

## THE ROLE OF FINANCIAL TECHNOLOGY INNOVATION (FINTECH) IN IMPROVING THE OPERATIONAL EFFICIENCY OF MSMEs IN BINTAN REGENCY

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### Abstract

After the Covid-19 Pandemic, Indonesia, especially Bintan Regency, is faced with the challenge of improving the operational efficiency of MSMEs (Micro, Small and Medium Enterprises) in various zones, especially in financial management. This research aims to study the position or role of financial technology innovation in improving the operational efficiency of MSMEs in Bintan Regency. The use of technology can share many conveniences in every business activity. Financial technology (Fintech) is one of the drivers of business growth at this time. The research method used is using a qualitative descriptive approach. Qualitative descriptive analysis is research that correctly and accurately describes the process or event that is happening as the object of research. The information or data is then analyzed to get results. The findings of the study prove that the use of Fintech such as digital payment systems, expense tracing, and financial information analysis can significantly increase the operational efficiency of MSMEs in Bintan Regency. This study shares a better description of Fintech innovations that can be applied efficiently and effectively to improve financial and operational performance in Bintan Regency. In short, financial technology innovation has great ability to improve operational efficiency with synergistic cooperation between stakeholders to be able to improve digital skills, as well as infrastructure investment.

**Keywords:** *Fintech, operational efficiency, digital literacy*

### INTRODUCTION

The pandemic in 2019 made the world economy worsen because it shut down the running of business processes in almost all sectors. Based on a survey by the Ministry of Agriculture at the end of 2020, many companies were directly impacted by the pandemic with data on 88% of registered companies. The companies most affected by the pandemic are retail companies due to a decrease in demand, decreased production, and this affects the company's profits. However, most companies lay off their workers. So that companies that choose to terminate employment relationships are recorded at around 17.8%, companies that choose to lay off their workers are around 25.6%, and those that terminate employment and lay off their workers are around 10%. In line with this, companies are making changes to the way they work such as implementing work from home, which is expected to make work more flexible and efficient with the number of workers and reduced wages. This has caused some companies to no longer use physical offices to reduce operational costs (Bimantara Pradana, B. 2022).

After the pandemic, many MSMEs have emerged because they have to be quick in responding to changes in the Indonesian economy, the large number of workers who have been laid off makes many Indonesians have to think more to be able to survive in limited conditions. Putri Melati, W (2022) stated that Micro, Small and Medium Enterprises (MSMEs) are the lifeblood of the regional and national economy. In general, MSMEs in the national economy have a role as the main actor in economic activities, the largest provider of employment, an important player in the development of the local economy and community empowerment, the creator of new markets and sources of innovation, as well as their contribution to the balance of payments. In addition, MSMEs also have an important role, especially in the perspective of job opportunities and sources of income for the lower middle class, distribution and poverty reduction, and MSMEs also play a role in rural economic development. Abdurohim (2020:16) stated, "MSMEs are an Indonesian development movement that is an activity related to business and the economy. As a result, the MSME system defines agriculture, agribusiness, manufacturing, and human resource development as economic sectors". MSMEs must be able to adapt in order to survive when Indonesia's economic conditions are in a declining state. MSMEs that were initially Selling offline when the pandemic comes, you must

be able to sell online. It is proven that MSMEs that sell online can last longer than MSMEs that still maintain offline sales. After the Covid-19 pandemic, Indonesia is trying to rise, especially in the economic sector, including Bintan Regency so that the presence of Fintech in the midst of economic struggles and turmoil, Fintech is one of the ways to be able to boost the growth of MSMEs. Based on MSME data recorded in the Bintan Regency Government, there are 4,080 MSMEs engaged in various sectors. (Kepriprov, 2020). In line with this, the implementation of technological innovation in the financial industry, known as Fintech, has brought a significant change to the motto of mastering and managing finances. Fintech arises due to the need for financial problem solving that is more effective, affordable, and accessible to the public at large. In Indonesia, the growth of Fintech has become a significant phenomenon in the last few years, growing rapidly and being widely adopted by the public and the business world. Research conducted by (Abeka, Andoh, Gatsi, & Kawor, 2021) that the application of Fintech is expected to have a good impact in contributing to economic recovery, especially MSMEs. Fintech certainly provides great potential and opportunities for the development and progress of Indonesian MSMEs. The difficulties that often occur for MSMEs are in finance and capital. With the services presented by Fintech, it is hoped that it can make it easier for MSMEs in terms of marketing and finance.

