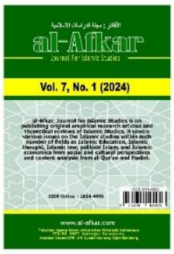


AL-AFKAR: Journal for Islamic Studies
Journal website: https://al-afkar.com

P-ISSN : 2614-4883; E-ISSN : 2614-4905
https://doi.org/10.31943/afkarjournal.v7i1.898

Vol. 7 No. 1 (2024).
pp. 882-893

Research Article

# The Role Of Financial Technology In Increasing Islamic Financial Inclusion: Analysis Of Potential And Challenges

**Ceta Indra Lesmana[1], Lestari Budianto[2]**

1. Universitas K. H. Abdul Chalim, Mojokerto; ceta@ikhac.ac.id
2. Universitas K. H. Abdul Chalim, Mojokerto; antobuddy104@yahoo.com



Received : October 12, 2023
Revised : November 26, 2023
Accepted : December 17, 2023
Available online : January 23, 2024

**How To Cite:** Ceta Indra Lesmana and Lestari Budianto (2024) “The Role Of Financial Technology In Increasing Islamic Financial Inclusion: Analysis Of Potential And Challenges”, *al-Afkar, Journal For Islamic Studies*, 7(1), pp. 882–893. doi: 10.31943/afkarjournal.v7i1.898.

**Abstract.** This research aims to find out the role of financial technology in increasing Islamic financial inclusion. The method used in this research is a descriptive qualitative method with a type of literature study research obtained from sources related to research, such as books, journals and websites which are processed into research material. The research results show that the potential and challenges of financial technology can increase Islamic financial inclusion, where there are various financial technologies that have the potential to improve finances: first, Mobile Banking and Financial Applications. Second, Sharia Payment Gateways. Third, Peer-to-Peer Lending. Fourth, Sharia Crowdfunding. Fifth, Blockchain and Smart Contracts. Apart from that, the challenges in increasing Islamic financial inclusion are: first, awareness and education. Second, supporting regulations. Third, Technology and Infrastructure. Fourth, security and data protection.

**Keywords**: Financial Technology, Financial Inclusion, Potential and Challenges.

**Abstrak.** Penelitian ini bertujuan untuk mengetahui peran teknologi finansial dalam meningkatkan inklusi keuangan syariah. Metode yang digunakan dalam penelitian ini adalah metode deskriptif kualitatif dengan jenis penelitian studi literatur yang diperoleh dari sumber-sumber yang berkaitan dengan penelitian, seperti buku, jurnal dan website yang diolah menjadi bahan penelitian. Hasil penelitian menunjukkan bahwa potensi dan tantangan teknologi keuangan dapat meningkatkan inklusi keuangan syariah, dimana terdapat berbagai teknologi keuangan yang berpotensi meningkatkan keuangan: pertama, Mobile Banking dan Aplikasi Keuangan. Kedua, Gateway Pembayaran Syariah. Ketiga, Pinjaman Peer-to-Peer. Keempat, Crowdfunding Syariah. Kelima, Blockchain dan Kontrak Cerdas. Selain itu, tantangan dalam meningkatkan inklusi keuangan syariah adalah: pertama, kesadaran dan pendidikan. Kedua, peraturan pendukung. Ketiga, Teknologi dan Infrastruktur. Keempat, keamanan dan perlindungan data.

**Kata Kunci**: Teknologi Keuangan, Inklusi Keuangan, Potensi dan Tantangannya

## INTRODUCTION

The increasingly rapid growth of sharia banking is a challenge in itself for sharia banks. With the existence of sharia financial institutions, they are required to be able to adapt to market needs because the majority of the population is Muslim. However, looking at sharia financial inclusion in Indonesia it is still quite low. This is proven by data from the Financial Services Authority (OJK) in 2016 which recorded that sharia financial literacy was around 8.11% and sharia financial inclusion was around 11.06%. This happened because Several factors include lack of good service, lack of literacy about Islamic banking, problems with Sharia compliance and other problems. (Wang & Zhan, 2020)

