Fintech in the time of COVID-19: Conceptual Overview

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Abstract

Purpose: This study aims to analyze the relationship between financial technology (Fintech) and COVID-19. The importance of adopting 'digital' in all transaction could boost the Fintech growth during the pandemic. Fintech will help reduce the spread of COVID-19 by digital payment.

Research methodology: This study uses a literature review study from 2020 to 2022—research data from international journals. Based on the research results, and opinions of previous researchers that expected to bring additional insights, references, and ideas.

Results: COVID-19 influences the use of Fintech, which the positive impact resulting from this transformation in addition to providing convenience for users also brings economic development. Practical policies in Fintech encourage organizations to compete in offering financial services.

Limitations: Researchers can conduct research on the development of Fintech in government infrastructure development and the communication networks between agencies in facilitating the community.

Contribution: This study states that Fintech will help the economy to improvement and transformation so that it has a positive impact on all users. Thus, the presence of Fintech can positively influence developing countries such as Indonesia.

Keywords: COVID-19, Financial Technology, Financial System, Digital Payment

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1. Pendahuluan

Financial technology (Fintech) is an industry 4.0 innovation developing in the financial industry. The presence of the internet and gadgets has resulted in an era of digitalization that relies entirely on technology, becoming indispensable in modern life. Fintech is an innovation that provides new products, applications, and business models that can impact the provision of financial services and the development of the financial industry, creating a market culture of competition and reputation among service providers (Le, 2021). One of them is mobile payments, which have changed the way people see mobile usage. It has no longer limited to communication, entertainment, and internet surfing. No direct contact or cash is required to trade or exchange value, and mobile payments have changed the way customers and merchants trade. Mobile Payments make transactions more straightforward, easier, and faster. In addition, people can now trade anytime, anywhere. The growing trend toward cashless payments also provides commercial banks with detailed data on customer behavior. Fintech is a trend that significantly changes and improves service quality, especially in the financial industry, which includes specific financial transactions (Daragmeh et al., 2021). Fintech is not simply a reference to financial innovation; it does also refer to as the creative invention used to improve the client's earning

technique and build effective responses for budgetary administration with the new mechanical trends that are normal. This technological and innovative Fintech will undoubtedly drive change, providing comprehensive services that can be accessed by many people and serve the needs of consumers more optimally. It is supported because companies in the Fintech sector tend to appear more accessible and easy to modify or innovate on their services so that Fintech companies adapt more quickly to any environment (Krasnyuk et al. 2021). So that it can find that nowadays, the use of financial services through the internet is increasing, becoming more diverse, and increasingly competing to get the most users.

The COVID-19 pandemic began as a shock to public health and the medical system. However, the nature of the pandemic combined with the speed of transmission has led society to undergo voluntary behavioral changes. During the COVID-19 pandemic, almost any application previously running on a personal computer or laptop can be from smartphones. Smartphones are already one of the basic needs of all human beings, especially in urban areas. During the desolate period of COVID-19, many people's activities must do from home via the internet, laptops, and smartphones. All activities outside the home were limited, making Fintech an ample and optimistic opportunity to encourage people to switch to technology-based financial services. The restrictions imposed caused an economic slowdown in some countries from 2020 to 2021, especially in developing countries, and meanwhile, digital entrepreneurship activities experienced a sharp increase (Bacq et al. 2020; Shareef et al. 2021; Ratten 2020). It is known that Fintech with 24/7 access to efficient and adaptive financial services is considered necessary for economic growth, helps reduce costs, saves time, is affordable, and is a very effective solution that can do anywhere. COVID-19 has affected several sectors, as well as the Fintech sector. The shock of the COVID-19 pandemic has hit many Fintech companies, and most of them are trying to adopt new ways to save their business. In addition, Fintech is far from just a reference for innovation related to finance and creative things in the form of inventions to improve techniques related to building effective responses for budget administration with new mechanical trends. In banking programming, monetary creativity and portable financial applications are excellent examples of progress (Nair et al. 2021). It mentioned previously that the impact of COVID-19 had an impact on new mechanical trends for companies besides that the COVID-19 pandemic had significant impacts on the global financial industry and shaped new research in the financial industry (Goodell, 2020). For example, several studies have analyzed the implications of COVID-19 on financial markets and portfolio diversification (Corbet et al. 2020; Corbet et al. 2020; Yarovaya et al. 2021).