In recent years, Indonesia's financial technology has developed rapidly. Many local Fintech companies have managed to raise significant funds from domestic and foreign investors. The Government of Indonesia also provides strong support for the development of financial technology through various policies and regulations that support innovation in the financial sector. As a result, Indonesia has become one of the largest Fintech markets in Southeast Asia. The application of financial technology in Indonesia covers many fields such as digital payments, peer-to-peer lending, online investment, and digital insurance. Fintech companies are starting to emerge with a diverse range of business models, ranging from simple payment applications to complex investment platforms. The application of financial technology mainly has an impact on the inclusive financial sector, providing financial services to the community that are difficult to reach by traditional financial institutions. (Collect your money from the OJK, accessed on June 01, 2024)

With the development of technology and the high public interest in digital financial services, the prospects for further growth and innovation of Fintech in Indonesia are very bright. However, challenges such as data security, complex regulations, and low levels of financial literacy are still issues that need to be addressed to ensure sustainable and inclusive Fintech growth in the future. Economic growth and economic sustainability of a country cannot be separated from the important role of technological innovation. Over time, technological developments have become the main driving force for accelerating economic growth and increasing operational efficiency in various sectors. Economic management, as the main foundation in managing a country's economic resources, increasingly relies on technological innovation to achieve its strategic goals (Al Aidhi, et al., 2023). The importance of operational efficiency in economic management is very necessary to increase competitiveness and have a positive impact on people's welfare. Technological innovations, both hardware and software, have brought significant changes in the way we do business. With the right adoption of technology, economic management can gain significant benefits in terms of efficiency, productivity, and resource management (Ningsih, (2020); Supriyanto (2016)).

Despite the very rapid growth of MSMEs since the pandemic in 2019, there are still many MSMEs who are constrained by access to credit, especially MSMEs in Bintan due to the lack of information about the profile of MSMEs that have not met risk management requirements, do not have collateral and financial statements are still loss-making even though cash flow positive, not to mention lack of capital, technology for production, limited market share, lack of management, and lack of training. Therefore, this study aims to find out more about the role of Fintech to improve the operational efficiency of MSMEs, and to see how Fintech can provide benefits for MSME business people in Bintan Regency, this is also important for the community and the Bintan Government to pay attention to how they can synergize with each other in realizing economic development in the context of the regional economy.

## LITERATURE REVIEW

The global economic downturn triggered by the COVID-19 pandemic significantly disrupted business processes across almost all sectors. According to a survey conducted by the Ministry of Agriculture at the end of 2020, approximately 88% of registered companies were directly affected. Among the most impacted were retail companies, which experienced declining demand, reduced production, and ultimately decreased profits. As a consequence, many companies implemented workforce reduction strategies. Data indicates that around 17.8% of companies terminated employment, 25.6% temporarily laid off workers, and 10% implemented both measures (Bimantara Pradana, 2022).

In response to these challenges, companies began adapting their operational systems, including the adoption of work-from-home policies to improve flexibility and efficiency while reducing labor and operational costs. This shift also led some companies to abandon physical office spaces entirely as a cost-saving strategy. These transformations illustrate how businesses adjusted to survive during economic uncertainty. Following the pandemic, there was a significant rise in the number of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. This growth was largely driven by workers who had lost their jobs and were compelled to seek alternative sources of income. As stated by Putri Melati (2022), MSMEs serve as the backbone of both regional and national economies. They play crucial roles as the main drivers of economic activity, the largest providers of employment, contributors to local economic development, creators of innovation, and supporters of balance of payments stability. Additionally, MSMEs contribute significantly to income distribution, poverty reduction, and rural economic development.

