

Financial Technology in Indonesia: A content Analysis Approach

Maryam Dunggio^{1*}, Chusnah², M. Ridwan³

¹Program Studi Bisnis Digital, Institut Teknologi dan Bisnis STIKOM, Bali, Indonesia.

²Program Studi Manajemen, Universitas Islam As-syafi'iyah, Jakarta, Indonesia

*Email: maryamdunggio98@gmail.com

Abstract. The existence of financial technology (fintech) has both positive and negative sides. For this reason, this study was conducted to identify and describe the condition of fintech in Indonesia. The research was conducted using a content analysis approach. This approach is carried out in order to obtain a comprehensive and in-depth picture of fintech in Indonesia. The data analyzed was obtained from news articles published by detik.com. The results of this study show that there is inequality in the fintech sectors in Indonesia. The fintech sector in Indonesia is dominated by the lending, crowdfunding, and payment sectors. The fintech lending sector has a positive impact, but the results of the analysis show that there is a dominance of discussion about the negative side. In addition, the results of the analysis show that fintech in Indonesia has various advantages and challenges, but what has received the most attention is the challenges and risks of fintech. In order for fintech in Indonesia to continue to grow and have a positive impact, cooperation is needed between all stakeholders, both fintech service providers, fintech users and the government.

Keywords: financial technology; Indonesia; content analysis

Introduction

Advances in the field of digital technology have brought about significant changes in the financial industry. The emergence of fintech has the potential to make the financial system more efficient and competitive and expand financial inclusion (Cevik, 2023) Fintech stands for financial technology. The term fintech has been conveyed by Battinger since 1972. In his writing, Batigger stated that "fintech is an acronym which stands for financial technology, combining bank expertise with modern management science techniques and the computer" (Schueffel, 2017) However, other search results state that the term fintech has existed since 1866. The evolution of fintech is divided into three eras, namely fintech 1.0, fintech 2.0 and fintech 3.0 (Arner et al., 2015).

The fintech 1.0 era began in 1866 – 1986, during which time financial globalization was supported by technological infrastructure such as transatlantic transmission cables. Fintech 2.0 began in 1987 – 2008, where the traditional financial services industry began to use technology to provide financial products and services. Meanwhile, fintech 3.0 started in 2009 – now. This era was marked by the emergence of established start-ups and technology companies and began to provide financial products and services directly to businesses and the general public (Arner et al., 2015). Currently, fintech is growing and has become a term that is often used for companies that provide or facilitate financial services using technology (World Economic Forum, 2015).

The development of fintech at the global level has also had an impact on the financial industry in Indonesia. Referring to information from the Indonesia Joint Funding Fintech Association (AFPI), it is known that fintech has been present in Indonesia since the 2000s. Until now, fintech in Indonesia continues to experience significant development (AFPI, n.d.). Data from the Financial Services Authority (OJK) shows that the number of fintechs in Indonesia continues to increase. The number of licensed fintech in Indonesia in December 2020 was 37 and increased to 101 in December 2023 (OJK, n.d.-a) Currently, many definitions are given to fintech, but according to the OJK, fintech is "a company that innovates in the field of financial services with a touch of modern technology". The existence of fintech has a positive impact on people's economic

activities. The existence of fintech makes people can access financial services more practically, efficiently, comfortably and economically (OJK, n.d.-b).

Various studies and research on fintech are carried out with various approaches. The quantity and intensity of research in the field of financial technology continue to increase (Abad-Segura, 2020) The findings of these studies state that fintech has both positive and negative impacts. In line with the Sustainable Development Goals (SDGs), fintech is the main driver of financial inclusion that is the basis for balanced and sustainable development. Fintech has the potential to support sustainable development with a progressive approach to infrastructure development and digital financial transformation (Arner, 2020). The existence of fintech makes financial businesses more sustainable and overall promotes green finance (Vergara & Agudo, 2021) Fintech reduces financial exclusion and income inequality (Demir et al., 2022) and is seen as having significant potential to provide poor people with access to financial services as well as help people get out of the grip of poverty (Lagna & Ravishankar, 2022). In addition, fintech provides positive benefits to households by increasing consumption, borrowing and portfolio diversification (Agarwal & Chua, 2020).

The presence of fintech, in addition to having a positive impact, also has challenges and risks that must be of concern to all stakeholders. Currently, there are several studies and studies that highlight the negative side of fintech. The complexity of technology in fintech poses potential systemic risks (Cevik, 2023) The results of the study revealed that the dark side of fintech is related to customer vulnerability, technical incompetence and less responsive regulations (Sampat et al., 2024) In addition, it was found that fintech has risks caused by technology which include strategic risks, operational and cyber risks, business compliance risks with data protection regulations, and liquidity risks (Jović & Nikolić, 2022) Other research results state that fintech has two aspects, namely the light effect and the dark effect. Where the dark effect is more dominant than the light effect because it reduces bank stability (Geng et al., 2023).

In line with the condition of fintech at the global level, the existence of fintech in Indonesia is like two sides of a coin. Fintech has a positive impact marked by an increase in licensed fintech, as well as various benefits of ease of financial access services felt by the community. But on the other hand, the negative impact of fintech has also been found. Based on information from the OJK website, it is known that from 2017 to July 31, 2023, the Investment Alert Task Force has stopped 6,894 illegal financial entities, most of which are illegal online loans, namely 5,450 entities (OJK, 2023). This condition emphasizes that the presence of fintech provides opportunities as well as challenges.