According to Yan et al. (2021); Mustafa et al. (2021), a study was conducted to investigate the role of the MFS platform in economic resilience by assessing the factors influencing the intention to use the MFS platform of users in Bangladesh during the COVID-19 pandemic. Moreover, factors affecting the application of M-banking in the Gulf Region of Oman through the Unified Theory of Acceptance and Use of Technology using the core structure of UTAUT. Theoretical models are based on the attributes of financial services, such as perceived value, risk factors, and trustworthiness. Data were obtained from 227 potential MFS users in Bangladesh by questionnaire survey and data analysis with Structural Equation Modeling (SEM) approach. The Fintech research conducted by Alber and Dabour (2020) examined ten countries as objects, including the United States, United Kingdom, Egypt, United Arab Emirates, and Saudi Arabia. Japan, South Korea, Italy, India, and Nigeria from March to June 2020. The study was conducted to investigate the opportunities for Fintech to thrive in times of strict social distancing. Social distancing was measured by Community Mobility Reports on COVID-19 using daily data by country, retail and leisure, wholesale, pharmacy, parks, transit stations, workplaces, and residences. Meanwhile, digital payments are measured through transaction volume and transaction value. The report data produced by Community Mobility Reports is illustrated based on data recorded on February 14, 2020, from these six categories.

Digital payments and financial institutions affected by COVID-19 were presented by <u>Tut (2021)</u>, to determine the impact of COVID-19 on Kenya's electronic payment system using monthly electronic payment data from the Central Bank of Kenya, financial performance data from FinAccess household surveys, and FinAccess geospatial mapping surveys, and financial intermediaries. At the same time, the COVID-19 data comes from data from our world. When the COVID-19 pandemic hit the banking sector, which affected the operation of the bank system, cashless transactions and contactless

transactions became a necessity. Therefore, the discussion aims to facilitate the development of these technologies - how innovative thinking with artificial intelligence and the internet triggers cashless, contactless transactions and supports social distance during COVID-19. Contactless payments have redefined payment methods during the COVID-19 times as the only option available, enabling the world to continue its business and comply with social distance and stay-at-home order guidelines. Contactless payment requires you to pay for the item and deliver it via an online platform. (Dubey *et al.* 2020). Innovative technology impacts lifestyle changes and works environment, health, and communication media. Misrina and Nuskiya (2021) research analyze Fintech's impact on work from home and mobile banking operations in the Islamic banking industry during COVID-19. The research was conducted through qualitative surveys and primary data collection techniques with a sample of 38 respondents who were analyzed through SPSS.

The influence of Fintech in the COVID-19 pandemic on transportation occurs in Indonesia. This study by Purba et al. (2021), where digital technology collaborates with online transportation used by several large companies in Indonesia to meet consumer needs during the PSBB (Large-Scale Social Restrictions), is strict. However, according to a survey of respondents obsessed with the use of everyday technology, within 5.5 months, millennials will be in terms of accessibility, speed, and the value of increasingly demanding financial services. It is used to not complete a problem submission for Digital Technology 4.0 using digital applications in Jakarta, Depok, and surrounding Tangerang with quantitative data analysis methods. Technological advances have accelerated the development of the digital payments industry, providing more efficient and faster access to financial services during this pandemic. The study by Nathan et al (2022) investigated financial literacy, Fintech adoption, and the impact of the COVID-19 crisis on consumer financial health in Vietnam by using questionnaire sampling techniques and data analysis with IBM SPSS 23, which was then analyzed further using multiple linear regression.

Le (2021) evaluates the use of post-COVID-19 Fintech services as a new normal behavior supported by related factors. Data were collected from the United States via Mechanical Turk (MTurk), the same culture as the structural equation model. The models discussed are COVID-19 lockdown, trust, data security and privacy, quality administrative services, perceived usefulness, intention, and loyalty. Similar to Daragmeh et al. (2021), which evaluates the factors influencing the use of Fintech services during a pandemic. Data were collected from 1120 individuals of generation x through a questionnaire survey with a conceptual model that discussed subjective norms, perceived usefulness, ease of use, behavioral intentions, and COVID-19 risk. Al-Nawayseh and K (2020) studied the resilience of Fintech use during the COVID-19 pandemic and the factors affecting Jordanian citizens with a sample of 500 Fintech service users. The conceptual model used in his research uses the structural equation (SEM-PLS) by raising social influence, benefits, risks, trust, and usage intention. Lohitha and Harish (2021); Nair et al. (2021); Gupta and Agrawal (2021) provide insight into the reasons for the development of Fintech in the COVID-19 pandemic in India in crowdfunding, payments, blockchains, insurance, and lending that have been created so that COVID-19 is said to be helping post-pandemic developments in India. Empirical data were collected using qualitative methods from Fintech professionals, financial institution experts, and Fintech users.

