ANALISIS SWOT DALAM OPTIMALISASI FINANCIAL TECHNOLOGY DI KOPERASI SYARIAH UNTUK MENINGKATKAN INKLUSI KEUANGAN SYARIAH

(SWOT ANALYSIS IN OPTIMIZING FINANCIAL TECHNOLOGY IN ISLAMIC COOPERATIVE TO INCREASE ISLAMIC FINANCIAL INCLUSION)

Sri Cahyaning Umi Salama*, Afifah Nur Millatina
Fakultas Agama Islam, Universitas Muhammadiyah Malang
Malang, Jawa Timur, Indonesia
Email: scumisalama@umm.ac.id

Abstrak

Financial technology memiliki potensi besar dalam memperluas akses keuangan bagi masyarakat, terutama bagi anggota Baitul Maal wa Tamwil dan koperasi syariah. Namun, implementasi micro-fintech (fintech di Lembaga keuangan mikro) masih menghadapi berbagai tantangan, seperti keterbatasan adopsi teknologi, regulasi, serta persaingan dengan fintech konvensional. Penelitian ini bertujuan untuk menganalisis strategi optimalisasi financial technologi pada Lembaga keuangan mikro syariah untuk meningkatkan inklusi keuangan syariah di Indonesia dengan menggunakan pendekatan analisis SWOT. Penelitian ini merupakan penelitian kualitatif dengan Teknik pengumpulan data melalui observasi dan studi literatur. Berdasarkan hasil analisis SWOT, strategi optimalisasi micro-fintech dapat dilakukan dengan mengembangkan platform digital yang lebih inklusif, meningkatkan edukasi dan literasi digital bagi anggota, serta memperkuat Kerjasama dengan berbagai pihak, termasuk pemerintah dan Lembaga keuangan syariah. Dengan strategi yang tepat, implementasi micro-fintech di BMT dapat semakin efektif dalam meningkatkan inklusi keuangan syariah di Indonesia.

Kata Kunci: micro-fintech, Baitul maal wa tamwil, inklusi keuangan syariah, digitalisasi keuangan

Abstract

Financial technology has great potential to enhance financial accessibility, particularly for members of Baitul Maal wa Tamwil (BMT) or Islamic cooperatives. However, the adoption of micro-fintech (fintech in microfinance institutions) still faces various challenges, such as limited adoption of technology, regulations, and competition with conventional fintech. This study aims to analyze the strategy of optimizing financial technology in Islamic microfinance institutions to increase Islamic financial inclusion in Indonesia using the SWOT analysis approach. This study is a qualitative study with data collection techniques through observation and literature studies. Based on the results of the SWOT analysis, the strategy for optimizing micro-fintech can be carried out by developing a more inclusive digital platform, increasing education and digital literacy for members, and strengthening cooperation with various parties, including the government and Islamic financial institutions. With the right approach, micro-fintech implementation in BMT can be more effective in increasing islamic financial inclusion in Indonesia.

***Keywords**: micro-fintech, Baitul maal wa tamwil, Islamic financial inclusion, financial digitalization.*

Introduction

Technology develops rapidly and has a significant impact on various sectors, including the financial sector. Financial Technology (fintech) is one of the innovations that emerged from this technology. The existence of fintech provides convenience in accessing financial services digitally (Eickhoff, 2018).

The origin of fintech can be traced back to the introduction of credit cards in the 1960s, and has evolved to the emergence of blockchain technology. According to Boot (2021), fintech as the putcome of technological anf financial innovation, with the potential to enhance the efficiency and accessibility of financial services (Bernards, 2019).

Fintech not only has an impact on the economy at the micro level, but also at the macro level. Fintech has a significant impact on the exchange rate and inflation rate in Indonesia. In addition, fintech can also reduce inflation and delay the weakening of the exchange rate (Narayan & Sahminan, 2018).