Fintech and technological developments are inseparable. The increase in fintech services, one of which is due to the increasingly massive use of digital technology, especially those that use internet access. The results of a report from the Indonesia Internet Service Providers Association (APJII) are known that the internet penetration rate in Indonesia continues to increase. Since 2018, internet penetration in Indonesia has reached 64.8% and continues to increase. In 2023, internet penetration in Indonesia will reach 78.19% (APJII, 2024). In the Reuters Institute Digital News Report 2024 report, it is known that 79% of Indonesia people get news through online sources. The tools used to get access to news are 84% using smart phones, 53% computers and 35% using tablets (Newman et al., 2024) News and information about various events are presented in various mass media, both online and print mass media. Mass media is able to construct an event and reflect public policies and opinions (Green-Saraisky, 2015; Romli, 2016) According to (McQuail, 2012) information conveyed by the mass media can be used as data in conducting research with a content analysis approach (Gandasari & Dwidienawati, 2020).

Based on the description that has been submitted, there are indications of complexity in the presence of fintech. This indication shows that there are problems with fintech that will be described through this research. For this reason, the purpose of this research is to identify and decipher the relevance of fintech in Indonesia. The results of this research are expected to be able to provide benefits for all stakeholders and be beneficial to the development of science and show a clear direction for fintech development in Indonesia.

Methods

This study uses secondary data. The data was obtained from mass media that presented news and information that could be accessed online. The mass media taken as a sample was determined using the purposive sampling method. The criteria used are the online mass media that is most read and trusted by the people of Indonesia. Referring to the Reuters Institute Digital Report 2024, it is known that the most read or accessed online news media every week by the Indonesia public is the detik.com with the highest percentage, which is 50%. Meanwhile, the level of public trust in news and information presented by detik.com is 58% (Newman et al., 2024).

The scope of news used for the analyzed data is news delivered by detik.com for one year, starting from July 1, 2023 to June 31, 2024. The data taken is news obtained using the keyword "fintech". Based on the search results, it was found that the number of news articles containing information about fintech during the period July 1, 2023 – June 31, 2024 was 275 articles. Furthermore, the entire article was tabulated and analyzed using content analysis.

The data analysis in this study uses a content analysis approach. This approach is one of the data analysis methods used to describe a phenomenon using documents obtained from various media, both print media, as well as electronic media or online news media (Eriyanto, 2011; Martono, 2019) The stages of the analysis procedure are carried out, starting from the determination of the analysis unit, which consists of a sample unit, a recording unit, and a context unit (Eriyanto, 2011) The tool used to analyze is QDA Miner Lite. The stages of determining the unit of analysis in this study are visualized in the form of a chart presented in Figure 1.

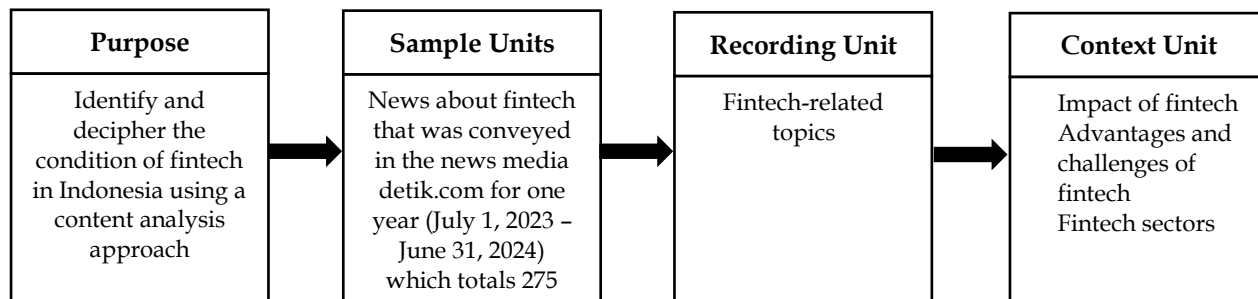


Figure 1. Chart of the stages of determining the unit of analysis

Result and Discussion

Content analysis and description of financial technology (fintech) in Indonesia

Data analysis was carried out using a content analysis approach. To obtain comprehensive analysis results, the discussion of fintech in Indonesia is divided into 3 (three) main topics, namely: (1) the impact of fintech; (2) the advantages and challenges of fintech; and (3) the fintech sectors. Furthermore, each of the main topics is divided into several sub-topics.

Table 1: Tabulation results of content analysis of main topics and sub-topics of fintech in Indonesia

Main Topics	Sub Topics	Frequency of Discussion	Percentage of Discussion (%)
Impact of Fintech	Positive impact of fintech	13	1,15
	Negative impact of fintech	13	1,15
		26	2,30
Advantages and Challenges of Fintech	Advantages & Benefits	29	2,57
	Challenges & Risks	79	7,00
		108	9,57
Fintech Sectors	Saving	28	2,48
	Personal financial	4	0,35
	Investment management	5	0,44
	Crowdfunding	195	17,27
	Lending	567	50,22
	Payment (e-money & e-wallet)	124	10,98
	Insurtech	6	0,53
	Remittance	6	0,53
	Cryptocurrency	60	5,31
		995	88,13
Total Sub Topics		1129	100,00

Source: data processing results, 2024

The results of the analysis of the main topic and sub-topic are presented in Table 1. The results of the analysis show that in the last 1 year (July 1, 2023 – June 31, 2024), there have been relatively many

discussions about fintech in Indonesia. This can be seen from the total number of discussions on sub-topics about fintech which amounted to 1,129 times.