In the modern era like now, technology can be used to develop potential in all fields, one of which is in the banking sector. Sharia banks can apply sharia-based Financial Technology (Fintech) as a tool to reach wider customers with the aim of increasing financial inclusion (Fajria, 2019; Nasfi, Yunimar, & Prawira, 2022; Nasfi, Yunimar, Prawira, et al., 2022). With the presence of Financial Technology (Fintech), it is hoped that it will make it easier and closer for customers to access sharia banking service products. Not only that, customers can also apply for financing directly without having to come to branch offices.

The sharia banking services in question are digital banking such as mobile banking and internet banking which have proven successful in expanding service coverage and overcoming geographical challenges (Alalwan et al., 2017; Hadi et al., 2021; Hassan & Nika, 2022; Rahmiati et al., 2022). This is proven by data from the Indonesian Internet Service Providers Association (APJII) that Indonesians are connected to the internet. around 132.7 million, thanks to infrastructure developments and the ease of obtaining smartphones or handheld devices. This figure has increased rapidly from 2014 which only reached 88 million people. The banking industry sees this gap, moves forward and collaborates to improve systems, strategies and functions, so that the public can prove that transactions with the help of technology are easy and fast. On the other hand, this is also confirmed by the Financial Services Authority (OJK) which announced the number of customer users e-banking (SMS banking, telephone banking, mobile banking and internet banking) increased by 270% from

13.6 million customers in 2012 to 50. million customers in 2016. Meanwhile, the transaction frequency of e-banking users increased by 169% from 150.8 million transactions in 2012 to 405 million transactions in 2016.

Based on the data above, it is concluded that Islamic banks can use technology as an effort to increase financial literacy. Therefore, the author is interested in studying in more depth the role of financial technology in increasing Islamic financial inclusion: analysis of potential and challenges.

## Financial Inclusion

Financial inclusion is a critical aspect of economic development and social progress. It refers to the availability and accessibility of financial services to all individuals and businesses, regardless of their income level or location. In recent years, it has gained significant attention as a key driver of poverty reduction and economic growth (Ozturk & Ullah, 2022; Xun et al., 2020; Younas et al., 2022). This essay explores the importance of financial inclusion, its benefits, and the challenges that need to be addressed to achieve it.

Financial inclusion plays a pivotal role in poverty alleviation and economic development. It empowers individuals and households by providing them with access to essential financial services such as savings, credit, insurance, and payment systems. When people can save money, access credit for investments, and protect themselves against financial shocks, they are better equipped to improve their standard of living and break the cycle of poverty. Additionally, it stimulates entrepreneurship and job creation, contributing to economic growth and stability.

One of the most significant benefits of financial inclusion is its potential to reduce income inequality. In many developing countries, a significant portion of the population lacks access to formal financial services, forcing them to rely on informal and often expensive financial alternatives (Kaya, 2022; Ozturk & Ullah, 2022; Ranabhat et al., 2022; Zeqiraj et al., 2022). This disparity in access exacerbates income inequality, as those with limited access to financial services are often excluded from economic opportunities and are unable to build assets. By providing financial services to underserved populations, financial inclusion can help level the playing field and promote a more equitable distribution of wealth.

Furthermore, financial inclusion has a positive impact on economic stability. A well-functioning financial system with broad access to financial services can absorb economic shocks more effectively. When people have access to savings and insurance products, they can better weather financial crises and reduce the burden on social safety nets. This resilience contributes to the overall stability of the economy. Despite its numerous benefits, achieving financial inclusion remains a challenge in many parts of the world. Several barriers stand in the way of universal access to financial services. These barriers include limited infrastructure in rural areas, high transaction costs, regulatory hurdles, and low financial literacy (Ajide, 2021; Kim, 2022; Kulkarni & Ghosh, 2021). Addressing these challenges requires a multi-pronged approach involving governments, financial institutions, and civil society organizations.