In Indonesia, the development of fintech is very rapid, especially in the Islamic financial sector, both in the form of banking and non-banking. Islamic Microfinance Institutions (IMFI/BMT) are one of the Islamic financial

institutions that have currently begun to develop their financial technology, hereinafter referred to as "micro-fintech" (Ascarya & Sakti, 2022; Visconti, 2020). BMT has an important role in the economy of the lower middle class through sharia-based microfinance services (Ajija et al., 2018). However, limited accessibility and operational efficiency are the main challenges faced by BMT. Therefore, micro-fintech is a strategic solution that can increase access to financial services, expand customer networks, and improve service quality. Currently, micro-fintech in Indonesia comes in many forms, namely website and application-based. Application-based micro-fintech can currently be found on the Appstore and Playstore.

The micro-fintech needed by BMT is for digital payments, p2p financing, p2p social and e-commerce, which can be developed by BMT itself, APEX, BMT organizations, fintech companies that are already experts in the field that is usually done offline using an online approach, while for collecting ziswaf funds can be done online (Ascarya & Sakti, 2022; Haidar, 2021). The financial transaction features in mirofintech are different from banking fintech facilities. In micro-fintech, you can only make financial transfers between accounts in one BMT or cooperative, not across BMTs. Other facilities available are payments for water, electricity, credit purchases, and ziswaf payments.
Not all BMTs provide micro-fintech facilities for their members and not all micro-fintechs are also available on all system platforms, for example, there are a number of micro-fintechs that are only available on Android but not on iOS. Based on search results on the Playstore, there are approximately 46 BMTs out of thousands of BMTs in Indonesia that have provided micro-fintech. However, there are only no more than five BMTs that develop on iOS or on both platforms.

The success of a fintech application is not only determined by the features offered to its users, but also seen from user satisfaction and perception. User reviews on the Google Playstore and Apple Appstore are one of the important indicators for measuring user experience with the application. These reviews reflect various aspects such as ease of use, completeness of features, security, reliability, and compliance with sharia principles.

Research that analyzes user reviews to evaluate islamic fintech applications is still very limited. Previous research has been conducted by Isa and Suryomurti who analyzed sentiment on the perception of islamic fintech in Indonesia (Isa & Suryomurti, 2023). The study shows that Indonesian people give a positive response to the development of islamic fintech. In addition, there is a study using VOSViewer and SenStrenght using secondary data using 71 papers published over a period of 5 years and 50 respondent questionnaires which show that people tend to give a positive response to islamic fintech (Isa & Suryomurti, 2023). Other studies were also conducted to analyze sentiment on the OVO and Mint e-wallets with results showing that satisfaction with using OVO and Mint (Khan et al., 2023). Sentiment analysis was also carried out on e-wallets in India using Analysis on e-wallet apps feedback. The majority of users gave quite negative sentiment and only a few gave positive sentiment (Kathiravan et al., 2021). Customer experience research in the fintech sector has also been conducted using the Stumulus-Organism-Response (S-O-R) approach which shows that perceived value, customer support, assurance, speed and perceived firm innovativeness have a significant influence on customer experience in fintech (Barbu et al., 2021). So far, fintech sentiment research is still around e-wallets and fintech developed by financial institutions in the form of banks, while fintech owned by BMT (micro-fintech) is still rarely studied. This research is expected to provide valuable insights into user needs and expectations, as well as help application developers to improve service quality. Therefore, this study aims to analyze user reviews of micro-fintech applications on Playstore and Appstor to evaluate the performance and implementation of sharia principles.

Theoretical Review

Micro-Fintech and Financial Inclusion

The digitalization of financial services has enabled micro-fintech to increase the efficiency and reach of services. Technologies such as big data and blockchain provide many important roles, such as increasing transaction security and operational efficiency.

Micro-fintech is an informal term used by a number of researchers to refer to fintech developed by MFIs (Ascarya & Sakti, 2022; Haidar, 2021). In other studies, the term fintech-micro is also used (Haidar, 2021). Both terms refer to the same thing, and in this study the term "micro-fintech" will be used.

Micro-fintech is a combination of microfinance and financial technology that aims to provide digital-based financial services to low-income communities, micro-enterprises, and communities who do not have access to banking finance (unbanked and underbanked). The services provided include micro loans, MFI member registration, financing payments, and other cooperative products.