Supporting this view, Abdurohim (2020) emphasizes that MSMEs represent a national development movement encompassing sectors such as agriculture, agribusiness, manufacturing, and human resource development. Therefore, MSMEs are not only economic actors but also strategic components in national development. However, to survive in a declining economic environment, MSMEs must adapt to changing conditions. One of the most significant transformations during the pandemic was the shift from offline to online business models. MSMEs that adopted digital platforms were proven to be more resilient compared to those that relied solely on traditional offline methods. In this context, the presence of Financial Technology (Fintech) has become increasingly important in supporting MSME growth. Based on data from the Bintan Regency Government, there are approximately 4,080 MSMEs operating across various sectors (Kepriprov, 2020). Fintech has emerged as a solution to financial challenges by providing more accessible, efficient, and affordable financial services.

The development of Financial Technology in Indonesia has grown rapidly in recent years, driven by technological advancements and increasing public demand for digital financial services. Fintech applications include digital payments, peer-to-peer lending, online investment platforms, and digital insurance. These innovations have significantly improved financial inclusion by providing access to financial services for communities that were previously underserved by traditional financial institutions (OJK, 2024). Research conducted by Abeka et al. (2021) shows that Fintech implementation contributes positively to economic recovery, particularly for MSMEs. One of the main challenges faced by MSMEs is limited access to capital and financial resources. Fintech services help address these issues by facilitating easier access to funding and enhancing financial management capabilities.

Furthermore, the Indonesian government has demonstrated strong support for the growth of Fintech through regulatory frameworks that encourage innovation. As a result, Indonesia has become one of the largest Fintech markets in Southeast Asia. Despite its rapid growth, several challenges remain, including data security concerns, regulatory complexity, and low levels of financial literacy among the population. Technological innovation plays a vital role in economic growth and sustainability. According to Al Aidhi et al. (2023), economic management increasingly depends on technological advancements to achieve efficiency and competitiveness. Similarly, Ningsih (2020) and Supriyanto (2016) highlight that the adoption of technology can significantly improve productivity, operational efficiency, and resource management across various sectors.

Despite the rapid growth of MSMEs post-pandemic, many still face significant obstacles, particularly in accessing credit. In Bintan Regency, these challenges include limited financial information, lack of collateral, inadequate risk management, insufficient capital, limited technological capabilities, narrow market reach, and lack of managerial skills and training. These constraints hinder MSMEs from achieving optimal growth and sustainability. Therefore, this study aims to examine the role of Fintech in improving the operational efficiency of MSMEs and to analyze how Fintech can provide tangible benefits for MSME actors in Bintan Regency. This research is also expected to contribute to policy considerations for both the government and the community in fostering collaboration to achieve sustainable regional economic development.