Governments play a crucial role in promoting financial inclusion through policy initiatives and regulatory reforms. They can create an enabling environment by simplifying regulations, encouraging the use of technology, and supporting financial education programs. Moreover, governments can develop targeted programs to reach marginalized and remote populations, such as subsidies for the establishment of financial service providers in underserved areas. Financial institutions also have a significant role to play in expanding financial inclusion. They can innovate by offering affordable and accessible financial products tailored to the needs of low-income and unbanked populations. The adoption of digital financial services, including mobile banking and digital wallets, has proven to be a game-changer in reaching remote and underserved areas. Financial education and literacy programs are essential components of any strategy to promote financial inclusion (Harmadji et al., 2022; Mouna & Jarboui, 2022; Nair & Jain, 2022; Noreen et al., 2022). These programs empower individuals with the knowledge and skills needed to make informed financial decisions, manage their finances effectively, and access financial services with confidence.

In conclusion, financial inclusion is not just a matter of access to financial services; it is a powerful tool for poverty reduction, economic growth, and social equity. By breaking down the barriers that limit access to financial services and promoting financial education, governments, financial institutions, and civil society organizations can work together to bring about a more inclusive and prosperous future for all. Financial inclusion is not only a moral imperative but also a sound economic strategy that benefits societies as a whole.

**Financial Technology**

Financial Technology, often abbreviated as FinTech, represents a paradigm shift in the world of finance. It encompasses a wide range of innovative digital solutions and technologies that are disrupting traditional financial systems and reshaping the way individuals and businesses manage their finances (Collevecchio et al., 2023; Gupta et al., 2023). This essay explores the evolution, impact, and future potential of FinTech in the financial landscape. FinTech has emerged as a response to the limitations of traditional banking and financial services. Historically, these services were often characterized by slow processes, high fees, limited accessibility, and a lack of transparency. FinTech companies have harnessed technological advancements to address these issues, providing consumers and businesses with faster, more cost-effective, and convenient financial solutions.

One of the most significant contributions of FinTech is financial inclusion. By leveraging mobile devices and the internet, FinTech companies have reached underserved populations in remote areas, offering them access to banking and payment services that were previously unavailable (Asif et al., 2023; Gupta et al., 2023; Mutamimah & Indriastuti, 2023; Ozili, 2023). This has the potential to bridge the financial gap, reduce income inequality, and empower individuals economically. Furthermore, FinTech has revolutionized the way payments are made and received. Mobile payment platforms and digital wallets have become ubiquitous, enabling secure and instant transactions without the need for physical cash. Cryptocurrencies, such as Bitcoin, have also gained prominence as alternative forms of digital currency, challenged traditional fiat currencies and opened up new avenues for global financial transactions.

The lending landscape has also been transformed by FinTech. Peer-to-peer lending platforms, also known as P2P lending, have disrupted traditional banks by connecting borrowers directly with individual or institutional investors (Siek & Sutanto, 2019). These platforms streamline the lending process, reduce bureaucracy, and often offer better interest rates for borrowers and higher returns for investors. Robo-advisors are another FinTech innovation that has democratized investment services. These automated platforms use algorithms and artificial intelligence to provide personalized investment advice and portfolio management at a fraction of the cost of traditional financial advisors. They cater to a broader audience, making investing more accessible and affordable for retail investors.

Blockchain technology, which underlies cryptocurrencies, has the potential to revolutionize various industries, including finance. Blockchain offers transparency, security, and immutability in transactions and record-keeping, reducing the risk of fraud and enhancing the efficiency of financial processes like cross-border payments, supply chain finance, and smart contracts (Cai et al., 2023; Pu & Lam, 2023; Raddatz et al., 2023). However, the growth of FinTech is not without its challenges. Regulatory frameworks need to catch up with the rapid pace of innovation to ensure consumer protection and financial stability. Issues related to data security and privacy also require careful consideration as FinTech relies heavily on personal and financial data. In conclusion, FinTech is reshaping the financial landscape, offering innovative solutions that cater to the evolving needs of individuals and businesses. It promotes financial inclusion, simplifies payments, democratizes lending and investing, and explores the potential of blockchain technology. While it brings tremendous opportunities, it also requires careful regulation and consideration of ethical and security concerns. The continued development of FinTech has the potential to drive economic growth, enhance financial stability, and empower individuals to take greater control of their financial futures.