Financial inclusion is an effort to ensure that all levels of society have access to affordable and quality financial services. Financial inclusion is influenced by the level of financial innovation, poverty rate, financial sector stability, economic conditions, financial literacy and financial regulations that differ in each country or region (Ozili, 2020). In Indonesia, many fintechs are in the form of cooperatives with permits from the OJK in terms of their operations, especially in fintech in the form of peer-to-peer lending. Meanwhile, other fintechs developed by cooperatives (conventional and sharia) that are not under the OJK only provide limited features for their members,

not as many as those under the supervision of the OJK. The OJK regulates in POJK number 77/POJK.01/2016 concerning financial services in the form of technology-based lending (fintech). The OJK collaborates with the Indonesian Ministry of Communication and Information and the Investment Alert Task Force to eradicate illegal fintech so as not to cause anxiety for the Indonesian people (Kamal & Ningsih, 2021).

SWOT Analysis

SWOT analysis is one of the business strategy tools in managing a company and comparing it with its competitors (Mercieca et al., 2019). The use of SWOT is not only used in organizations or companies, but can also be used to analyze individuals.

The four components of SWOT are used to identify internal and external factors. Strengths refer to internal elements of an organization to facilitate the achievement of goals, while weaknesses are internal elements that interfere with or hinder the success of the organization. Opportunities are external elements that help to achieve goals, which are not only seen from a positive environment but also analyze gaps and initiate new organizational activities. Challenges are aspects of the organization's external environment that are barriers to achieving organizational goals. Both academics and practitioners have applied SWOT as a strategic planning technique to develop organizations (Benzaghta et al., 2021).

Methods

Research Design

The study uses a qualitative approach with a case study method to analyze the optimization of micro-fintech in increasing Islamic financial inclusion in BMT in Indonesia. This approach is used because it is able to explore understanding related to opportunities, challenges, and strategies that can be applied in the development of micro-fintech in BMT (Bergin, 2018; Onwuegbuzie et al., 2012; Pomerantsev & Rodionova, 2021).

Data Type and Source

The data sources used are secondary data, in the form of documents, related regulations, and literature studies relevant to the research topic. The data collection technique used is a documentation study by collecting data from BMT, OJK regulations related to Islamic micro-fintech, and user reviews on mobile applications.

Population and Sample

In this study, 46 BMTs in Indonesia were used which developed their micro-fintech on mobile platforms (both iOS and Android).

Data Analysis Method

The data analysis technique used is to identify internal and external factors, compile SWOT, triangulate data, and draw conclusions. Data validity is carried out by triangulating data that compares the results of observations and documents obtained from various sources (Alexander & Saleeshya, 2022).

Hasil dan Pembahasan

Results

Baitul maal wa tamwil as an Islamic microfinance institution in Indonesia has great potential and function to reduce poverty and enhance society welfare (Yumna & Clarke, 2019). Indonesia has many BMTs spread throughout the country, both in urban and rural areas. In areas with a Muslim majority and dense population, there are more BMTs compared to areas with a small Muslim population or sparsely populated. This is due to the high demand for finance in the area.

Unlike banking financial institutions, there are still many BMTs in Indonesia that use traditional methods. The system that is not yet integrated with the internet makes member information access to their accounts limited.
Micro-fintech is basically nothing new. In a number of micro finance institutions, some have made it used only for its members. In this study, as many as 46 BMTs or KSPPS have been collected that have developed their fintech on the Appstore and Playstore.

Table 1. Availability of Islamic Micro-Fintech in the form of Applications

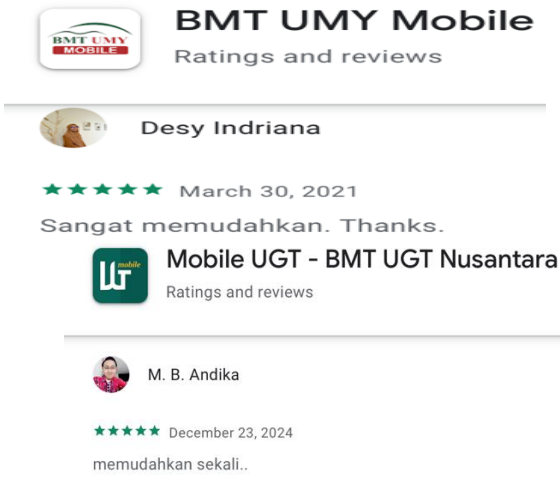
N = 46	
Platforms	Number of BMT
AppStore (IOS)	5
Playstore (Android)	46
Location	
Java	43
Outside Java	3