The results of this recording show that the fintech phenomenon in Indonesia is getting more crowded. This discussion was divided into 3 (three) main topics, where the highest frequency of discussion was about the fintech sector, which was 88.13%. This was followed by the topic of fintech advantages and challenges at 9.57% and finally the discussion on the impact of fintech at 2.30%. The frequency of discussions on the main topics of fintech in Indonesia is presented in Figure 2.

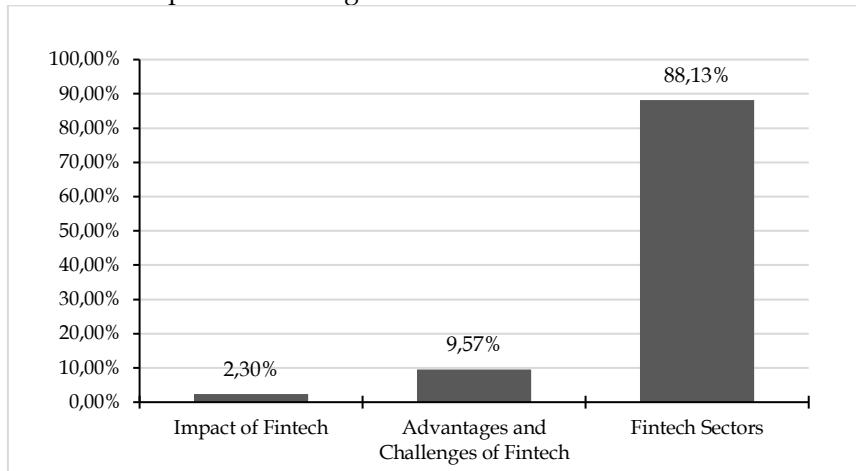


Figure 2. Graph of the frequency of discussions on the main topics of fintech in Indonesia (data processing results, 2024)

The results of data analysis in Table 1 are visualized with a word cloud and the results are obtained as presented in Figure 3.



Figure 3. Word cloud sub-topic of fintech in Indonesia (data processing results, 2024)

The word cloud shows that the phenomenon and discussion of fintech in Indonesia is still dominated by lending, crowdfunding, fintech risk challenges and cryptocurrencies. A comprehensive discussion of each of the main topics and sub-topics of the fintech phenomenon in Indonesia will be presented in the next discussion of this study. A comprehensive discussion of each of the main topics and sub-topics of the fintech phenomenon in Indonesia will be presented in the next discussion of this study.

The impact of financial technology (fintech) in Indonesia

The results of the analysis show that the fintech phenomenon in Indonesia is one of the conditions that needs attention. One of the most important things is the impact of fintech. Like the two remaining currencies, fintech has a positive impact as well as a negative impact. The results of this study found that the fintech phenomenon in Indonesia has a positive and negative impact as presented in Table 2 and Figure 4.

Table 2: The impact of fintech in Indonesia

Impact of Fintech		Frequency of Discussion	Percentage of Discussion (%)
Positive impact of Fintech	Financial inclusion	2	8,33
	Carbon reduction	1	4,17
	Positive impact on stakeholders	2	8,33
	Useful for MSMEs	5	20,83
	Improving access to financing	1	4,17
	Encouraging collaboration between stakeholders	1	4,17
	Knowledge exchange within the community	1	4,17
	Providing digital solutions for economic growth	1	4,17
	Helping MSMEs simplify sustainability reporting	1	4,17
	Realizing an inclusive digital payment system & financial services	1	4,17
Improving Asia's interconnection through cross-border digital payments	1	4,17	
Negative impact of Fintech	Entangled in illegal online loans	5	20,83
	Scam	1	4,17
	Routine jobs are replaced by machines	1	4,17
Total		1129	100,00

Source: data processing results, 2024

The results of the analysis presented in Table 2 and Figure 4 show that there are more discussions about the positive impact of fintech than the negative impact. The most positive impacts of fintech are related to the usefulness of fintech for MSMEs (20.83%), financial inclusion (8.33%) and benefits for stakeholders (8.33%). The existence of fintech is one of the solutions for MSMEs both in terms of financing and payment. The results of this study found that digitalization makes it easier for MSMEs in transactions, for example by using QRIS. In addition, the existence of fintech has an impact on financial inclusion. Financial services are not only enjoyed by some people, but can reach a wider community. The results of the analysis show that the existence of fintech expands the community that can access loans through online loans provided by fintech peer to peer lending.

The convenience offered by fintech allows all stakeholders to collaborate to increase the benefits that can be received by each party. Collaboration can be carried out by fintech service providers, consumers, and the government. Not only does it have an impact on financial services at the local and national levels, but fintech also expands access to financial service networks at the regional and international levels. This makes the interconnection of financial services at the regional and international levels easier. Overall, fintech has an impact on economic growth. The positive impact of fintech is in line with the results of research conducted by (Agarwal & Chua, 2020; D W Arner, 2020; Das, 2019; Jović & Nikolić, 2022; Lagna & Ravishankar, 2022).