## RESEARCH METHOD

The qualitative descriptive research method employed in this study, titled "The Role of Financial Technology in Increasing Islamic Financial Inclusion: Analysis of Potential and Challenges," is designed to systematically investigate how financial technology contributes to Islamic financial inclusion. Descriptive qualitative research is chosen when a deep, nuanced understanding of complex phenomena is needed (Legowo et al., 2021; Marginingsih, 2021). It excels in capturing rich, detailed data through methods like interviews and observations. Its flexibility adapts to evolving research questions, offering contextual insights that inform practical applications and decision-making across diverse fields. This method prioritizes participant perspectives, ensuring authenticity and ethical considerations in research (Arntson & Yoon, 2023; Opara et al., 2023). The primary data source for this research comprises a comprehensive review of literature, encompassing academic papers, books, journals, reports, and reputable websites in the fields of Islamic finance and financial technology. The overarching objectives are to elucidate the role of financial technology, identify potential opportunities for further integration, and analyze the associated challenges within the context of Islamic financial inclusion.

Data collection involves methodical keyword-based searches in academic databases and libraries to select pertinent literature, which is then cataloged to extract key findings, methodologies, and publication details. Thematic coding and content analysis are employed to identify recurring themes and insights, leading to the development of a conceptual framework that illustrates the relationships between various elements. The research outcomes include descriptive findings on the role of financial technology, a discussion of identified themes and challenges, and the presentation of the conceptual framework. Furthermore, the research addresses ethical considerations, such as proper citation and adherence to copyright regulations, throughout the research process. Ultimately, the findings will be shared with policymakers, financial institutions, and industry practitioners through academic journals, conference presentations, and distribution to relevant stakeholders. This qualitative descriptive research method serves as a comprehensive exploration of the interplay between financial technology and Islamic financial inclusion, providing insights into opportunities and challenges, with a focus on literature studies as the primary data source.

## RESULTS AND DISCUSSION

### The Potential of Financial Technology in Increasing Islamic Financial Inclusion

With rapid technological developments, especially in the financial sector, new opportunities are opening up to expand access and participation of Muslim communities in sharia-compliant financial services. There are various financial technologies that are currently continuing to develop, from these financial technologies we can see that there is a lot of potential that financial technology has in increasing Islamic financial inclusion.

#### *Mobile Banking and Financial Applications*

Mobile banking and financial applications have great potential in increasing financial inclusion, especially among communities previously difficult to reach by conventional banking services. The following is an analysis of the potential of mobile banking and financial applications in increasing financial inclusion such as Better Accessibility. Through mobile banking and financial applications, individuals can access financial services anytime and anywhere using their devices. This allows easier access and flexibility for those who live in remote areas or do not have physical access to a bank.

Apart from this, using Mobile Banking transactions will be easier to carry out. With mobile banking and financial apps, individuals can perform various transactions such as fund transfers, bill payments, product purchases, and more quickly and easily via their mobile devices. This allows efficiency and ease in managing daily finances. Furthermore, mobile banking and financial applications are generally equipped with sophisticated security systems, such as two-factor authentication and data encryption. This provides better protection of users' financial information and transactions, thereby increasing confidence in using the service.

***Sharia Payment Gateways***

Sharia payment gateways are electronic payment systems that comply with sharia principles in carrying out financial transactions. There is a lot of potential for Sharia Payment Gateways in increasing financial inclusion, such as increasing accessibility. Sharia payment gateways can provide easier and more inclusive access for Muslim communities who want to carry out financial transactions in accordance with sharia principles. By using sharia payment gateways, individuals can make payments and transfer funds online easily and safely.