Source: Processed data

The majority of applications developed by BMT or Islamic Cooperatives are available on Playstore, or developed on Playstore (Android), while on Appstore there are still very few (only 10 percent). The small number of developers on AppStore (IOS) causes BMT members who do not have Android-based phones to be unable to access the application because BMTs that develop on Playstore (Android) are not necessarily. Developing on AppStore (IOS), while BMTs that develop on IOS also develop it on Playstore (Android). The majority of these BMTs come from Java, and only 7 percent come from outside Java, namely in South Sulawesi, South Sumatra, and Lampung.

Discussion

Based on the 46 BMT, a SWOT Analysis can be carried out with the following explanation:
The first strength is that it is easy to use. This is shown from the results of user reviews of the application which state that the available applications are quite easy to use.



Source: Playstore review of BMT UMY and BMT UGT Sidogiri applications. Accessed 10 Feb 2025

Figure 1. Review of User Ease of Islamic micro-fintech digital application

In addition to making it easier for members to access the features and financial products of the BMT, the existence of this BMT fintech can also be used to monitor or make installment payments for financing. This allows members to be more effective and efficient in making payments or viewing their financial history.

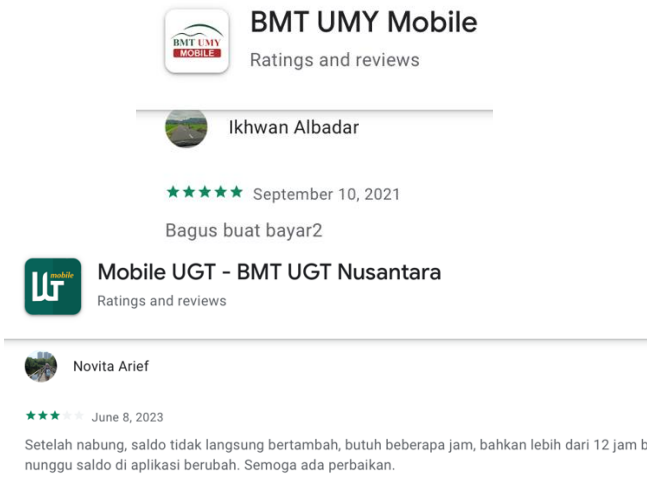


Figure 2. Users Review of Financial Features in the Islamic Micro-Fintech Application (BMT UMY Mobile and Bobile UGT)

The features provided in the BMT fintech application are quite numerous, such as savings information, savings mutations, financing history, deposit balances, purchases, payments, transfers, change pins, transaction archives, assistance, and deactivation. Transfers have different definitions, some can transfer to banks or just transfer between BMT member accounts.

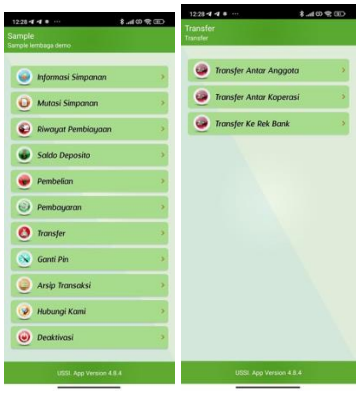


Figure 3. Financial Features in BMT Assakinah Online's Digital Application

In addition to the above, the strength of micro fintech is the existence of clear market segmentation. This is because the target users are cooperative members who are already involved in the islamic economic system, so it is easier to accept and use micro-fintech applications. Next is the analysis of the weaknesses of Islamic micro-fintech. A number of weaknesses were found in existing applications. First, there are still many BMT or BMTs that have not provided or developed their digital finance in the form of applications. This is indicated by only 46 BMTs that provide their applications, while the number of BMTs in Indonesia is around 4,500 units (KNEKS, 2023). However, many have been found to be website-based.