Daqar et al. (2021) aim to determine the role of Fintech based on consumer perceptions and behavior before and after COVID-19. This study uses LinkedIn to distribute questionnaires to various countries and obtain 507 samples using Structural Equation Modeling (SEM). The models studied are Fintech behavior before COVID-19, Fintech behavior after COVID-19, Fintech perception after COVID-19, and COVID-19 spread. Vasenska et al. (2021) analyzed the use of Fintech before and after the crisis in Bulgaria, which obtained 242 questionnaire respondents using quantitative methods, two-sample paired t-tests, Levene's test, and web-based ANOVAs to produce documents. P.Pinshi (2021) explores the potential of global Fintech in the COVID-19 era with sovereigns, companies, households, banks, insurers, asset managers, and other financial institutions. Giese and Haldane (2020) compare and contrast financial systems during the global financial crisis and COVID-19. The research outlines several inputs and lessons for the financial system from the COVID-19 crisis and beyond. Hassan et al. (2020); Rabbani et al. (2022) analyze the challenges due to COVID-19 on Islamic finance, analysis of the Islamic financial crisis, and the role in the creation of a post-COVID-19 financial system in which

Islamic financial institutions and financial institutions are linked as they provide a framework for understanding and adopting Islamic finance post-COVID-19. <u>Schmutzler et al.</u> (2021) identify how Fintech works to help workers, entrepreneurs, and even the economy deal with the crisis in Latin America.

2. Literature review

This section provides an overview of the literature review on the implementation of various digital payment methods, financial technology, mobile financial and mobile banking.

2.1 Digital Payment

Digital payments are different functions offered by a smart phone to finalize payments, such as virtual banks, e-wallets, and peer to peer transfer in real time. The digital payment model has been expected as one of the new business models for implementing payment solutions for custom <u>Purba</u> et al. (2021).

2.2 Financial Technology

Financial technology is a technology-based industry in financial services outside conventional financial institutions, making it easier for the public to access financial products in transactions. Fintech makes financial transaction more convenient, less expensive, and safer by using advances in technology (Al-Nawayseh and K, 2020).

2.3 Mobile Financial

Mobile financial is a banking service system that provides consumers access to all kinds of transactions using mobile phones as the main means and the internet as an intermediary. Therefore, these mobile financial services can be considered products and services presented by financial institutions to consumers using mobile devices to increase consumer access to financial services while reducing the financial institution's expenses Yan et al. (2021).

2.4 Mobile Banking

Mobile banking combines financial services with digital technology to form a user-friendly, transparent, automated, and efficient application. These financial technologies provide easy access to all of their consumers for financial and banking related Misrina and Nuskiya (2021).

3. Research Methodology

This study aims to analyze the relationship between financial technology (Fintech) and COVID-19, using a literature review study from 2020 to 2022 —research data and data analysis in the form of articles from international journals discussing Fintech during the COVID-19 pandemic. This study with qualitative methods is a study to provide details and understanding of the problem and the relationship between variables studied in depth. This investigation is used by identifying and compiling various sources of factual information and personal or expert opinion regarding this investigation. The discussion of this research is divided into two parts; namely, the first part will discuss digital payments, mobile finance, mobile banking, and technology with COVID-19, and the second will discuss Fintech developments and Fintech usage behavior with COVID-19. The analysis was carried out based on the research results, and the opinions of previous researchers were associated with the elements of the discussion. This study will bring additional insights, references, and ideas related to the economy during the COVID-19 pandemic and even further studies.