Apart from that, sharia payment gateways ensure that transactions carried out through the system comply with sharia principles, such as the prohibition of usury. This gives confidence and confidence in users that the transactions they carry out do not violate sharia principles. Sharia payment gateways also provide various features and services that make it easier for users to carry out financial transactions. Users can make bill payments, transfer funds, purchase products, and others quickly and easily through the platform provided.

Sharia payment gateways are generally equipped with sophisticated security systems, such as data encryption and strong authentication. This provides protection for users' financial information and personal data, thereby increasing confidence in using the service. The use of sharia payment gateways can support the development of the sharia economy by encouraging financial transactions that comply with sharia principles. This can strengthen the sharia economic ecosystem and encourage the growth of sharia-based economic sectors.

***Peer-to-Peer Lending***

Peer-to-Peer (P2P) sharia lending is a financing model that connects lenders (investors) with borrowers through a sharia-based online platform. There is a lot of potential for Peer-to-peer landing in increasing financial inclusion, including easier access to financing, especially for those who find it difficult to meet financing requirements from conventional financial institutions. With the sharia P2P lending platform, individuals and micro businesses can apply for loans with a faster and simpler process.

Sharia peer-to-peer lending also provides alternative financing that is in accordance with sharia principles. Loans offered through this platform have gone through a strict screening and selection process to ensure compliance with sharia principles, such as the prohibition of usury and maisir. Apart from that, sharia peer-to-peer lending can help diversify sources of financing for small and medium entrepreneurs and individuals who need additional funds. In this case, investors can act as lenders who support business development and help people get the financing they need. Sharia peer-to-peer lending is usually equipped with security and consumer protection features, such as user identification processes, personal data protection, and regulations governing platform operations. This gives users confidence that their transactions are safe and carried out in accordance with sharia principles.

### *Sharia Crowdfunding*

Sharia crowdfunding is a financing model that involves community participation in raising funds for projects or business initiatives that comply with sharia principles. With the existence of fin-tech, sharia crowdfunding can expand financial reach to people who do not yet have access to formal financial institutions. This allows people from various backgrounds and geographical locations to participate in financing projects or businesses that interest them. Apart from that, sharia crowdfunding provides opportunities for entrepreneurs and innovators to develop new ideas and innovative projects. With financial support from the community, individuals or groups can realize their ideas which have the potential to provide social and economic benefits.

### *Blockchain and Smart Contracts*

Blockchain and smart contracts are technologies that have great potential in increasing financial inclusion in an innovative and efficient way. Blockchain provides a secure and transparent infrastructure for carrying out financial transactions. In the context of financial inclusion, this means that individuals and businesses can carry out transactions with more confidence, because the data recorded in the blockchain cannot be manipulated and can be accessed by all participating parties. Smart contracts linked to blockchain also ensure that all transaction conditions and requirements are met automatically, reducing risk and increasing security.

Blockchain and smart contracts can reduce the costs and time associated with financial transactions. By eliminating intermediaries or intermediary institutions that require additional fees, individuals can conduct transactions directly with each other at lower costs. Additionally, smart contracts enable process automation, reducing the need to involve third parties and reducing the time required to complete transactions. In some cases, blockchain and smart contracts can provide access to financial services to those who were previously unable to access them. For example, by using blockchain-based digital identities, individuals who do not have official identity documents can prove their identity and gain access to financial services. This helps increase financial inclusion for those who are marginalized.

## Financial Technology Challenges in Increasing Islamic Financial Inclusion

It needs to be understood that Islamic financial inclusion seeks to ensure that all Muslim individuals and communities have fair and equitable access to financial services that are in accordance with the principles of Islamic law. Financial technology or fintech has great potential to increase Islamic financial inclusion by providing innovative solutions that can serve society. However, in this case there are several challenges that need to be overcome so that financial technology can effectively increase Islamic financial inclusion.

