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THE DEVELOPMENT OF FINANCIAL TECHNOLOGY (FINTECH) AND ITS IMPACT ON THE CONVENTIONAL BANKING SYSTEM

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Abstract
The development of financial technology (Fintech) has brought about important changes in the traditional banking system. Fintech is introducing innovative solutions that make financial services more efficient, faster and accessible to the masses. Technologies such as blockchain, artificial intelligence (AI), and big data analytics enable financial services that are more personalised and responsive to user needs. However, these advancements also challenge conventional banks to adapt quickly, develop digital services, and invest in technological innovation. Increased competition and the need to update regulations and data security are the main challenges that traditional banks must face in this digital era.
Keywords: Financial Technology (Fintech), Conventional Banking System.

Introduction

Financial technology, or fintech, has undergone rapid development in the last few decades. At first, fintech only included simple digital payment systems, such as interbank transfers and credit cards. However, along with technological advancements, fintech now encompasses a wide range of sophisticated financial services such as digital payments, online lending, platform-based investments, digital insurance, and digital banking. These advancements have been fuelled by technological revolutions such as artificial intelligence (AI), blockchain, and big data, which enable the provision of financial services to be more efficient, secure, and accessible to the general public (Ranabahu ., 2023)

This development has also brought significant impacts on the economy and society. On the one hand, fintech has increased financial inclusion by providing access to financial services for populations previously unreached by traditional banks, especially in rural or remote areas. On the other hand, fintech innovation has fostered healthier competition in the financial industry, forcing traditional banks and financial

institutions to adapt and adopt more cutting-edge technologies (Ukonu, 2024) . Going forward, we can expect more fintech innovations that will continue to change the way we interact with money and financial services, as well as drive economic growth and the overall well-being of society (Ayyash, 2022) .

Fintech refers to technological innovations applied to financial services, aiming to make such services more efficient, accessible, and affordable. Some fintech products, such as digital payments, peer-to-peer (P2P) lending, and robo-advisors, have gained wide acceptance from various segments of Society (Gopal, 2024) .

On the other hand, conventional banks, which have been the backbone of the financial system for centuries, are now facing the challenge of adapting in the digital age. Traditional business models that rely on physical branches and manual processes must compete with fintech services that offer convenience and speed in transactions. This forces banks to re-evaluate their business strategies, improve operational efficiency, and adopt new technologies to survive the competition (Nicoletti, 2022)

Innovation in the financial sector is critical as it can drive greater efficiency, accessibility, and transparency in financial services. Through advanced technologies such as artificial intelligence (AI), blockchain, and big data, innovation enables financial institutions to offer products and services that are faster, safer, and suited to user needs (McNulty & Milne, 2021) . In addition, innovation drives financial inclusion by reaching populations underserved by traditional banks, as well as helping to reduce transaction costs and improve customer experience. By continuing to drive innovation, the financial sector can adapt to the changing needs and expectations of society and support more sustainable economic growth (Hamza & Jedidia ., 2020)

However, the challenge for conventional banks comes not only from the technology side, but also from the changing expectations of consumers who want more personalised and instant services. Meanwhile, government regulations and policies also play an important role in determining the extent to which fintech can be effectively integrated with the traditional banking system (Williams, 2021) .

Given these dynamics, it is important to understand how the development of fintech technology affects the conventional banking system as a whole. This research aims to explore the impact of fintech on the business models, efficiency, and operational structure of conventional banks, and devise adaptation strategies needed to ensure the sustainability and success of the banking sector in the future.

Research Methods

The study in this research uses the literature method. The literature research method is a scientific approach used to collect, analyse, and evaluate information from various written sources, such as books, journal articles, research reports, and other documents. This method aims to identify and understand the development of theories, concepts, and research results relevant to a particular topic (JUNAIDI, 2021) ;

(Abdussamad, 2022) . In the process, the researcher usually conducts a comprehensive literature search, selects quality sources, summarises the main findings, and synthesises them to provide a deep insight into the issue under study. Through the literature research method, researchers can obtain a strong theoretical foundation, identify research gaps, and formulate clearer and more targeted research questions (Wekke ., 2020)

Results and Discussion

Recent Developments in Fintech Technology

One of the most significant recent developments in fintech technology is the application of artificial intelligence (AI) and machine learning. These technologies enable fintech companies to analyse large amounts of data quickly and accurately. For example, AI is used to detect fraud by recognising unusual transaction patterns, or in credit risk management by analysing the credit history of potential borrowers. Machine learning is also applied in the personalisation of financial services, such as providing investment recommendations based on the user's risk profile and financial goals (Zlatokrilov ., 2023)

Blockchain technology and cryptocurrencies have brought about major changes in the way we view and use digital money. Blockchain, with its decentralised, transparent and secure nature, has been used for a variety of applications beyond cryptocurrencies like Bitcoin. One such application is in cross-border payment systems, which allow international transactions to be faster and cheaper. In addition, smart contracts running on top of blockchain enable reliable automation in various financial transactions without the need for intermediaries (Inusa, 2024) .