4. Result and Discussions

Digital payment, mobile financial. mobile banking and technology during the COVID-19 pandemic According to Yan et al. (2021), several factors have a positive influence on the desire to use financial technology, especially mobile financial services, during the COVID-19 pandemic, namely Perceived Trust (PT), Social Influence (SI), and Perceived Value (PV). Its shows that the intent of users to adopt Fintech services such as mobile banking is more influenced by the PV than the perceived risk. Therefore, MFS need to raise their security awareness and work on developing risk-free MFS platforms, rather than ignoring the risks associated with their products and services. This is because users have similar concerns after the pandemic. MFS providers can increase consumer PV for mobile banking by making the system more convenient and user-friendly. In this regard, the performance expectations and perceived value of users of the MFS platform will improve during and after the pandemic. However, similar to Widiatmo (2021) that Perceived Risk (PR) does not affect the desire to use mobile financial

services. Fintech adoption and success are highly dependent on user trust as it concerns privacy and financial transactions. Many people in Indonesia have proved that they are not yet confident in Fintech applications. This is because many consumers are still dissatisfied with the harmful Fintech services. On the other hand, Effort Expectancy (EE), and Performance Expectancy (PE) have influenced the use of mobile financial services during the COVID-19 outbreak. This Perceived Value (PV) has the most significant influence on mobile financial services, which several other researchers have also proved. Alber and Dabour (2020) have a similar opinion that COVID-19 or, more precisely, the social distancing regulations implemented by the government affect the use of financial technology. The findings support the significant impact of social distance in retail and leisure, grocery and pharmacies, transit stations, and the workplace. Results support the significant impact of social distance on digital payments, as measured by the volume and value of individual transactions.

Tut (2021); Dubey et al. (2020) argue that increased use of Fintech during the COVID-19 pandemic, keep in mind that the regulations set will have the greatest impact on Fintech use. Technology allows people to do business as usual and be serviced from the comfort of their homes. Technological progress is certainly the future of the world economy, especially in such a pandemic era that does not require social interaction between people. According to research Faeni et al. (2021), social distancing policies for employees working in SCBD offices in Jakarta suppress the pace of pandemic development and are beneficial in increasing organizational productivity and affecting the economy by using technology. The COVID-19 pandemic is accelerating the adoption of the Fintech platform in payments like an increase in mobile banking transactions, mobile agents, and mobile banking accounts. Other than that, have significantly reduced the use of all electronic payment cards during the pandemic. Fintech offers easy access and no need to carry a physical card in the transaction. That means competition between companies is getting tougher with increasingly attractive offers from the emergence of financial technology companies in the payment system. This is supported by the lifestyle of today's society, especially young people influenced by social media where everyone is competing to show off what they have (Ardelia and Leon, 2021). Also, Misrina and Nuskiya (2021) added that COVID-19 influences financial technology which is the measurement used in his research is the work from home (WFH) regulation. Mustafa et al. (2021) have the same opinion that this financial technology affects the use of financial growth during the COVID-19 pandemic. The financial technology that is used as a benchmark is M-Banking. Purba et al. (2021) argue that COVID-19 affects financial technology with several other variables that play an essential role in using financial technology, such as trust, self-efficiency, security, and ease of use. The presence of Fintech shows that it is very supportive of consumer resilience, especially during the COVID-19 pandemic. It is becoming a new business and service model that will generate innovative strategies for digital payment services, with the momentum to maintain existing businesses and cultivate many of the country's start-up businesses. Nathan et al. (2022) argue that financial technology during the COVID-19 period is increasing even though the data shows that the population that has not become a customer is very high.

So, researchers can conclude that COVID-19 is affecting financial technology here. However, it should be noted that other variables that play an essential role in the results of this study, such as regulations that support the use of financial technology, ease of accessing financial technology, or other supporting factors such as the value and performance of financial technology during the COVID-19 period. Factors supporting the ease of technology also affect financial development and the use of technology, especially regulation as an essential element in regulating and maintaining the function of any financial technology development that does not deviate from the appropriate regulations in the sector. Significant practical policies in Fintech encourage various organizations to compete in offering financial services. This is increasingly prevalent during the COVID-19 pandemic, with certain restrictions on activities, especially outside the home. Financial service users are also increasingly making transactions in the marketplace. One of which is mobile banking and electronic money that is easy to use and feel practical when doing transactions—the Transactions on the shopping platform. Of course, this increase is punctuated by user anxiety due to technology risks, such as cybercrime related to personal data, potential loss, fraud, and exclusion. So one solution is that the Fintech industry must follow proper

regulations and supervision to protect consumers. It is supported by the Minister of Finance of Indonesia, Sri Mulyani, where the digital economy is developing. There is a need for regulation for Fintech industry players so that the industry remains good, committed, and healthy from the regulator's perspective (Victoria and Fardaniah, 2021). The development of Fintech certainly will not happen by itself without people who can already access the internet and the technology itself. Thus, the presence of Fintech can positively influence developing countries such as Indonesia, which can encourage broad and international cooperation.