### *Awareness and Education*

One of the biggest challenges is increasing awareness about Islamic financial products and services. Many people do not have an adequate understanding of sharia principles or an understanding of how these Islamic financial products can provide solutions for them. In addition, comprehensive education on Islamic financial products and services needs to be provided to address this knowledge gap.

In this challenge, greater efforts are needed in education and increasing awareness about the concepts and values of Islamic finance, as well as the benefits and potential of Islamic financial products. Apart from that, the government, financial institutions and educational institutions can play an important role in providing education and training to the public to understand the importance of Islamic financial products and services.

### *Supportive Regulations*

Financial technology requires a clear and supportive regulatory framework to facilitate the development and operationalization of Islamic financial products. Comprehensive regulations that comply with sharia principles are very important to ensure that financial products offered through fintech meet Islamic financial standards. The existence of strong and clear regulations will give people confidence to use sharia-based fintech services.

### *Technology and Infrastructure*

In increasing Islamic financial inclusion, adequate digital infrastructure is needed. This infrastructure includes extensive internet access and technology that supports digital-based financial transactions. In some countries, especially in rural areas, internet access and technological infrastructure are still relatively limited. Therefore, building a strong digital infrastructure is a major challenge.

Adequate technological infrastructure is another challenge in increasing Islamic financial inclusion through fintech. The development of financial technology in accordance with sharia principles requires investment in sophisticated and secure technological infrastructure. This can involve providing broad internet access, reliable digital financial infrastructure, as well as adequate data security and privacy.

### *Security and Data Protection*

In the digital era, data security and privacy have become very important. In this case, fintech must ensure adequate protection of the user's personal and financial data. Data leaks or misuse of personal information can destroy public trust in fintech and hinder the use of financial technology in Islamic financial inclusion. Trust is a key factor in Islamic finance. The public needs to be sure that the financial products they use comply with sharia principles and have a high level of transparency. Therefore, it is important for fintech platforms to ensure that they maintain a high level of trust by providing clear and transparent information about the sharia principles applied and ensuring that their operations comply with established sharia standards.

## CONCLUSION

From the description above, it can be concluded that financial technology (fintech) has great potential in increasing Islamic financial inclusion. Fintech has presented innovative and efficient solutions in providing sharia-based financial services to Muslim communities throughout the world. Through digital banking applications, electronic payment platforms and other technology-based financial services, fintech helps overcome barriers to financial access commonly experienced by Muslim communities. Islamic financial inclusion can provide significant benefits to the Muslim economy and society as a whole. By increasing access to financial products and services that comply with sharia principles, Islamic financial inclusion can drive economic growth, reduce poverty, and strengthen social welfare. Financial technology is the key to realizing Islamic financial inclusion in an effective way.

Even though it has great potential, the development of financial technology for Islamic financial inclusion is also faced with several challenges. One of the main challenges is integrating sharia principles into fintech solutions as a whole. A deep understanding of sharia law and a clear regulatory framework is required to ensure that the fintech products and services provided comply with sharia principles. Apart from that, the problem of financial literacy is also an obstacle in increasing Islamic financial inclusion through financial technology. Muslim communities need to have sufficient understanding of sharia-based financial products and services and the ability to use financial technology to make optimal use of them. Educational efforts and awareness of the importance of Islamic financial inclusion need to be increased as a whole.

## BIBLIOGRAPHY

Ajide, F. M. (2021). Shadow economy in Africa: how relevant is financial inclusion? *Journal of Financial Regulation and Compliance*, *29*(3). https://doi.org/10.1108/JFRC-10-2020-0095

Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. *International Journal of Information Management*, *37*(3). https://doi.org/10.1016/j.ijinfomgt.2017.01.002

Arntson, C. L., & Yoon, M. N. (2023). Participant Directed Mobile Interviews: A Data Collection Method for Conducting In-Situ Field Research at a Distance. *International Journal of Qualitative Methods*, *22*. https://doi.org/10.1177/16094069231188254