Figure 4. BMT Financial Access Services in the Form of a Website (BMT Mandiri Ukhuwah Persada)

Second, micro-fintech services are still not as complex as fintech issued by BMT or cooperatives under the supervision of OJK. Referring to Figure 3, the services provided by BMT in its application are all financial products originating from BMT itself. Financial access such as clearing, overseas transfers, e-wallets, mutual funds, bonds or sukuk are still not available. This is certainly related to licensing from OJK, while BMTs that develop their micro-fintech are only under the supervision of the Ministry of Cooperatives and SMEs (Septianingsih et al., 2024).

Third, the limited number of BMTs outside Java that develop micro-fintech. Based on the results of observations conducted on 46 micro-fintech applications on the Playstore or Appstore, there are only 3 BMTs from

outside Java that develop, namely BMT Al Ittifaqiah from South Sumatra, BMT As'adiyah from South Sulawesi, and BMT Fajar from Lampung, the rest are from Java.

Fourth, the lack of digital literacy in small BMTs. Not all BMTs have the resources and skills to adopt technology effectively. Although it is known that financial digitalization in BMTs is important, many are still unable to do so, both in terms of finance and human resources. In fact, many BMTs still record their financial transactions manually in books.

External factors appear in the form of opportunities and challenges. In micro-fintech in Indonesia, there are several opportunities that arise. First, there are many features that can still be developed in micro-fintech applications. Micro-fintech has advantages over other fintechs developed by other financial institutions, such as waqf. Many BMTs have permits as waqf nazhir. Therefore, this is a great opportunity for micro-fintech to optimize these products.

Second, there is regulatory and government support in relation to efforts to boost the digitalization of Islamic finance. The government, through KNEKS, is targeting at least 500 BMTs to be digitalized by 2024 (KNEKS, 2023). According to KNEKS, there are four stages towards BMT digitalization, namely understanding the minimum operational functions of BMT; development of management support system reporting and supervision; development of member services such as opening savings via mobile phones, online financing processes, and so on; and development of business aspects such as supply chain building a digital ecosystem.

Third, collaboration between Islamic banks and BMT in the development of micro-fintech. This can be in the form of convenience in financial transactions involving banks, such as transferring funds to banks, and other financial activities.

Although micro-fintech has a number of good benefits for institutions, members, and the economy, it still has a number of challenges that must be faced.

First, BMT with its unique characteristics that combine Baitul maal and Baitul tamwil, as well as the close relationship between management and members that does not exist in other Islamic financial institutions, with the presence of this micro-fintech will actually threaten this uniqueness (Wulandari et al., 2016). This is because the activeness of micro-fintech reduces the interaction between members and management. Members who usually need to come to the office to make payments or use products from BMT, access it more often via their mobile phones.

Second, the diverse background of members with a fairly wide age range means that not all members can use the application, which causes BMTs that have spent quite a lot of money to develop micro-fintech to be less effective. In addition, BMTs with a member profile from rural areas will also face challenges in socializing their applications to members who are not familiar with technology (Dow-Fleisner et al., 2022).

The next challenge is public sentiment towards the term fintech (Isa & Suryomurti, 2023; Kathiravan et al., 2021; Utami et al., 2022). Currently, the image of fintech in society is not very good because people assume that it is associated with illegal online loans so that people generalize that all fintech is the same, as well as micro-fintech.

Another challenge is big data security and regulatory compliance. It is undeniable that the data security factor is a sensitive issue for the public, especially after the incident of the leak of personal data of Indonesian people. Regulations made by the government regarding data security will be ignored (Hasan et al., 2022; Martupa et al., 2021; Riyadi, n.d.).

In addition, the problem of unequal digital infrastructure is also a challenge. Although internet users are now much more than five to ten years ago, in remote areas it is still not reached. This is also proven by the developers of existing micro-fintech applications (listed in Playstore and Appstore) the majority of which are in West Indonesia (especially in Java) and some are in Central Indonesia, while in East Indonesia there are none at all.