The development of Fintech and the behavior of using Fintech during the COVID-19 pandemic

COVID-19 poses many challenges to people, organizations, and governments through the various measures taken to prevent or contain the spread of the virus. In the turmoil of the virus, many previously blocked activities are coordinated over the internet. However, digital skills and literacy could save the situation associated with the survival of all forms of business. Meetings have been held, the organization continues to operate, deliver services and products for the opportunities made possible by digital technology (Ebuka et al., 2020). After the COVID-19 lockdown as a new normal behavior for factors that influence the tendency to use Fintech services, Fintech services increased user numbers during the COVID-19 lockdown. This study predicts increased demand for Fintech post-COVID. Enterprises need to prepare their technical infrastructure to minimize network problems. Satisfaction engage consumers in the service and build their trust. Continuation by improving the service, users will recognize Fintech as an essential service in the future. Administrators need to maintain the quality of connecting with more people, such as services and extended transaction utilities, a brand or service for building a shopping network (Le, 2021). According to Al-Nawayseh and K (2020), the role of using Fintech applications to build resilience during the COVID-19 pandemic provides perceived benefits and social norms that influence intentions to use Fintech applications, indicate that a customer's intention to use Fintech applications is affected by his or her perception of benefits, social impact, and trust. However, during the COVID-19 pandemic, perceptions of risks did not affect customers' intention to use Fintech applications, but it affected their trust in the service. Accordingly, consumers will be more likely to make Fintech transactions when perceived benefits, social value, and trust are high and at the same time when risk perceptions are low. According to Daragmeh et al. (2021), it is in line with research where the model of perceived COVID-19 risk, perceived usefulness, subjective norms, and perceived ease of use explained 62.9% of the difference in intentions to use a mobile payment system. Perceived usefulness has the most significant impact on Gen X's intention to adopt mobile payments. Social distancing and full and partial blocking led Hungarian consumers to adopt mobile payments as a helpful alternative. Moreover, mobile payments benefit Gen X by reducing the time, cost, and effort required to complete such transactions. According to Lohitha and Harish (2021), with the prolonged COVID-19, using innovative technology by adopting 'digital' in all transaction methods has become the most prominent pillar for the growth of financial technology during the pandemic. Based on Dagar et al. (2021), the perception and behavior of financial technology among users will help reduce the spread of COVID-19 by avoiding the use of the contact payment method. In the context of the crisis after COVID-19 and increasing global economic uncertainty, financial technology in financial transactions is considered more competitive than the traditional banking system, as stated in Vasenska et al. (2021). It can be seen that, on the other hand, Fintech wants to rebalance its global financial system during this financial crisis. On the other hand, it is the ultimate weapon for responding to a crisis by building the financial system's resilience, observing containment measures while preventing the spread of the virus, and ensuring a functioning system (P.Pinshi, 2021).

Based on the research of Nair et al. (2021) describes the changes in how the Fintech industry functions due to the impact of COVID-19 in India. It is related to the research of Gupta and Agrawal (2021) that various factors are responsible for changing the landscape of the Indian financial system. These factors encourage customers to adopt Fintech venture services over traditional financial institutions. Giese and Haldane (2020) research show that due to regulatory and institutional reforms over the last decade, banks are now part of the solution, not part of the problem. Disruptive innovations such as Islamic

Fintech provide the same foundation for Islamic finance to compete and thrive in post-COVID recovery, as stated in the research of Hassan et al. (2020). In line with Schmutzler et al. (2021), promote digitization, skill improvement, and formalization of how Fintech and the Latin American government can help post-crisis workers, employers, and the economy in large-scale weather. It addresses some of the most prevalent structural problems. Apart from this, Rabbani et al. (2022) reveal that COVID-19 is a highly standardized, more integrated, and transformative growth opportunity, with the industry primarily focusing on social causes and tactical Fintech adoption. Fintech enables financial services products to reach a broader community at lower operating costs. In fact, within the Covid19 pandemic, FinTech can actively contribute to the community and facilitate transactions without violating cloud protocols, which can be a community dilemma (Ashoer et al., 2022). So it can be concluded that the existence of financial technology during the COVID-19 pandemic had a positive impact and more benefits from various sides.

