, higher banking sector mark-ups, less stringent banking regulation, and greater ease of business (Cornelli et al., 2020). The impact of Internet finance on traditional banking has led to improved overall bank efficiency and the need for traditional banks to downsize and improve their environments (Chen, 2020). The well-run small banks should be able to adjust their strategies and co-exist with large banks in the changing banking environment (DeYoung & Hunter, 2001b). Although fintech and big tech profitability and asset quality (Zhao et al., 2022), only 3% of US banks acknowledge being threatened by FinTech (Bunea et al., 2016).

#### IV. CONCLUSION

Banks are challenged by the rise of financial technology (fintech) and big tech advancements in today's market environment. While fintech companies introduce competition, they also offer opportunities for collaboration and innovation. Banks are embracing technology through in-house solutions, partnerships, and outsourcing, evolving to provide more efficient services.

Customer-centricity is key, with fintech addressing new client demands and reducing search costs. Fintech's impact spans specialized platforms, neglected segments, improved customer selection, cost reduction, optimized processes. Banks have shifted from traditional intermediation to comprehensive financial services driven by innovation.

Banks develop digital products and strategies to counter fintech and big tech challenges, focusing on risk management and culture. Technological innovation enhances lending capacity, consumer benefits, and industry consolidation, bolstering banks' profitability and performance. Online marketplace lending and neo-banks are altering banking, lowering intermediation costs.

Economic factors and banking regulations influence the growth of fintech and big tech credit. While the impact on traditional banking includes increased efficiency, some banks coexist with fintech while others acknowledge threats. In conclusion, banks adapt to fintech and big tech's influence, leveraging technology, innovation, and customer focus to maintain competitiveness and thrive in the evolving landscape.

#### V. ACKNOWLEDGEMENT

We sincerely appreciate my family, with a particular emphasis on my children, for their profound and unwavering support during the entire process of composing this paper. Their moral encouragement and understanding have been instrumental in steering me toward the successful culmination of this endeavor. We are deeply grateful for their continuous inspiration and motivation.

## REFERENCES

- Alam, N., & Zameni, A. P. (2021). Central Banks and Financial Authorities: Towards the Advancement of I-Fintech. Islamic FinTech: Insights and Solutions, 59-72. https://doi.org/10.1007/978-3-030-45827-0\_4/COVER
- Ayadi, R. (2016). Bank Business Models in Europe: Why Does it Matter for the Future of Regulation and Resolution? SSRN Electronic Journal. https://doi.org/10.2139/SSRN.2829168
- Ayadi, R. (2019). Changing Role of Banks in the Financial System. 5–20.

- https://doi.org/10.1007/978-3-030-02248-
- Birch, K., & Cochrane, D. T. (2021). Big Tech: Four Emerging Forms of Digital Rentiership. Science as Culture, 31(1), https://doi.org/10.1080/09505431.2021.1 932794
- Boissay, F., Ehlers, T., Gambacorta, L., & Shin, H. S. (2021). Big Techs in Finance: On the New Nexus Between Data Privacy and Competition. The Palgrave Handbook of Technological Finance, 855-876. https://doi.org/10.1007/978-3-030-65117-6\_31/COVER
- Boot, A. W. A., & Marinč, M. (2008). The Evolving Landscape of Banking. Industrial and Corporate Change. https://doi.org/10.1093/icc/dtn040
- Bunea, S., Kogan, B., & Stolin, D. (2016). Banks Versus FinTech: At Last, it's Official. Journal of Financial *Transformation*, 44, 122–131. https://ideas.repec.org/a/ris/jofitr/1578.ht ml
- Campanella, F., Della Peruta, M. R., & Del Giudice, M. (2017). The Effects of Technological Innovation on the Banking Sector. Journal of the Knowledge Economy, 8(1), 356–368. https://doi.org/10.1007/S13132-015-0326-8/METRICS
- Campino, J., Brochado, A., & Rosa, Á. (2020). Digital Business Transformation in the Banking Sector. 52–88. https://doi.org/10.4018/978-1-7998-4552-2.CH003
- Cetorelli, N., McAndrews, J. J., & Traina, J. (2014). Evolution in Bank Complexity.
- Chen, K.-C. (2020). Implications of Fintech Developments for Traditional Banks. International Journal of Economics and Financial Issues, 10(5), 227–235. https://doi.org/10.32479/IJEFI.10076
- Cornelli, G., Frost, J., Gambacorta, L., Rau, R., Wardrop, R., & Ziegler, T. (2020). Fintech and Big Tech Credit: A New