METHOD

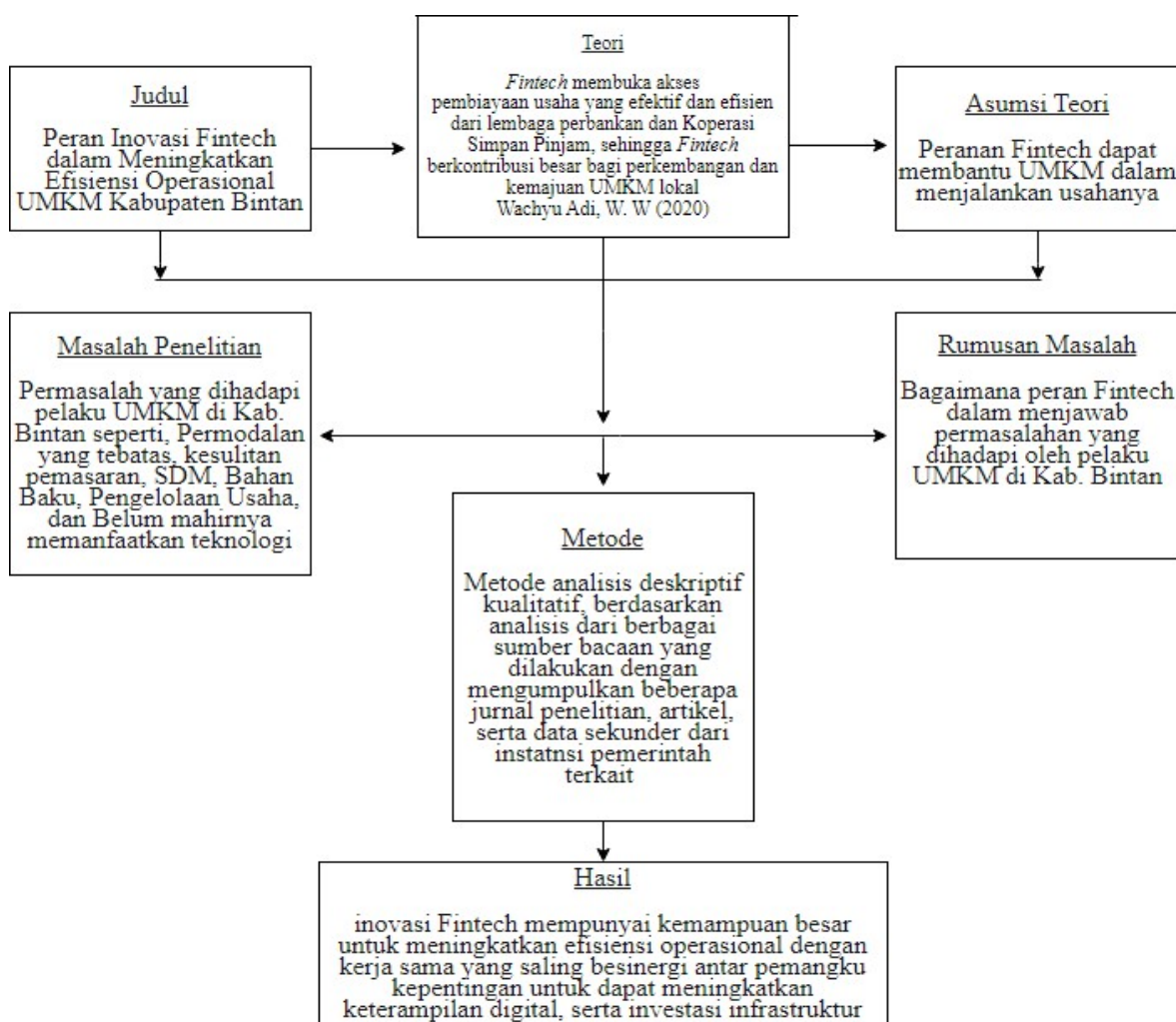


Image. Frame of Mind

This research is entitled "The Role of Fintech Innovation in Improving the Operational Efficiency of MSMEs in Bintan Regency". According to research conducted by Wachyu Adi, W. W (2020). With the title The Role of Fintech in Micro, Small and Medium Enterprises (MSMEs). By using quantitative research methods in the form of questionnaire surveys in the areas of Batang Regency, Pekalongan Regency and Pemalang Regency. It was concluded that the role of Fintech in the financial inclusion of MSMEs in the 3 districts has been many MSME actors who use applications and collaborate with banks and Savings and Loan Cooperatives. Fintech opens access to effective and efficient business financing from banking institutions and Savings and Loan Cooperatives, so that Fintech contributes greatly to the development and progress of local MSMEs.