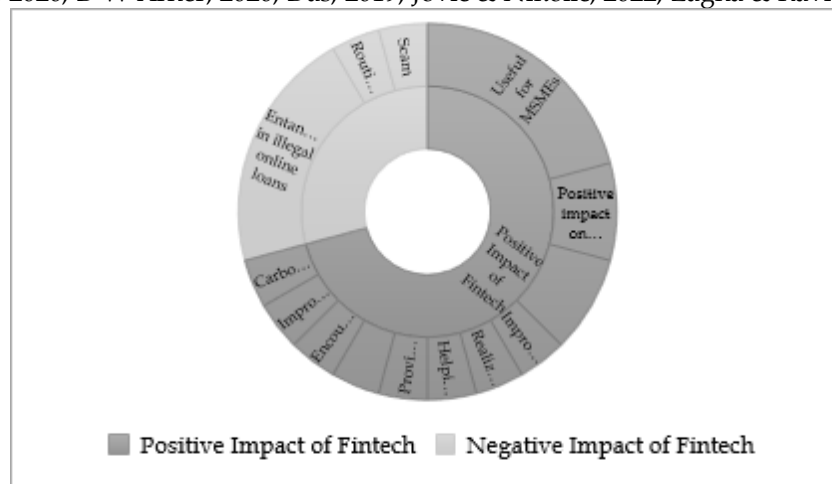


Figure 4. Doughnut chart on the impact of fintech in Indonesia (data processing results, 2024)

Fintech provides many benefits providing positive benefits, but the existence of fintech also has a negative impact. The results of this study show that 3 (three) negative impacts of fintech recorded in media publications are entangled in illegal online loans (20.83%), fraud (4.17%) and routine jobs replaced by machines (4.17%). The negative side of fintech arises when many people are entangled in online loans that do not have permission from the government. Because fintech facilitates access to financial services and reaches the wider community, it is likely that people with minimal financial literacy will also get this access. The lack of financial literacy makes people access financial services without considering the legality and risks faced. The public experiences various scams carried out by illegal fintech. In addition, the existence of fintech has resulted in automation in several fields of work. This automation reduces people's chances of getting a job, because jobs that were previously able to be done by humans, are now being replaced by machines. The negative impact of fintech is in line with the results of research (Agarwal & Chua, 2020; Cevik, 2023; Das, 2019; Sampat et al., 2024).

Advantages and challenges of financial technology (fintech) in Indonesia

The emergence of fintech has various advantages over traditional financial institutions. However, in addition to having advantages, fintech also has challenges and risks. The results of the analysis in this study get various advantages and benefits as well as challenges and risks of fintech in Indonesia which are presented in Table 3 and Figure 5.

Table 3: Advantages and challenges of fintech in Indonesia

Impact of Fintech		Frequency of Discussion	Percentage of Discussion (%)
Advantages & Benefit	Ease of service	2	3,51
	Innovative financial services	2	3,51
	Synergy and collaboration with other financial institutions	3	5,26
	Providing access to financial services to the ubankable community	2	3,51
	Useful for e-commerce businesses	4	7,02
	Economic benefits (interest rates)	3	5,26
	Development of innovations and new technologies	1	1,75
	Helping businesses experiencing initial funding difficulties	1	1,75
	Developing MSMEs and cooperatives	4	7,02
	Cost and time efficiency	1	1,75
	Increase borrower productivity	1	1,75
	Expand marketing	1	1,75
	Challenge & Risks	Data and transaction security	3
Capital and Human Resources		1	1,75
Ability to pay		1	1,75
Inadequate collateral		1	1,75
Minimal credit history		1	1,75
Low digital financial literacy		3	5,26
Acts of violation of the law		1	1,75
Low understanding of financial management		1	1,75
Protection of personal data		6	10,53
Human resources		1	1,75
Equitable access to finance		1	1,75
Techwinter (decline in investment and start-up activity)		1	1,75
Late payment or default		7	12,28
Fraud or unethical practices		3	5,26
Inflated interest and penalty charges if you are in arrears	1	1,75	
Total		1129	100,00

Source: data processing results, 2024

The results of the analysis presented in Figure 5 show that there is more discussion about the challenges and risks of fintech in Indonesia than the advantages and benefits. This can be said to be reasonable, considering that although fintech has been known for a long time in the world of global finance, in Indonesia

fintech began to be known in the 2000s. This poses many challenges that need to receive attention from all stakeholders, both fintech providers, the community, and the government. The results of the data analysis show that the biggest challenges for fintech in Indonesia are late payment or default (12.28%), personal data protection (10.53%), data and transaction security (5.26%), low digital financial literacy (5.26%), fraud or unethical practices (5.26%) and other challenges as presented in Table 3.

Payment problems, both late payments and defaults, are a big challenge for the existence and sustainability of fintech in Indonesia. Payment problems arise because of the ease of obtaining financial services that are not accompanied by many requirements. This financial facility service, for example, occurs in the fintech sector peer to peer lending. This convenience is then used by the community to get loans beyond their ability to pay. This condition will have an impact on fintech companies, where customers will experience late payments or defaults.

Another challenge that needs attention is the protection of personal data. Technology-based financial services facilitate and expand access for the public. However, there are risks about personal data protection. If the security system used by fintech service providers has not been built properly, it will be at risk to the security of customer data, both in the form of personal data and transaction data. If there is a data leak, it will have a negative effect on society, where the data has the potential to be used for bad purposes, such as fraud or other unethical actions.