Fintech behavior among users helps reduce the spread of COVID-19 by avoiding the use of contactless payment methods. The contactless method also makes it easier for people to shop so that their demand increases during this COVID-19 period. The increasing number of Fintech users during the COVID-19 period provides benefits and convenience regarding the intention to adopt Fintech. The extension of social restrictions has led to an increase in innovative technology's use in daily life transactions, thus becoming a significant pillar of the growth of financial technology during the pandemic. From the post-COVID-19 crisis perspective, Fintech financial transactions are considered more competitive, whereas, from the Fintech side, global economic uncertainty continues to increase in this period of financial turmoil, which is expected to rebalance the global financial system. In addition, on the other hand, it can be a weapon in maintaining the financial system and responding to the economic crisis using this Fintech collaboration. In the industrial context, Fintech is a skill enhancement, digitalization drive, and formalization for workers, entrepreneurs, and the economy to face the post-crisis with Fintech collaboration with governments and companies. It will help the economy experience improvement and transformation towards higher standards or standards so that it positively impacts all users (Gupta and Agrawal, 2021). The positive impact resulting from this transformation and providing convenience for users also brings economic development to a higher level. It is easier for small companies or individual entrepreneurs to reach a broader target market and create innovations in managing their businesses so that they do not seem conventional in general. However, this development needs control for companies and the government to prevent specific opportunities by means used by some parties that damage the community's economic market.

5. Conclusion

COVID-19 is a phenomenon that has both direct and indirect effects on human behavior and economic activity. Financial technology is a growing innovation in the financial industry in reducing dependence on physical communication. In addition to reducing costs, saving time, and being affordable and effective, Fintech technology and innovation will drive change, such as providing comprehensive services that can be accessed by many people and serve consumer needs more optimally. Moreover, the COVID-19 pandemic has limited all activities outside the home, making Fintech an ample and optimistic opportunity to encourage people to switch to technology-based financial services. The extension of social restrictions has led to increased users of innovative technology in conducting transactions in daily life, thus becoming the enormous pillar of financial technology growth during the pandemic. The increasing number of Fintech users during the COVID-19 period provides benefits and conveniences related to the intention to adopt Fintech. It is concluded that COVID-19 influences the use of Fintech, where it is necessary to note that there are regulatory variables that support the use of Fintech, the ease of accessing Fintech, and the supporting factors for the value and performance of Fintech during this COVID-19 period that play an essential role. The use of Fintech has increased during the COVID-19 pandemic, noting that the regulations set have the greatest influence on the use of Fintech. Significant practical policies in Fintech encourage various organizations to compete in offering financial services. This increase is, of course, punctuated by user anxiety due to technological risks, such as cybercrime, which requires Fintech industry players to follow appropriate regulations and supervision to protect consumers. The development of Fintech certainly will not happen by itself

without people who already can access the internet and the technology itself. Thus, the presence of Fintech can positively influence developing countries such as Indonesia, which can encourage extensive and international cooperation.

Limitations and Study Forward

This research makes it imperative to consider fraud detection and prevention when launching a Fintech platform to reduce consumer concerns and keep the industry in good shape from regulators and commitments. Companies must improve the quality of financial services in meeting the wider community's needs and carry out better supervision and guidance to avoid cybercrimes. It is crucial to improve the safety and comfort of consumers and equitable access to online information technology services for all groups. For researchers who will research financial technology, The limitations of this study only raise a few points of discussion, namely regarding Fintech products, Fintech developments, and Fintech behavior during the Covid-19 period, and most of the reference articles focus on countries with fairly good financial technology developments. Future researchers can also conduct research on the dark side of developing financial technology in developing countries along with the emergence of artificial intelligence. It is necessary to consider technological change and development in the financial sector. Researchers can research the development of financial technology in government in infrastructure development and the development of communication networks between agencies in facilitating the community.

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