The problems faced by MSME actors in Bintan Regency are problems related to limited business capital, difficulties in marketing, problems with human resources, raw materials, business management, and not being able to utilize technology to the fullest. The problem formulation of this study is to find out how the role of Fintech in answering the problems faced by MSME actors in Bintan Regency. The research method used in the preparation of this journal uses a descriptive qualitative approach. The qualitative descriptive analysis method is a research method that is carried out to systematically describe the process or event that is currently taking place which is used as the object of factual and accurate research. Then the data or information is analyzed so that results are obtained. This research was conducted based on the analysis of various reading sources conducted by collecting several research journals, articles, and secondary data from related government institutions. The data is then analyzed and described. So the results of this study are found that Fintech innovation has a great ability to increase operational efficiency with synergistic cooperation between stakeholders to be able to improve digital skills, as well as infrastructure investment for the advancement of MSMEs in Bintan Regency.

## RESULTS AND DISCUSSION

MSMEs or commonly known as Micro, Small and Medium Enterprises is a term that refers to the type of business established by individuals and has a net worth of at most IDR 200,000,000., not including land and buildings. MSMEs according to Law Number 9 of 1995 concerning small businesses, defines MSMEs as small businesses that have assets outside the land and buildings equal to or smaller than Rp 200 million with an annual turnover of up to Rp 1 billion. Meanwhile, the definition of medium business is an official business entity that has assets of IDR 200 million to IDR 10 billion. Based on the Presidential Decree of the Republic of Indonesia Number 99 of 1998, MSMEs are small-scale people with business fields that are generally small business activities and need to be protected to prevent unfair business competition.

The role of MSMEs in the Indonesian economy is first as a means to level the economic level of the community. Especially those who belong to the lower middle class. The development of the spread of MSMEs from cities to regions, even with the development of the times. This condition is certainly different from large companies that only exist in certain locations so that their reach cannot be thoroughly. With these MSMEs, people in remote areas no longer need to go to the city to get a decent livelihood. So that this makes the Indonesian economy more productive because even people in remote areas are more productive. So that it is possible for them to develop their business. So, it can be said that MSMEs participate in encouraging economic equity. That's why a productive business opens up opportunities for anyone and narrows the economic gap between the poor and the rich. (Amartha, 2024)

With the growth of MSMEs, it is very helpful for the government to prevent uncontrolled urbanization, this is because people have the desire to get a more decent livelihood in the city. So that to make it easier for MSME business people who have difficulties in financial problems, the government contributes to introducing Financial Technology (Fintech) to the community. Although MSMEs contribute to the national economy quite well, it turns out that this sector still faces many difficulties. The ability of MSMEs in business management is still not optimal, the quality of human resources (HR) is limited, and the financial literacy is low related to access to capital. Generally, MSMEs still implement the traditional management system. Business management is still carried out individually, where the management system applied is still family-based, not professional (Alimudin, et al., 2019)

### Perkembangan UMKM di Kabupaten Bintan

Tahun 2022 s.d. 2023



Sumber: DKUPP Kabupaten Bintan, 2023

Based on the diagram above, it shows that there is an increase in each sub-district in Bintan from 2022 to 2023. Teluk Bintan District initially amounted to 228 MSMEs to 321 MSMEs. Toapaya District initially had 182 MSMEs to 213 MSMEs. Gunung Kijang District initially had 171 MSMEs to 206 MSMEs. Mantang District initially had 99 MSMEs to 227 MSMEs. Bintan Pesisir District initially had 216 MSMEs to 237 MSMEs. East Bintan District initially had 633 MSMEs to 781 MSMEs. Teluk Sebong District initially had 156 MSMEs to 219 MSMEs. North Bintan District initially had 674 MSMEs to 829 MSMEs. Seri Kuala Lobam District has 261 MSMEs to 396 MSMEs. Tambelan District initially had 509 MSMEs to 651 MSMEs. Although the diagram shows a significant increase from the previous year, MSMEs in Bintan still have obstacles that hinder the development of MSMEs themselves.