The next challenge is the low level of digital financial literacy. Public knowledge and understanding of digital financial services is still relatively low. Therefore, some people access digital financial services with limited knowledge about this. This can be seen from the number of people who are trapped in illegal fintech. In addition, the low digital financial literacy makes people vulnerable to fraud and less careful in utilizing services provided by fintech. This condition will pose risks, including default, accumulated interest and fines, and other violations.



Figure 5. Doughnut chart on the advantages and challenges of fintech in Indonesia (data processing results, 2024)

In addition, other challenges related to fintech in Indonesia are Human Resources (HR) and capital. The sustainability of fintech requires qualified human resources in mastering technology, both human resources at service provider institutions and fintech service users. Meanwhile, the challenge related to capital is a condition called *techwinter*. In this condition, there is a decrease in investment in institutions or *start-up* companies. This has allowed for a decline in digital financial services in Indonesia. Another condition related to the challenges faced by fintech is equity. Currently, the number of fintech continues to grow, but access to fintech is not evenly distributed and cannot be enjoyed by all Indonesia people. Fintech is still widely enjoyed by people in urban areas compared to rural areas. The various challenges and risks of fintech presented in this study are in line with the results of the research presented by (Agarwal & Chua, 2020; Cevik, 2023; Das, 2019; Sampat et al., 2024).

Although it has various challenges and risks, fintech also has various advantages and benefits. The results of the data analysis in this study show some of the advantages and benefits of fintech in Indonesia as presented in Table 3. The most discussed advantages are the benefits of fintech for *e-commerce* (7.02%) and developing MSMEs and Cooperatives (7.02%). Other advantages are synergy and collaboration with other

financial institutions (5.26%) and economic benefits (5.26%). In addition, several other advantages are presented in Table 3.

Fintech in Indonesia provides benefits for the development of MSMEs and Cooperatives. The existence of fintech makes it easier for MSMEs and Cooperatives to get access to business financing. So that business activities carried out by MSMEs and Cooperatives become more developed. In addition, fintech is very beneficial for e-commerce, for example when it comes to payments. Fintech in the payment sector by using e-money and e-wallets makes it easier to pay in transactions in e-commerce. In addition, the existence of fintech opens up opportunities for collaboration between financial institutions so that financial services can be more easily enjoyed by the wider community. Innovative financial services with various conveniences make people have many choices in the use of financial services and provide cost and time efficiency.

Fintech services can expand access to marketing, both for MSMEs and other businesses carried out by the community. In addition, fintech services provide economic benefits, both for service providers and service users. For people who have limited capital to run a business, fintech provides solutions in business financing. This is very effective in increasing community productivity and sustainable development. The various advantages and benefits of fintech in Indonesia are in accordance with the results of previous research conducted by (Agarwal & Chua, 2020; Douglas W. Arner et al., 2020; Blakstad & Allen, 2018; Haddad & Hornuf, 2018; Jović & Nikolić, 2022; Lagna & Ravishankar, 2022; Vergara & Agudo, 2021) states various advantages and benefits of fintech.

Analysis of financial technology (fintech) sectors in Indonesia

Based on various literature, fintech is divided into several sectors. The results of data analysis in this study show that the fintech sectors in Indonesia that are most widely published in mass media consist of 9 sectors, namely lending, financing, payment, saving, cryptocurrency, personal finance, investment management, insurtech and remittance. The percentage of discussion of these sectors is presented in Figure 6.

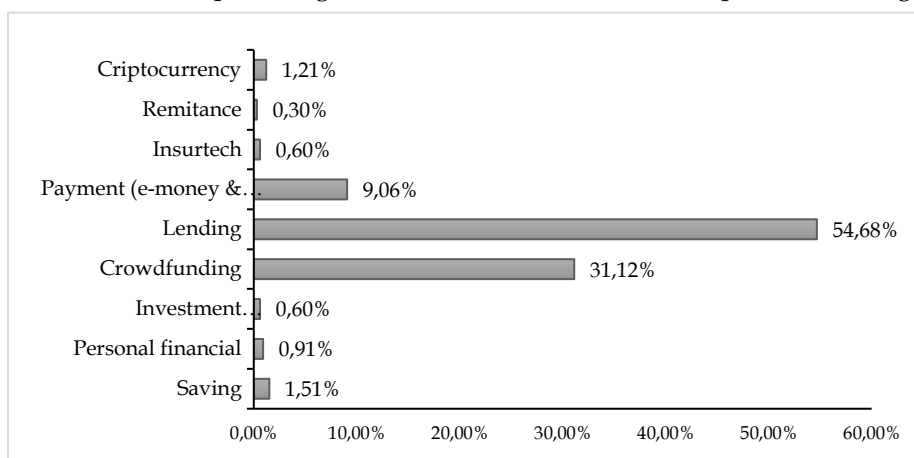


Figure 6. Graph of frequency of discussion of fintech sectors in Indonesia (data processing results, 2024)

The three most discussed fintech sectors in Indonesia based on the results of the analysis shown in Figure 6 are *lending* (54.68%), *crowdfunding* (31.12%) and *payment* (9.06%). This is an indication that fintech in Indonesia is still dominated by these three sectors. Lending is the fintech sector that receives the most attention in Indonesia. The results of the analysis of the content of the topics about lending discussed are presented in Figure 7.