Digital payment services such as e-wallets and mobile payment apps have become an integral part of everyday life. Companies such as PayPal, Venmo, and more localised ones such as GoPay and OVO in Indonesia, offer the convenience of making transactions with just a few clicks. Digital payments not only make it easier for users to make everyday transactions but also increase financial inclusion by providing access to those without traditional bank accounts. High smartphone penetration has been a major contributing factor in the adoption of these services (Mhlanga, 2024) .

Neobanks or digital banks are banks that operate entirely online without physical offices. Examples include Chime in the United States and Revolut in Europe. These neobanks provide efficient, low-cost banking services and often offer additional features such as automated money management and integration with other financial applications. In Indonesia, some traditional banks have also started transforming towards fully digital services to compete with fintech players. This reflects how fintech technology continues to drive improvements in customer experience in banking services (Adnan & Kumar, 2024) .

Regulatory Technology or RegTech refers to technology that helps financial firms meet evolving legal regulations. Using AI, big data and blockchain, RegTech helps in automating compliance processes, reducing the risk of errors and also speeding up response times. For example, companies can use RegTech tools to ensure identification and anti-money laundering (AML) checks more efficiently. These advancements are not only important for regulatory compliance, but also for maintaining integrity and trust in the financial ecosystem (Siska, 2022) .

Overall, recent developments in fintech technology have not only improved efficiency and security in the financial system but also expanded financial access and inclusiveness for the wider community. Fintech technology continues to evolve rapidly, offering innovative solutions that transform the way we manage and interact with money and financial services.

Fintech's Impact on the Conventional Banking System

Financial Technology (fintech) has brought significant changes to the financial world, including the conventional banking system. The emergence of fintech brings both positive and negative impacts that affect the way traditional banking operates. By utilising advanced technology, fintech is able to deliver faster, more transparent and efficient services compared to conventional banks (AlMomani & Alomari, 2021) .

One of the main impacts of fintech is increased competition in the financial sector. Conventional banks now have to compete with fintech companies that offer faster, cheaper, and more accessible services. This forces conventional banks to innovate and improve the quality of their services to stay relevant amidst the increasing competition. Many banks have started to adopt digital technology to increase operational efficiency and improve customer experience (Al-Daya et al., 2022) .

In addition, fintech also brings a positive impact by increasing financial inclusion. Many people who previously did not have access to banking services can now utilise financial services through fintech platforms. This means more people can enjoy payment, lending, and investment services that were previously hard to reach through conventional banks. This helps to drive economic growth more equitably (Manta, 2024).

However, with all the conveniences offered, fintech also poses challenges for conventional banking. One of the biggest challenges is the issue of data security and protection. The digital technology used by fintech is often an easy target for hackers. Therefore, conventional banks should invest more resources on cybersecurity to protect their customers' information from potential threats (Allayarov & Ravshanova ., 2021)

Finally, changes in regulation are also an important issue due to the presence of fintech. Financial regulators need to continue to develop policies that can accommodate innovations from the fintech sector without compromising financial system stability. This requires good collaboration between the government,

conventional banks, and fintech companies to create a safe and innovative financial ecosystem. Thus, the hope is that the presence of fintech can work synergistically with conventional banking to create greater benefits for the wider community.

Fintech Challenges and Opportunities for the Conventional Banking System

The arrival of fintech brings a number of significant challenges to the conventional banking system. First and foremost is the drastically increased level of competition. Fintech companies are able to offer faster, more efficient and often lower-cost financial services compared to traditional banks. This forces conventional banks to change their business strategies and innovate in order not to lose market share (Carbó-Valverde et al., 2021) .

In addition, cybersecurity is a big challenge for conventional banking. With the digitisation of banking services, threats to customer data security have increased. Fintech companies are often prime targets for cyberattacks, which means conventional banks must also upgrade their security infrastructure to protect customer data and funds from the risk of hacking and fraud (Walker et al., 2023) .

Regulation and compliance is another challenge. Fintechs often operate under different or not yet fully regulated regulatory frameworks, so conventional banks have to adapt to more flexible regulations while still complying with existing strict regulations. This creates an imbalance in competition and requires regulators to craft policies that can accommodate innovation without compromising safety (Adjasi et al., 2023) .