Fajar (2021) said that the problems that hinder the development of MSMEs in Indonesia that are felt by MSME actors to maintain and develop their businesses are relatively the same, including:

### 1. Capital

The development of business units is one of the important things to pay attention to. However, most MSMEs have limited capital with low sources of capital from banks, high interest rates, complicated credit application procedures and long time intervals for applying and disbursing funds which tend to be long reasons why MSME actors do not take advantage of funding sources from banks. Meanwhile, from a banking perspective, it is not like MSMEs because they do not have loans and have low ability to repay loans, because MSME actors have not been able to separate family finances and business finances, so it is difficult for banks to find out the ability of MSMEs to pay the credit they obtain. This is also an obstacle for MSMEs in Bintan Regency who still find it difficult to get access to capital, because there are still many MSME actors in Bintan Regency who ignore business administration. In fact, according to the Ease of Doing Business 2020 research, Indonesia is ranked 48th in terms of ease of obtaining credit for MSMEs in Bintan Regency, which means that if MSME actors pay attention to the administrative system, access to funding that is expected to support business sustainability can be achieved.

### 2. Marketing difficulties

This is due to limited production capacity and quality that has not been able to meet market demand. So, generally MSMEs cannot negotiate with international buyers and utilize information technology to market products, so this causes MSME actors to be un-independent and depend on elite entrepreneurs to market products. In addition, MSMEs tend to do marketing traditionally and do not observe the market and many of the MSME players are just waiting for potential consumers to come without any preparation of marketing strategies. In general, MSME actors in Bintan Regency do not have a business profile or brand that is in accordance with the product characteristics and target market. MSME actors may have difficulty in conveying their business identity to their customers. The difficulty of distinguishing themselves from competitors is also another factor that makes consumers confused about what makes the business of MSME actors unique.

### 3. Human Resources

Human resources are needed for business development. MSMEs still face various obstacles related to human resources, such as expertise, abilities, skill levels, and professionalism which are still relatively low. To face the global market, it is necessary to have developed human resources, because MSMEs are not only required to produce, but must also be able to develop their businesses from various sides. Because human resources who are not able to manage will have an impact on weak product innovation, and low knowledge makes knowledge development not optimal. Because there are still many business actors in Bintan Regency who have not maximized their business development, most of them are still relatively traditional so that product innovation is low and difficult to compete and the production process is not optimal.

### 4. Limitations of raw materials

Problems related to raw materials are serious obstacles to the continuity of MSME production (Arliman S, 2017; Fajar & Larasati, 2021). There are many raw materials that are still imported, supply chain management that still depends on one supplier, so that they tend not to have sufficient raw material reserves to be the basis for production as long as the supply of raw materials is disrupted, and the inability of MSMEs to finance raw materials even though raw materials are available. In this case, there are many MSME actors in Bintan Regency who have not received assistance. On the other hand, the Regency Government has provided assistance in the form of capital for the needs of

MSMEs. However, many MSME actors have not received the assistance.

5. Business management

This is greatly influenced by human resource knowledge. MSME actors who have low knowledge are relatively reluctant to make written plans in administrative terms and make other notes regularly, so this is a weakness of MSMEs. In line with this, MSMEs in Bintan Regency are relatively non-deflationary so it will be difficult to project finances in the next period, lack of bookkeeping can cause unclarity in the number of assets, income, expenses, and profitability of the business. So it will be difficult to identify financial problems, decision making related to finance, which will ultimately affect the financial health of MSMEs. This also hinders MSMEs in Bintan Regency from obtaining funding from financial institutions, investors and business partners who need accurate financial reports in order to project MSME businesses in the future.

6. Use of technology

The limitations of technology are one of the low factors of efficiency and productivity. This is due to limited capital to buy new equipment, limited information on technological developments and human resources who are unable to operate the equipment. In times like today, technology is fully needed to encourage productivity, marketing, and the development of MSMEs so that they are competitive and able to improve quality and quantity. MSME actors in Bintan Regency have obstacles to limited access to technology, so the use of digital marketing and social media is not optimal. This leads to not reaching the target market effectively and efficiently. Business actors with limited access to technology will have an impact on the inhibition of the ability to make data-based decisions, the limited partnership network owned by MSME actors hinder to expand access to a wider market.