- Database.
- https://www.bis.org/publ/work887.htm
- Cummins, J. D. (2013). "The Integration of the Financial Services Industry: Where Are the Efficiencies?", Allen N. Berger, July 2000. Taylor & Francis Online, 4(3), 45https://doi.org/10.1080/10920277.2000.1 0595923
- DeYoung, R., & Hunter, W. C. (2001a). Deregulation, the Internet, and the competitive viability of large banks and community banks. Federal Reserve Bank of Chicago. https://EconPapers.repec.org/RePEc:fip:f edhwp:wp-01-11
- DeYoung, R., & Hunter, W. C. (2001b). Deregulation, The Internet, and The Competitive Viability of Large Banks and Community Banks. In SSRN Electronic Journal. Elsevier BV. https://doi.org/10.2139/SSRN.290284
- Drasch, B. J., Schweizer, A., & Urbach, N. (2018). Integrating the 'Troublemakers': A taxonomy for cooperation between banks and fintechs. Journal of Economics and Business, 100, 26-42. https://doi.org/10.1016/J.JECONBUS.20 18.04.002
- El Amri, M. C., & Mohammed, M. O. (2021). Analysis of Fatwas on FinTech. Islamic *FinTech: Insights and Solutions*, 73–90. https://doi.org/10.1007/978-3-030-45827-0\_5/COVER
- Fleiterski, S., & Labun, J. (2016). The Banking Industry and Digital Innovation: in Search of New Business Models and Channels. European Journal of Service *Management*, 20, 5–15. https://doi.org/10.18276/EJSM.2016.20-01
- Graef, I. (2020). Big Tech en Mededinging. Bijzonder Nummer 'Concurrentie.' www.tweedekamer.nl/
- Griffiths, P. D. R. (2021). Fintech and Its Historical Perspective. The Palgrave Handbook of FinTech and Blockchain, 19-50. https://doi.org/10.1007/978-3-030-66433-6\_2/COVER

- Harris, A., & Barr, M. S. (2019). Central Bank of the Future. https://papers.ssrn.com/abstract=3422860
- Hill, J. A. (2021). COVID-19, Banks, and Fintechs. SSRN Electronic Journal. https://doi.org/10.2139/SSRN.3777562
- Hunter, W. C. (2001). The Internet and the Commercial Banking Industry: Strategic Implications from a US Perspective. Financial Intermediation in the 21st Century, 17–28. https://doi.org/10.1057/9780230294127\_
- Jatić, S., & Ilić, M. P. (2018). Traditional and New Business Models in The Banking Industry. *Bankarstvo*, 47(1), 106–117. https://doi.org/10.5937/BANKARSTVO1 801106J
- Kaji, S. (2021). An Overview of Fintech. *The* Economics of Fintech, 1–16. https://doi.org/10.1007/978-981-33-4913-1\_1/COVER
- Kalra, D. (2019). Overriding FINTECH. Proceeding of 2019 International Conference on Digitization: Landscaping Artificial Intelligence, ICD 2019, 254https://doi.org/10.1109/ICD47981.2019.9 105915
- Kokh, L., & Kokh, Y. (2020, November 18). Banks and Fintech-Companies: Who's Catching up with Whom. ACM International Conference Proceeding Series. https://doi.org/10.1145/3446434.3446533
- Kurkliński, L., & Kasiewicz, S. (2020). Strategies and Business Models of Banks in front of the FinTech and BigTech Competition. Fostering Innovation and Competitiveness With FinTech, RegTech, and SupTech, 21-42. https://doi.org/10.4018/978-1-7998-4390-0.CH002
- Lapavitsas, C., & Dos Santos, P. L. (2008). Globalization and Contemporary Banking: On the Impact of New Technology. Contributions to Political Economy, 27(1), 31–56. https://doi.org/10.1093/CPE/BZN005

- Lautenschläger, S. (2016). The European banking sector-A quick pulse check.
- Lenz, & Rainer. (2016). Banking 2025: The Bank of The Future. Journal of Financial *Transformation*, 44, 111–121. https://ideas.repec.org/a/ris/jofitr/1575.ht
- Li, X. (2022). Development of Internet Financial Technology Based on Data Analysis Technology. Lecture Notes on Data Engineering and Communications Technologies, 97, 452-459. https://doi.org/10.1007/978-3-030-89508-2\_57/COVER
- Liu, E. X. (2021). Stay Competitive in the Digital Age: The Future of Banks.
- Mărăcine, V., Voican, O., & Scarlat, E. (2020). The Digital Transformation and Disruption in Business Models of the Banks under the Impact of FinTech and BigTech. Proceedings of the International Conference on Business Excellence, 14(1), 294-305. https://doi.org/10.2478/PICBE-2020-0028
- Molnár, J. (2018). What Does Financial Intermediation Theory Tell Us about Fintechs? Vezetéstudomány / Budapest *Management Review*, 49(5), 38–46. https://doi.org/10.14267/VEZTUD.2018. 05.04
- Moss, D. L. (2019). The Record of Weak U.S. Merger Enforcement in Big Tech. SSRN Electronic Journal. https://doi.org/10.2139/SSRN.3417978
- Nayeri, N., & Hakim, E. (2016). Future Bank Wallet Size.
- Ofir, M., & Sadeh, I. (2021). The Rise of FinTech: Promises, Perils, and Challenges. SSRN Electronic Journal. https://doi.org/10.2139/SSRN.3788168
- Omarini, A. E. (2018). Banks and Fintechs: How to Develop a Digital Open Banking Approach for the Bank's Future. International Business Research, 11(9), https://doi.org/10.5539/IBR.V11N9P23