Based on the results of the analysis shown in figure 7, it is known that illegal online loans (pinjol) are the most frequently reported topic (32.04%). The next topic is student/education loans with a percentage of 16.02% and default loans/bad loans at 9.94%. The discussion about lending in Indonesia is very complex. In addition to having a positive impact on the community, lending also has many negative sides. Fintech in the lending sector is one of the sectors that is widely accessed by the public. This happens because of the convenience offered. Lending can reach the wider community. Loans offered by fintech lending can be accessed by MSMEs, State Civil Apparatus (ASN), students, and even the unbankable community. This is due to the ease of accessing loans provided by fintech. In addition to convenience, getting fintech lending services does not require many requirements and a fast service process.

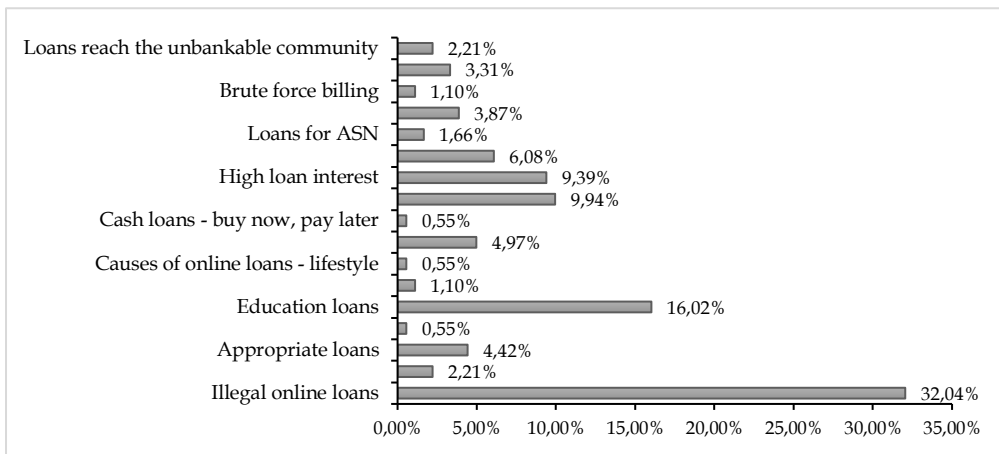


Figure 7. Graph of the percentage of discussions on topics related to lending in Indonesia (Source: data processing results, 2024)

Fintech lending can expand financial inclusion, but there are many problems caused by fintech lending in Indonesia. Illegal online loans (pinjol) are the most discussed topic. Online loans are a positive thing when used for productive purposes or business development. However, currently there is a trend that shows that people access loans due to lifestyle factors and to fulfill consumptive activities. The lack of digital financial literacy is one of the reasons why many people are trapped in illegal loans. The community lacks knowledge so that they are trapped with loans that have high loan interest. This has an impact on defaults and also users of the service face a billing atmosphere that tends to use violence.

The results of the analysis show that the financial services provided by fintech lending are used by the community for productive and consumptive activities. Fintech lending can be used by students for education, but this still reaps pros and cons. Currently, the government continues to proclaim the appropriate and wise use of fintech. Fintech is used to increase productivity so that the positive effects of fintech are greater than the negative effects. In addition to the fintech lending sector, another sector that has received a lot of attention in Indonesia is the financing/crowdfunding sector. The discussion of topics related to crowdfunding is presented in Figure 8.

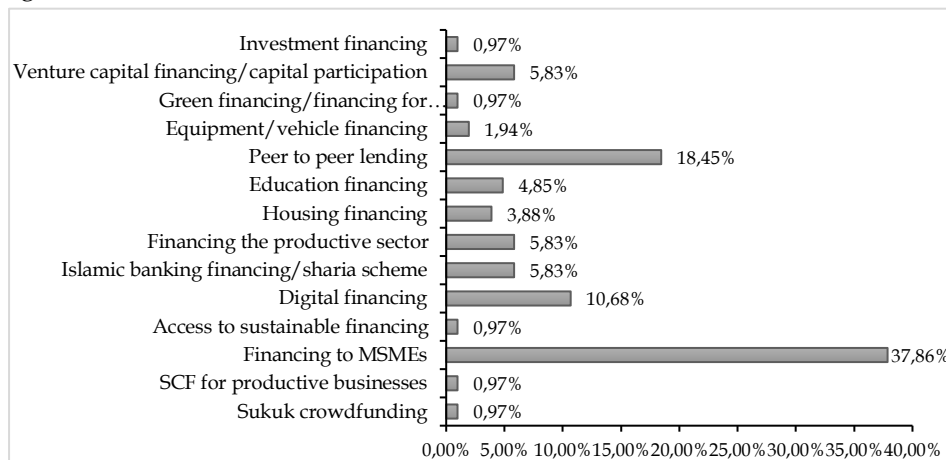


Figure 8. Graph of the percentage of discussions on topics related to financing/crowdfunding in Indonesia (data processing results, 2024)

The results of the analysis shown in Figure 8, show that the financing sector in Indonesia is dominated by MSMEs (37.86%). In addition, it is known that fintech in the financing sector in Indonesia uses a peer to peer lending scheme (18.45%). The next order about financing discussed digital financing (10.68%). The results of the analysis also show that fintech in the financing sector in Indonesia is widely used in the form of capital participation or venture capital, financing for the productive sector, financing for sharia schemes, college/education financing, housing financing, financing for equipment/vehicles and investment financing. Through the results of this analysis, it is known that the financing sector can be carried out through

crowdfunding sukuk. This financing can be used for productive businesses. Financing provides opportunities for the public to get useful and sustainable fintech services.