**The role of Fintech in the development of MSMEs**

First, Usage Devices Hard and Devices Soft The advanced allows for more efficient management of economic resources. For example, monitoring Real-time access to various economic sectors can help decision-makers quickly identify opportunities and risks and optimize resource allocation based on accurate data (Ardiyansyah, 2023).

Second, technological developments that lead to the digital economy have an impact on the marketing of products/services of MSME actors. The existence of marketplaces and social media opens opportunities for MSMEs to introduce their products to a wider realm and can be reached around the world. Technological developments also make it easier to record books digitally, pay taxes online through the application system, buy and sell transactions through mobile banking and others. Many online-based financial applications help overcome the problems of the traditional financial industry with the presence of financial technology (Fintech), (Adiningsih, 2019)

Increased operational efficiency results in lower costs and higher productivity. The integration of automation technology and various aspects of economic management allows processors to run more effectively and efficiently. This only benefits the government and economic management institutions, but can also have a positive impact on the corporate sector and people's welfare.

Third, technological innovation also brings new opportunities to optimize the management of limited resources. Narastri (2020) believes that Fintech is a new innovation in the field of financial services that adapts to technological developments to encourage efficient and effective financial services and financial systems.

The role of the Financial Services Authority (OJK), in accordance with its authority regulated in Law No. 21/2011, OJK has prepared a number of rules to regulate and supervise the development of business types in the financial services sector that use technological advances or called financial technology (Fintech). OJK has formed a Digital Economy Development and Financial Innovation Team consisting of a combination of several work units within the OJK to review Fintech developments and develop regulatory and development strategies. The authority in the financial services industry, OJK is increasingly increasing the development of the financial services sector, including encouraging financial inclusion programs. However, this is also a challenge for the OJK to ensure that online transactions are reliable, efficient, and safe so that they do not harm consumers.

The Financial Services Authority has several plans to support the development of the Fintech industry, including:

1. Launching Fintech Innovation Hub as a development center and destination

Unified national fintech to connect and collaborate with institutions and supporting institutions of the digital financial ecosystem. This initiative will, among others, optimize coordination between ministries and institutions, develop the Fintech industry according to the needs of the public, develop potential

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new Fintech business models, and improve coordination between regulators and the Fintech industry.

2. Preparing a CA (certificate authority) in the financial services sector as a follow-up to the agreement with KOMINFO. Prepare a CA (certification authority) in the field of financial services. As a digital signature certificate issuer for financial services business actors, CA can ensure that digitally signed electronic transactions are secure and can be carried out legally in accordance with applicable regulations in Indonesia.
3. Publication of sandbox regulations for Fintech. This regulation regulates the minimum so that the growth and development of Fintech has a legal basis to attract investment, achieve efficiency, protect consumer interests and grow sustainably.
4. Consider the implementation of data and information security standards in Fintech operations and the need for information security incident reporting centers in the financial services industry.
5. Centralized Vulnerability Assessment (VA) study in the financial services industry to ensure posture and maturity/readiness for handling information security are always maintained to reduce risks and threats to information security in the financial services industry. Interim developments from the study conducted by the OJK mention the classification of Fintech companies. Included in the OJK authorization can consist of various types of businesses such as banking, insurance, investment, financing, peer-to-peer lending, crowdfunding, credit distribution and others.

The classification of Fintech companies is outside the type of Fintech business in the field of payment systems regulated by Bank Indonesia in the field of capital, business model rules, consumer protection rules, and minimum risk management rules. Currently, the OJK has issued Financial Services Authority Regulation Number 77/POJK.01/2016 concerning Information Technology-Based Money Lending Services.