Asif, M., Khan, M. N., Tiwari, S., Wani, S. K., & Alam, F. (2023). The Impact of Fintech and Digital Financial Services on Financial Inclusion in India. *Journal of Risk and Financial Management*, *16*(2). https://doi.org/10.3390/jrfm16020122

Cai, C., Hao, X., Wang, K., & Dong, X. (2023). The Impact of Perceived Benefits on Blockchain Adoption in Supply Chain Management. *Sustainability (Switzerland)*, *15*(8). https://doi.org/10.3390/su15086634

Collevecchio, F., Cappa, F., Peruffo, E., & Oriani, R. (2023). When do M&As with Fintech Firms Benefit Traditional Banks? *British Journal of Management*. https://doi.org/10.1111/1467-8551.12701

Fajria, R. N. (2019). Potensi Sinergitas Fintech Dengan Bank Syariah Dalam Meningkatkan Kinerja Perbankan Syariah Di Indonesia. *MALIA: Journal of Islamic Banking and Finance*, *3*(2). https://doi.org/10.21043/malia.v3i2.8450

Gupta, K., Wajid, A., & Gaur, D. (2023). Determinants of continuous intention to use FinTech services: the moderating role of COVID-19. *Journal of Financial Services Marketing*. https://doi.org/10.1057/s41264-023-00221-z

Hadi, J., Huafei, W., Khan, M., Abdulrab, M., & Yan, Z. (2021). THE IMPACT OF MOBILE BANKING APPLICATION ON CLIENT INTERACTION WITH YEMEN BANKS. *International Journal of Business Strategies*, *6*(1). https://doi.org/10.47672/ijbs.729

Harmadji, D. E., Yuliana, R., Arifin, R., & Putri, A. K. (2022). The Role of Government, Financial Literacy, and Inclusion on the Financial Performance of MSMEs in Malang City. *Jurnal Keuangan Dan Perbankan*, *26*(3).

Hassan, J., & Nika, F. A. (2022). Emerging Market & Mobile Technology Usage: Evaluating intention to use Mobile Banking in India. *Gurukul Business Review*, *18*(1). https://doi.org/10.48205/gbr.v18.6

Kaya, E. (2022). How does financial performance affect financial inclusion for developing countries? *Journal of Sustainable Finance and Investment*. https://doi.org/10.1080/20430795.2022.2090310

Kim, K. (2022). Assessing the impact of mobile money on improving the financial inclusion of Nairobi women. *Journal of Gender Studies*, *31*(3). https://doi.org/10.1080/09589236.2021.1884536

Kulkarni, L., & Ghosh, A. (2021). Gender disparity in the digitalization of financial services: challenges and promises for women's financial inclusion in India. *Gender, Technology and Development*, *25*(2). https://doi.org/10.1080/09718524.2021.1911022

Legowo, M. B., Subanidja, S., & Sorongan, F. A. (2021). FINTECH AND BANK: PAST, PRESENT, AND FUTURE. *Jurnal Teknik Komputer*, *7*(1). https://doi.org/10.31294/jtk.v7i1.9726

Marginingsih, R. (2021). Financial Technology (Fintech) Dalam Inklusi Keuangan Nasional di Masa Pandemi Covid-19. *Moneter - Jurnal Akuntansi Dan Keuangan*, *8*(1). https://doi.org/10.31294/moneter.v8i1.9903

Mouna, A., & Jarboui, A. (2022). Understanding the link between government cashless policy, digital financial services and socio-demographic characteristics in the MENA countries. *International Journal of Sociology and Social Policy*, *42*(5–6). https://doi.org/10.1108/IJSSP-12-2020-0544

Mutamimah, M., & Indriastuti, M. (2023). Fintech, financial literacy, and financial inclusion in Indonesian SMEs. *International Journal of Entrepreneurship and Innovation Management*, *27*(1–2). https://doi.org/10.1504/IJEIM.2023.129331

Nair, J., & Jain, M. K. (2022). Unbanked to banked: reintermediation role of banks in e-government services for financial inclusion in an Indian context. *Journal of Asia Business Studies*, *16*(2). https://doi.org/10.1108/JABS-10-2020-0420

Nasfi, N., Yunimar, Y., & Prawira, A. (2022). The Role Of Fintech In Sharia Rural Bank West Sumatra. *International Journal of Social and …*, *02*(03).