Despite facing many challenges, fintech also brings golden opportunities for conventional banking. One of the biggest opportunities is the ability to increase financial inclusion. By adopting fintech technology, conventional banks can reach more people, including those who previously had no access to banking services. This opens up untapped market potential and strengthens their customer base (Harris & Wonglimpiyarat ., 2023)

Fintech also encourages conventional banks to innovate and adopt more sophisticated technologies. For example, the use of artificial intelligence (AI) and big data analytics can help banks improve operational efficiency, reduce costs, and provide more personalised services to customers. These technologies also enable banks to better identify customer trends and needs, thereby offering more relevant and appropriate products and services (Li et al., 2024) .

Collaboration with fintech companies also opens up opportunities for conventional banks to develop a broader financial ecosystem. By partnering, conventional banks can integrate fintech services into their platforms, thus providing a more holistic experience for customers. This not only helps maintain the relevance of conventional banks amidst the digital era, but also creates added value that is difficult to generate without such collaboration (Siska, 2022) .

Overall, despite facing significant challenges, conventional banks can utilise the presence of fintech to improve their competitiveness, expand their reach, and innovate in providing better services for the public. A clever integration between fintech and traditional banking can create a more inclusive, efficient, and adaptive financial ecosystem.

Conclusion

The development of financial technology (Fintech) has brought significant changes to the conventional banking system. Fintech offers innovative solutions that make financial services more efficient, faster and accessible to the public. Using technologies such as blockchain, artificial intelligence (AI), and big data, Fintech companies are able to provide banking services that are more personalised and responsive to individual needs. The ease of making transactions, applying for loans, and managing investments through digital platforms has changed the way customers interact with financial institutions.

However, the impact of these Fintech advancements also poses challenges to the conventional banking system. Traditional banks have to face stiffer competition and quickly adapt to technological changes to stay relevant. They need to develop digital services and invest in technological innovations to avoid being left behind. In addition, conventional banks must also ensure data security and update regulations in line with technological developments to protect customers from cyber risks. Thus, while fintech provides many benefits, this transformation also requires strategic planning and adaptation from the traditional banking industry.

References

Abdussamad, Z. (2022). *Qualitative Research Methods Book*. *Query date: 2024-05-25 20:59:55*. https://doi.org/10.31219/osf.io/juwxn

Adjasi, C., Hamilton, C., & Lensink, R. (2023). Fintech and Financial Inclusion in Developing Countries. *Palgrave Studies in Financial Services Technology*, *Query date: 2025-01-13 22:06:23*, 297-328. https://doi.org/10.1007/978-3-031-23069-1_12

Adnan, S. A., & Kumar, P. (2024). Financial Crimes and Fintech in India. *E-Banking, Fintech, & Financial Crimes*, *Query date: 2025-01-13 22:06:23*, 97-109. https://doi.org/10.1007/978-3-031-67853-0_8

Al-Daya, W., Nassar, S., & Al-Massri, M. (2022). Financial Technology (FinTech) Innovations and the Future of Financial Institutions (FIs) in Palestine "An Exploratory Study". *Lecture Notes in Networks and Systems*, *Query date: 2025-01-13 22:06:23*, 15-33. https://doi.org/10.1007/978-3-031-08087-6_2

Allayarov, S. A., & Ravshanova, M. (2021). Financial Technology: Development of Innovative Fintech Start-Ups and Its Application in Banking System of

Uzbekistan. *International Journal of Multicultural and Multireligious Understanding*,*8* (9), 214-214. https://doi.org/10.18415/ijmmu.v8i9.3017

AlMomani, A. A., & Alomari, K. F. (2021). Financial Technology (FinTech) and its Role in Supporting the Financial and Banking Services Sector. *International Journal of Academic Research in Business and Social Sciences*,*11* (8). https://doi.org/10.6007/ijarbss/v11-i8/10625

Ayyash, M. M. (2022). A Thorough Analysis of the Perceived Risk and Customer Acceptance of Mobile Banking Apps. *Lecture Notes in Networks and Systems*, *Query date: 2025-01-13 22:06:23*, 35-49. https://doi.org/10.1007/978-3-031-08087-6_3

Carbó-Valverde, S., Cuadros-Solas, P. J., & Rodríguez-Fernández, F. (2021). FinTech and Banking: An Evolving Relationship. *Palgrave Studies in Financial Services Technology*, *Query date: 2025-01-13 22:06:23*, 161-194. https://doi.org/10.1007/978-3-030-81835-7_6