Strength:

1. Facilitates members in accessing BMT finances
2. Easy-to-use applications
3. Clear user segmentation

Weakness:

1. There are still many BMT that do not provide micro-fintech for their members
2. Micro-fintech services are still not as complex as the fintech issued
3. Only BMTs with large assets have micro-fintech applications or websites. Meanwhile, BMT or Islamic cooperatives with small assets still do not have
4. Limited distribution outside Java

Opportunity:

1. Many features can still be developed by micro-fintech
2. Unlike fintech banks, microfintech issued by BMT nazhir wakaf can manage waqf using micro-fintech
3. Government support
4. Collaboration with Islamic banks and fintech

Threat:

1. Making members not close to the managers who are unique to BMT
2. The diverse background of members with a fairly wide age range means that not all members can use the application. Especially older members.
3. Competition with conventional fintech
4. Security and regulatory compliance
5. Obstacles to technology adoption
6. Uneven digital infrastructure

Based on the SWOT analysis above, several strategies can be formulated as follows. First, internal strengthening strategy. This can be done by providing a more inclusive platform by increasing accessibility for all members, including BMTs with small assets. Another way is to hold training and education for users (BMT members) by holding routine training for members, especially the elderly or members who are not familiar with technology, so that they are more familiar with micro-fintech technology.
The second strategy is market development. This can be done by collaborating with Islamic banks and fintech for joint product development, sharing digital infrastructure, and expanding services to remote areas. In addition, it can also be done by encouraging innovation in new features by utilizing the differences between fintech and banking by presenting waqf and zakat management features based on micro-fintech. And, optimizing government support by encouraging regulations that support the development of Islamic fintech for BMTs with small assets, including assistance in developing digital infrastructure.

Third, threat mitigation strategy. This strategy can be done by maintaining the uniqueness of BMT in its digitalization process. One way is to develop an online consultation feature or hybrid system that allows members to interact directly with managers if they experience problems using the application or when they want to make financial transactions. In addition, increasing security and regulatory compliance is also a concern in implementing technology and digital certification is needed to ensure that member data is well protected and BMT also continues to implement government regulations regarding data security.

Fourth, long-term strategy. This strategy can be carried out by developing an even digital infrastructure. This can be achieved through collaboration between internet service providers, the government, and BMT for the development of digital networks, especially outside Java. In addition, there needs to be an increase in digital literacy and islamic finance that must continue to be improved through digital-based education programs, so that the community is more prepared to optimally utilize micro-fintech services.

Conclusion

This study shows that optimizing financial technology in BMT has great potential in increasing Islamic financial inclusion. Through SWOT analysis, it is known that the main strength of Islamic micro-fintech is the ease of financial access for members and clear market segmentation. However, there are several weaknesses that are obstacles, namely the limited number of BMTs or Islamic cooperatives that adopt micro-fintech, limited service features, and the inequality in implementation between BMTs with large and small assets.

Nevertheless, micro-fintech still has a number of opportunities, namely the potential for developing innovative features, government support, and the possibility of collaborating with Islamic banks and other fintechs. However, a number of threats also need to be anticipated, such as reduced direct interaction between members and managers, gaps in technology adoption among users, and data security and government regulations.

Based on these findings, there are several strategic steps that can be taken by BMTs to develop and optimize their micro-fintech functions, namely strengthening digital infrastructure, developing a more inclusive fintech platform, increasing digital literacy for members, and collaborating with various stakeholders. With the implementation of the right strategy, micro-fintech in BMT can be more effective in expanding access to islamic financial services and supporting economic growth.

Acknowledgments

We would like to thank the LEMBAGA PENGEMBANGAN PUBLIKASI ILMIAH Universitas Muhammadiyah Malang for sponsoring this research.