Nasfi, N., Yunimar, Y., Prawira, A., Aziz, Z., & … (2022). Fintech Supporting Sharia Rural Bank. *Journal of Industrial …*, *3*(1).

Noreen, M., Mia, M. S., Ghazali, Z., & Ahmed, F. (2022). Role of Government Policies to Fintech Adoption and Financial Inclusion: A Study in Pakistan. *Universal*

*Journal of Accounting and Finance*, *10*(1). https://doi.org/10.13189/ujaf.2022.100105

Opara, V., Spangsdorf, S., & Ryan, M. K. (2023). Reflecting on the use of Google Docs for online interviews: Innovation in qualitative data collection. *Qualitative Research*, *23*(3). https://doi.org/10.1177/14687941211045192

Ozili, P. K. (2023). CBDC, Fintech and cryptocurrency for financial inclusion and financial stability. *Digital Policy, Regulation and Governance* , *25*(1). https://doi.org/10.1108/DPRG-04-2022-0033

Ozturk, I., & Ullah, S. (2022). Does digital financial inclusion matter for economic growth and environmental sustainability in OBRI economies? An empirical analysis. *Resources, Conservation and Recycling*, *185*. https://doi.org/10.1016/j.resconrec.2022.106489

Pu, S., & Lam, J. S. L. (2023). The benefits of blockchain for digital certificates: A multiple case study analysis. *Technology in Society*, *72*. https://doi.org/10.1016/j.techsoc.2022.102176

Raddatz, N., Coyne, J., Menard, P., & Crossler, R. E. (2023). Becoming a blockchain user: understanding consumers' benefits realisation to use blockchain-based applications. *European Journal of Information Systems*, *32*(2). https://doi.org/10.1080/0960085X.2021.1944823

Rahmiati, R., Susanto, P., Hasan, A., & Pujani, V. (2022). Understanding Use Behavior in Mobile Banking: An Extended of UTAUT Perspective. *AFEBI Management and Business Review*, *7*(1). https://doi.org/10.47312/ambr.v7i01.555

Ranabhat, D., Verma, N., Kumar, D., & Siringoringo, H. (2022). The adoption of digital financial inclusion in developing countries: a systematic literature review. *International Journal of Electronic Finance*, *11*(2). https://doi.org/10.1504/IJEF.2022.122178

Siek, M., & Sutanto, A. (2019). Impact Analysis of Fintech on Banking Industry. *Proceedings of 2019 International Conference on Information Management and Technology, ICIMTech 2019*. https://doi.org/10.1109/ICIMTech.2019.8843778

Wang, W., & Zhan, J. (2020). The relationship between english language learner characteristics and online self-regulation: A structural equation modeling approach. *Sustainability (Switzerland)*, *12*(7), 1–24. https://doi.org/10.3390/su12073009

Xun, Z., Guanghua, W., Jiajia, Z., & Zongyue, H. (2020). Digital Economy, Financial Inclusion and Inclusive Growth. *China Economist*, *15*(3).

Younas, Z. I., Qureshi, A., & Al-Faryan, M. A. S. (2022). Financial inclusion, the shadow economy and economic growth in developing economies. *Structural Change and Economic Dynamics*, *62*. https://doi.org/10.1016/j.strueco.2022.03.011

Zeqiraj, V., Sohag, K., & Hammoudeh, S. (2022). Financial inclusion in developing countries: Do quality institutions matter? *Journal of International Financial Markets, Institutions and Money*, *81*. https://doi.org/10.1016/j.intfin.2022.101677