Gopal, Dr B. (2024). Analysing the Role of Financial Technology (FinTech) in Transforming the Banking Sector. *Educational Administration: Theory and Practice*, *Query date: 2025-01-13 22:06:23*, 1603-1612. https://doi.org/10.53555/kuey.v30i2.8480

Hamza, H., & Jedidia, K. B. (2020). Central Bank Digital Currency and Financial Stability in a Dual Banking System. *Advances in Finance, Accounting, and Economics*, *Query date: 2025-01-13 22:06:23*, 233-252. https://doi.org/10.4018/978-1-7998-0039-2.ch012

Harris, W. L., & Wonglimpiyarat, J. (2023). Fintech and the Digital Transformation of the Banking Landscape. *Palgrave Studies in Financial Services Technology*, *Query date: 2025-01-13 22:06:23*, 53-73. https://doi.org/10.1007/978-3-031-23069-1_3

Inusa, Inusa,. (2024). Effect of Financial Technology (FinTech) on Nigeria's Development Amid Covid-19 Recovery. *Baze University Journal of Entrepreneurship & Interdisciplinary Studies*, *Query date: 2025-01-13 22:06:23.* https://doi.org/10.61955/ibbubn

JUNAIDI, J. (2021). *ANNOTATED QUALITATIVE RESEARCH METHODOLOGY JOHN W. CRESWELL*. *Query date: 2024-05-25 20:59:55.* https://doi.org/10.31237/osf.io/6kt5q

Li, R., Zhang, S., Wang, Q., & Hu, S. (2024). Fintech and urban environmental sustainability: Exploring the impact of financial technology on urban carbon emissions. *Sustainable Development*, *Query date: 2025-01-13 22:06:23.* https://doi.org/10.1002/sd.3212

Manta, O. (2024). Financial Technology and Innovation for Sustainable Development. *FinTech*,*3* (3), 424-426. https://doi.org/10.3390/fintech3030023

McNulty, D., & Milne, A. (2021). Bigger Fish to Fry: FinTech and the Digital Transformation of Financial Services. *Palgrave Studies in Financial Services Technology*, *Query date: 2025-01-13 22:06:23*, 263-281. https://doi.org/10.1007/978-3-030-81835-7_10

Mhlanga, D. (2024). Promoting Financial Inclusion with Financial Technology (FinTech). *FinTech, Financial Inclusion, and Sustainable Development*, *Query date: 2025-01-13 22:06:23*, 163-184. https://doi.org/10.4324/9781032657981-10

Nicoletti, B. (2022). Bionic Banking. *Palgrave Studies in Financial Services Technology*, *Query date: 2025-01-13 22:06:23*, 7-43. https://doi.org/10.1007/978-3-030-96217-3_2

Ranabahu, N. (2023). A Preliminary Comparison of Two Ecosystems: Fintech Opportunities and Challenges for Financial Inclusion. *Palgrave Studies in Financial Services Technology*, *Query date: 2025-01-13 22:06:23*, 243-266. https://doi.org/10.1007/978-3-031-23069-1_10

Siska, E. (2022). Financial Technology (FinTech) and Its Impact on Financial Performance of Islamic Banking. *ARBITRASE: Journal of Economics and Accounting*,*2* (3). https://doi.org/10.47065/arbitrase.v2i3.338

Ukonu, G. (2024). *A Statistical Modelling Approach to Assessing the Determinants of FinTech Innovation and Its Impact on Financial Development in Hong Kong*. *Query date: 2025-01-13 22:06:23.* https://doi.org/10.21203/rs.3.rs-5390248/v1

Walker, T., Nikbakht, E., & Kooli, M. (2023). Fintech and Banking: An Overview. *Palgrave Studies in Financial Services Technology*, *Query date: 2025-01-13 22:06:23*, 1-8. https://doi.org/10.1007/978-3-031-23069-1_1

Wekke, I. S. (2020). *Qualitative Research Design*. *Query date: 2024-05-25 20:59:55.* https://doi.org/10.31219/osf.io/4q8pz

Williams, J. (2021). Conclusion: Fintech-A Perfect Day or Walk on the Wild Side? *Palgrave Studies in Financial Services Technology*, *Query date: 2025-01-13 22:06:23*, 283-313. https://doi.org/10.1007/978-3-030-81835-7_11

Zlatokrilov, L. S.-. (2023). Do words create reality? The development of fintech-banking as seen in financial reports. *SSRN Electronic Journal*, *Query date: 2025-01-13 22:06:23.* https://doi.org/10.2139/ssrn.4592304