Based on the results of the analysis, after the lending and crowdfunding sectors, another fintech sector that has received a lot of attention in Indonesia is the payment sector. This sector deals with digital payments. Digital payments in Indonesia can use e-wallets or e-money. The results of the analysis on various topics discussed about fintech in the payment sector in Indonesia are presented in Figure 9.

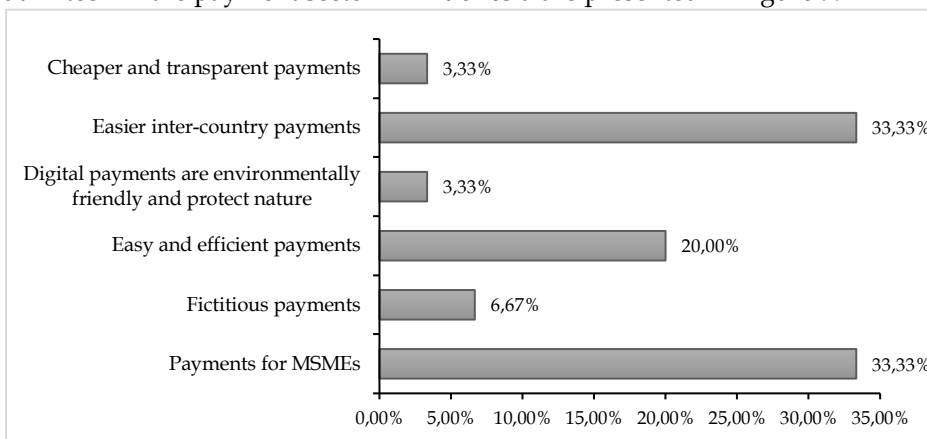


Figure 9. Graph of the percentage of topics discussed related to *payment* in Indonesia (data processing results, 2024).

Based on the graph in Figure 9, it is known that the payment sector is widely discussed related to MSMEs (33.33%) and inter-country payments (33.33%). Digital payments have various advantages compared to conventional payments. Digital payments can be made more easily and efficiently. In addition, digital payments are cheaper and transparent. The use of digital payments is environmentally friendly and protects nature. Digital payments, in addition to having a positive impact, also have a negative side. The ease of making payments without being accompanied by high system security poses problems, for example the existence of fictitious payments. This causes losses for both fintech service providers and fintech users.

Meanwhile, although fintech in other sectors is still not widely discussed, this research found several things related to cryptocurrencies, savings, personal finance, investment management, insurtech and remittances. The discussion of cryptocurrencies is dominated by topics related to the introduction of cryptocurrencies, policies or regulations, in particular about tax policies for cryptocurrencies. In addition, what is interesting about cryptocurrencies is the interest of young people to make cryptocurrency investments. Meanwhile, the discussion about saving is more related to micro savings, savings sukuk and applications issued by banks to support the ease of saving.

Personal finance is a consulting service in managing finances. Although it is not yet popular compared to other sectors. However, the results of the analysis show that this sector needs attention. The same goes for investment management. The results of data analysis show that in Indonesia there are several financial services in investment management. For insurtech, the discussions found are still related to regulations and policy formulation. Meanwhile, discussions related to remittances are related to cooperation carried out by Indonesia with other countries. The purpose of this cooperation is to provide convenience in financial services between countries.

Conclusion

The results of the analysis in this study are a portrait of fintech in Indonesia. Based on the results of the analysis and discussion, several conclusions were obtained, namely: (1) the main topics of discussion about fintech in Indonesia are dominated by the fintech sectors and the sub-topics that receive the most attention are lending, crowdfunding, and payment; (2) fintech has positive and negative impacts, where the discussion of positive impacts is more dominant than negative impacts; (3) fintech has advantages and challenges, but the discussion of fintech challenges and risks is more dominant than its advantages and benefits; and (4) the fintech sectors in Indonesia are still dominated by lending, crowdfunding and payment, while other sectors consisting of cryptocurrencies, savings, personal finance, investment management, insurtech and remittances have not received much attention.