Reference

Ajija, S. R., Hudaifah, A., Wasiaturrahma, Sulistyaningsih, L., A'yun, K. Q., Mukti, H. K., Salama, S. C. U., Rofiqoh, S. N. I., & Azzizah, U. A. (2018). *Koperasi BMT: Teori, Aplikasi dan Inovasi*. CV Inti Media Komunika. https://books.google.co.id/books?hl=en&lr=&id=CtWyDwAAQBAJ&oi=fnd&pg=PR3&dq=info:TlG57_1fH-kJ:scholar.google.com&ots=L98ypYbcXb&sig=cDiI5jUUrdJ_tZ56482LoDmsl5k&redir_esc=y#v=onepage&q&f=false

Ascarya, A., & Sakti, A. (2022). Designing micro-fintech models for Islamic micro financial institutions in Indonesia. *International Journal of Islamic and Middle Eastern Finance and Management*, *15*(2), 236–254. https://doi.org/10.1108/IMEFM-05-2020-0233

Barbu, C. M., Florea, D. L., Dabija, D. C., & Barbu, M. C. R. (2021). Customer experience in fintech. *Journal of Theoretical and Applied Electronic Commerce Research*, *16*(5), 1415–1433. https://doi.org/10.3390/jtaer16050080

Benzaghta, M. A., Elwalda, A., Mousa, M. M., Erkan, I., & Rahman, M. (2021). SWOT analysis applications: An integrative literature review. *Journal of Global Business Insights*, *6*(1), 55–73. https://doi.org/10.5038/2640-6489.6.1.1148

Bergin, T. (2018). *An Introduction to Data Analysis : Quantitative, Qualitative and Mixed Methods*. 1–296.

Bernards, N. (2019). The poverty of fintech? Psychometrics, credit infrastructures, and the limits of financialization. *Review of International Political Economy*, *26*(5), 815–838. https://doi.org/10.1080/09692290.2019.1597753

Boot, A. (2021). Fintech: what's old, what's new? *Journal of Financial Stability*, *53*. https://doi.org/10.1016/j.jfs.2020.100836

Dow-Fleisner, S. J., Seaton, C. L., Li, E., Plamondon, K., Oelke, N., Kurtz, D., Jones, C., Currie, L. M., Pesut, B., Hasan, K., & Rush, K. L. (2022). Internet

access is a necessity: a latent class analysis of COVID-19 related challenges and the role of technology use among rural community residents. *BMC Public Health*, *22*(1), 1–11. https://doi.org/10.1186/S12889-022-13254-1/TABLES/5

Eickhoff, M. (2018). What do FinTechs actually do? A Taxonomy of FinTech Business Models. In *ICIS 2017: Transforming Society with Digital Innovation*. https://api.elsevier.com/content/abstract/scopus_id/85126502819

Haidar, A. (2021). Developing Fintech-Micro BMT (FMB) Model. *Ekonomi Islam Indonesia*, *3*(2).

Hasan, M. K., Alkhalifah, A., Islam, S., Babiker, N. B. M., Habib, A. K. M. A., Aman, A. H. M., & Hossain, M. A. (2022). Blockchain Technology on Smart Grid, Energy Trading, and Big Data: Security Issues, Challenges, and Recommendations. *Wireless Communications and Mobile Computing*, *2022*(1), 9065768. https://doi.org/10.1155/2022/9065768

Isa, M., & Suryomurti, W. (2023). *Sentiment Analysis on the Perception of Sharia Fintech in Indonesia*. 146–169. https://doi.org/10.2991/978-94-6463-176-0_11

Kamal, U., & Ningsih, A. S. (2021). The Urgency of Revising the Finance Services Authority Regulation Number 77/POJK.01/2016 As an Umbrella Law in Practicing Peer to Peer Lending Based on Financial Technology in Indonesia. *Pandecta Research Law Journal*, *16*(1), 186–194. https://doi.org/10.15294/PANDECTA.V16I1.30397

Kathiravan, C., Rajasekar, A., Velmurgan, S., Mahalakshmi, P., Chandramouli, E., Suresh, V., Padmaja, B., & Dhanalakshmi, K. (2021). Sentiment Analysis And Text Mining Of Online Customer Reviews For Digital Wallet Apps Of Fintech Industry. *International Journal of Aquatic Science*, *12*(03), 2139–2150.