- Oney, C. (2017). FinTech Industrial Banks and beyond: How Banking Innovations Affect the Federal Safety Net. Fordham Journal of Corporate and Financial Law, https://heinonline.org/HOL/Page?handle =hein.journals/fjcf23&id=557&div=&col lection=
- Paulet, E., & Mavoori, H. (2020). Conventional Banks and Fintechs: How Digitization Has Transformed Both Models. Journal of Business Strategy, *41*(6), 19–29. https://doi.org/10.1108/JBS-06-2019-0131/FULL/XML
- Ratecka, P., Główna, S., & Warszawie, H. W. (2020). Zjawisko FinTech – ujęcie definicyjne, taksonomiczne oraz historyczne. Zeszyty Naukowe Małopolskiej Wyższej Szkoły Ekonomicznej w Tarnowie, 45(1), 53–67. https://doi.org/10.25944/ZNMWSE.2020. 01.5367
- Rikap, C., & Lundvall, B. Å. (2020). Big Tech, Knowledge Predation and The Implications for Development. Innovation and Development, 12(3), 389https://doi.org/10.1080/2157930X.2020.1 855825
- Rühl, A., & Zurdo, R. P. (2020). Does Technology Contribute to Financial Democratization? The collaborative economy and fintechs as catalysts for change. REVESCO. Revista de Estudios Cooperativos, 133, e65486–e65486. https://doi.org/10.5209/REVE.65486
- Serge, D. (2016). The Rise of Fintechs and Their Regulation. Financial Stability Review, 20, 85–92. https://ideas.repec.org/a/bfr/fisrev/20162 09.html
- Sibilio, N. I., Boero, M., Salerno, L., Sibilio, N. I., Boero, M., & Salerno, L. (2019). Banks and Fintech: Strategies and Business Models. BANCARIA, 2, 46–62. https://EconPapers.repec.org/RePEc:ban: bancar:v:2:y:2019:m:february:p:46-62

- Sontakke, R., & Gajbhiye, A. V. (2013). *A* Critical Study on Recent Advantages of Technology in Banking Industries.
- Stoica, E. A., & Sitea, D. M. (2021). Blockchain Disrupting Fintech and the Banking System. Proceedings 2021, Vol. 74, Page 24, 74(1), 24. https://doi.org/10.3390/PROCEEDINGS 2021074024
- Stulz, R. M. (2019). FinTech, BigTech, and the Future of Banks. Journal of Applied *Corporate Finance*, *31*(4), 86–97. https://doi.org/10.1111/JACF.12378
- Suryanto, D. (2020). Bank Strategy when Facing Financial Technology Competition. Proceedings of the 3rd International Conference on Vocational Higher Education (ICVHE 2018), 149-154. https://doi.org/10.2991/ASSEHR.K.2003 31.135
- Swacha-Lech, M. (2017). The Main Challenges Facing The Retail Banking Industry in The Era of Digitalisation. Rozprawy Ubezpieczeniowe. Konsument Na Rynku Usług Finansowych, 4(26), 94–116.
- Tanda, A., & Schena, C.-M. (2019). *FinTech*, BigTech and Banks. Springer International Publishing.

- https://doi.org/10.1007/978-3-030-22426-
- Tarigan, K. A., & Purnomo, B. R. (2020). Mitigating Future Uncertainty: How BTPN Bank Modify Existing Business Model for Elderly Segment [Universitas Gadjah Mada]. https://etd.repository.ugm.ac.id/penelitian /detail/197111
- Tuch, A. (2020). Introduction: The Rise of Fintech. Washington University Journal of Law & Policy, 61(1). https://openscholarship.wustl.edu/law\_jo urnal\_law\_policy/vol61/iss1/7
- Wang, Y., Xiuping, S., & Zhang, Q. (2021). Can Fintech Improve The Efficiency of Commercial Banks? —An analysis based on big data. Research in International Business and Finance, 55, 101338. https://doi.org/10.1016/J.RIBAF.2020.10 1338
- Zhao, J., Li, X., Yu, C. H., Chen, S., & Lee, C. C. (2022). Riding the FinTech innovation wave: FinTech, patents and bank performance. Journal of International Money and Finance, 122, 102552. https://doi.org/10.1016/J.JIMONFIN.202 1.102552