References

- Abad-Segura, E. (2020). Financial Technology: Review of trends, approaches and management. *Mathematics*, 8(6). <https://doi.org/10.3390/math8060951>
- AFPI. (n.d.). *Sejarah Perkembangan Fintech di Indonesia*. Asosiasi Fintech Pendanaan Bersama Indonesia. Retrieved July 28, 2024, from <https://afpi.or.id/articles/detail/sejarah-perkembangan-fintech-di-indonesia>
- Agarwal, S., & Chua, Y. H. (2020). FinTech and household finance: a review of the empirical literature. *China Finance Review International*, 10(4), 361–376. <https://doi.org/10.1108/CFRI-03-2020-0024>
- APJII. (2024). *APJII Jumlah Pengguna Internet Indonesia Tembus 221 Juta Orang*. Asosiasi Penyelenggara Jasa Internet Indonesia. <https://apjii.or.id/berita/d/apjii-jumlah-pengguna-internet-indonesia-tembus-221-juta-orang>
- Arner, D W. (2020). Sustainability, FinTech and Financial Inclusion. *European Business Organization Law Review*, 21(1), 7–35. <https://doi.org/10.1007/s40804-020-00183-y>
- Arner, Douglas W., Buckley, R. P., Zetzsche, D. A., & Veidt, R. (2020). Sustainability, FinTech and Financial Inclusion. *European Business Organization Law Review*, 21(1), 7–35. <https://doi.org/10.1007/s40804-020-00183-y>
- Arner, Douglas W, Barberis, J., & Bukley, R. P. (2015). *The Evolution of Fintech: A New Post-Crisis Paradigm?* <http://ssrn.com/abstract=2676553><http://ssrn.com/abstract=2676553>
- Blakstad, S., & Allen, R. (2018). *FinTech Revolution: Universal Inclusion in the New Financial Ecosystem*. Palgrave Macmillan.
- Cevik, S. (2023). The Dark Side of the Moon? Fintech and Financial Stability. In *Fintech Notes* (WP/23/253, Vol. 23, Issue 253).
- Das, S. R. (2019). The future of fintech. *Financial Management*, 48(4), 981–1007. <https://doi.org/10.1111/fima.12297>
- Demir, A., Pesque-Cella, V., Altunbas, Y., & Murinde, V. (2022). Fintech, financial inclusion and income inequality: a quantile regression approach. *The European Journal of Finance*, 28(1), 86–107. <https://doi.org/10.1080/1351847X.2020.1772335>
- Eriyanto. (2011). *Analisis Isi: Untuk Penelitian Ilmu Komunikasi dan ilmu-ilmu sosial lainnya* (Edisi Pert). Kencana.
- Gandasari, D., & Dwidienawati, D. (2020). Content analysis of social and economic issues in Indonesia during the COVID-19 pandemic. *Heliyon*, 6(11), e05599. <https://doi.org/10.1016/j.heliyon.2020.e05599>
- Geng, H., Guo, P., & Cheng, M. (2023). The dark side of bank FinTech: Evidence from a transition economy. *Economic Analysis and Policy*, 80, 1811–1830.
- Green-Saraisky, N. (2015). Analyzing Public Discourse: Using Media Content Analysis to Understand the Policy Process Nancy Green Saraisky. *Current Issues in Comparative Education*, 18(1), 26–41.
- Haddad, C., & Hornuf, L. (2018). The emergence of the global fintech market: economic and technological determinants. *Small Business Economics*, 53, 81–105.
- Jović, Ž., & Nikolić, I. (2022). The Darker Side of Fintech: the Emergence of New Risks. *Zagreb International Review of Economics & Business*, 25, 45–63.
- Lagna, A., & Ravishankar, M. N. (2022). Making the world a better place with fintech research. *Information Systems Journal*, 32(1), 61–102. <https://doi.org/10.1111/isj.12333>
- Martono, N. (2019). *Metode Penelitian Kuantitatif: Analisis Isi dan Data Sekunder* (Edisi Revi). Rajagrafindo Persada.
- McQuail, D. (2012). *Teori Komunikasi Massa* McQuail Edisi 6 Buku 1. http://slims.umn.ac.id//index.php?p=show_detail&id=10488
- Newman, N., Fletcher, R., Robertson, C. T., Arguedas, A. R., & Nielson, R. K. (2024). *Reuters Institute*

Digital News Report 2024.

- OJK. (n.d.-a). *Data dan Statistik Inklusi Keuangan Non Bank*. Otoritas Jasa Keuangan. Retrieved July 27, 2024, from <https://ojk.go.id/id/kanal/iknb/data-dan-statistik/statistik-iknb/Pages/Statistik-IKNB-Periode-Desember-2020.aspx>
- OJK. (n.d.-b). *Yuk mengenal fintech! Keuangan digital yang tengah naik daun*. Otoritas Jasa Keuangan. Retrieved July 27, 2024, from <https://sikapiuangmu.ojk.go.id/FrontEnd/CMS/Article/10468>
- OJK. (2023). *Satgas Pemberantas Aktivitas Keuangan Ilegal Temukan 434 Tawaran Pinjol Ilegal*. Otoritas Jasa Keuangan. <https://ojk.go.id/id/berita-dan-kegiatan/info-terkini/Pages/Satgas-Pemberantas-Aktivitas-Kuangan-Ilegal-Temukan-434-Tawaran-Pinjol-Ilegal.aspx>
- Romli, K. (2016). *Komunikasi Massa*. Grasindo.
- Sampat, B., Mogaji, E., & Nguyen, N. P. (2024). The dark side of fintech in financial services: a qualitative enquiry into fintech developers' perspective. *International Journal of Bank Marketing*, 42(1), 38-65. <https://www.emerald.com/insight/content/doi/10.1108/IJBM-07-2022-0328/full/html>
- Schueffel, P. (2017). *The Concise: FINTECH COMPENDIUM*. School of Management Fribourg (HEG-FR).
- Vergara, C. C., & Agudo, L. F. (2021). Fintech and sustainability: Do they affect each other? *Sustainability*, 13(7012), 1-19. <https://doi.org/10.3390/su13137012>
- World Economic Forum. (2015). *The Future of Fintech: A Paradigm Shift in Small Business Finance*. In *Global Agenda Council on the Future of Financing & Capital* (Issue October). http://www3.weforum.org/docs/IP/2015/FS/GAC15_The_Future_of_FinTech_Paradigm_Shift_Small_Business_Finance_report_2015.pdf