Khan, S., Khan, H. U., Nazir, S., Albahooth, B., & Arif, M. (2023). Users Sentiment Analysis Using Artificial Intelligence-Based FinTech Data Fusion in Financial Organizations. *Mobile Networks and Applications*, *29*(2), 477–488. https://doi.org/10.1007/S11036-023-02246-Z/METRICS

KNEKS. (2023). *Pengembangan BMT menuju Sustainabilitas melalui Transformasi Digital*. https://kneks.go.id/berita/548/pengembangan-bmt-menuju-sustainabilitas-melalui-transformasi-digital?category=1

Martupa, A. E., Marune, S., & Hartanto, B. (2021). Strengthening Personal Data Protection, Cyber Security, and Improving Public Awareness in Indonesia: Progressive Legal Perspective. *International Journal of Business, Economics, and Social Development*, *2*(4), 143–152. https://doi.org/10.46336/IJBESD.V2I4.170

Alexander, L. M., & Saleeshya, P. G. (2022). Qualitative analysis of different lean assessment methods: A comprehensive review of applications. *Materials Today: Proceedings*, *58*, 387–392. https://doi.org/10.1016/J.MATPR.2022.02.325

Mercieca, M., Schembri, F., Inglott, A. S., & Azzopardi, L. M. (2019). SWOT Analysis. *Pharmaceutical Technology*, *40*(4), 40. https://doi.org/10.5040/9781501365287.2732

Onwuegbuzie, A. J., Leech, N. L., & Collins, K. M. T. (2012). Qualitative Analysis Techniques for the Review of the Literature. *Qualitative Report*, *17*, 1–28. http://www.nova.edu/ssss/QR/QR17/onwuegbuzie.pdf

Ozili, P. K. (2020). *Financial inclusion research around the world: a review*. https://ssrn.com/abstract=3515515

Pomerantsev, A. L., & Rodionova, O. Y. (2021). New trends in qualitative analysis: Performance, optimization, and validation of multi-class and soft models. *TrAC Trends in Analytical Chemistry*, *143*, 116372. https://doi.org/10.1016/J.TRAC.2021.116372

Riyadi, G. (n.d.). *Data Privacy in the Indonesian Personal Data Protection Legislation Standard-Nutzungsbedingungen*. Retrieved February 13, 2025, from https://hdl.handle.net/10419/249440

Septianingsih, R., Abdullah, A., & Salleh, M. Z. M. (2024). *A Systematic Review: Challenge of Islamic Microfinance Baitul Maal Wat Tamwil in Indonesia BT - Islamic Finance: New Trends in Law and Regulation* (N. Mansour & L. Bujosa, Eds.; pp. 19–26). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-48770-5_3

Utami, H., Purnama, A. A., Hidayanto, A. N., Utami, S. H., Purnama, A. A., & Hidayanto, A. N. (2022). Fintech Lending in Indonesia: A Sentiment Analysis, Topic Modelling, and Social Network Analysis using Twitter Data. *International Journal of Applied Engineering & Technology Copyrights @ Roman Science Publications*, *4*(1).

Visconti, R. M. (2020). Microfintech: Outreaching Financial Inclusion with Cost-Cutting Innovation. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3533873

Narayan, S. W., & Sahminan, S. (2018). HAS FINTECH INFLUENCED INDONESIA'S EXCHANGE RATE AND INFLATION? *Bulletin of Monetary Economics and Banking*, *21*(2), 177–190. https://doi.org/10.21098/bemp.v21i2.966

Wulandari, P., Kassim, S., Adhi Kasari Sulung, L., & Iwani Surya Putri, N. (2016). Unique aspects of the Islamic microfinance financing process: Experience of Baitul Maal Wa Tamwil in Indonesia. *Humanomics*, *32*(3), 230–247. https://doi.org/10.1108/H-09-2014-0062

Yumna, A., & Clarke, M. (2019). Examining the Outreach of Islamic Charity Based Microfinance Programmes: Empirical Evidence From Indonesia. *Journal of Islamic Monetary Economics and Finance*, *5*(4), 849–872. https://doi.org/10.21098/jimf.v5i4.1111