The role of Fintech in improving operational efficiency is as follows:

1. **Increased Financial Accessibility**  
Fintech has enabled access to unique services that were previously difficult to reach for many individuals and businesses. Through digital platforms, such as online banking applications and peer-to-peer lending, Fintech provides access to services such as loans, investments, and payments to those who were previously not served by traditional financial institutions.
2. **Transaction Efficiency**  
Fintech introduces technology solutions that reduce transaction costs and times. For example, by using blockchain for fund transfers or smart contracts for automatic contract execution, the transaction process can be carried out directly between the parties involved without intermediaries, thus reducing transaction costs and time.
3. **Innovation in Financial Services**  
Fintech continues to generate new innovations in financial services. Examples include robo-advisors for automated investments, peer-to-peer lending for unbrokered loans, and payment gateways for online payments. These innovations allow for more personalized, efficient, and affordable solutions for financial needs.
4. **Encouraging Financial Literacy**  
Through Fintech platforms, individuals and businesses can gain easy access to financial information and education. For example, financial planning apps and investment platforms often provide easy-to-understand information about financial and investment management, helping to improve people's financial literacy.
5. **Reduce Financial Risk**  
Some Fintech solutions, such as technology-based microinsurance or risk analysis platforms, can help reduce financial risk for individuals and businesses. By using technology to identify and manage risks, Fintech can help secure finances and increase economic resilience.

The World Economic Forum explains that Fintech is the use of technology and an innovative business in the financial sector. This financial innovation comes in the form of using technology to develop new methods for financial institutions, such as savings, loans, investments, and electronic payments. The role of Fintech (Financial Technology) in all sectors can vary greatly, and in the context of Bintan Regency, this can include the tourism, banking, trade, and small and medium enterprises (SMEs) sectors. The following is a description of the role of

Fintech in improving the operational efficiency of MSMEs in Bintan Regency:

1. **Financing**  
Fintech makes it easy for MSMEs to get funds from financing sources through peer-to-peer lending, crowdfunding, or digital microfinance platforms. MSMEs quickly get access to sources of funds faster at a lower cost compared to ordinary banks.
2. **Marketing**  
Fintech can also help MSMEs in Bintan Regency increase marketing effectiveness and efficiency with online marketplace platforms or e-commerce platforms. MSMEs can reach national and international consumers without geographical boundaries with low marketing costs.
3. **Human Resource Management**  
Fintech can actually offer platforms and solutions that allow MSMEs to leverage the services of payroll management systems or employee administration management, to industry platforms that bring "Employee training and development management" to the bill payment category. This will greatly contribute to the efficiency and productivity of urenya in the management of the workforce in Bintan.
4. **Raw Material Resources**  
Through Fintech platforms, MSMEs in Bintan Regency have the potential to use the entire supplier network and supply chain planning platform that was previously unknown. MSMEs in Bintan Regency will be able to strengthen their demand with competitive market offerings and in turn can speed up the procurement process and based on the ability to cost advantage. Until it is possible to also reduce the cost of inventory and inventory management.
5. **Business Management**  
Fintech has many solutions for financial management, such as digital payments, cash management, and online accounting applications. This can help MSMEs in Bintan Regency to monitor and manage the financial health of businesses better, and can make appropriate, effective and efficient decisions.
6. **Technology Utilization**  
Fintech can encourage MSMEs in Bintan Regency to be able to use technology in the production and operational process, monitor production, and blockchain technology to ensure supply transparency.

The effective and efficient implementation of Fintech in Bintan Regency can provide various benefits for the community, businesses, and the local government. So that MSMEs in Bintan Regency can optimize operations, be able to access markets and capital well, and strengthen competitiveness on a local and global scale. However, MSMEs in Bintan Regency must understand the advantages and disadvantages of using Fintech in order to be able to choose the right platform and according to their needs. Here are some reasons why in Bintan Regency you should consider the use of Fintech. Advantages of Fintech:

1. **Increased Financial Accessibility**  
Fintech allows for easier access to financial services for people and businesses, especially for those who live in remote areas or do not have access to physical banks. This can help increase financial inclusion in Bintan Regency.
2. **Operational Efficiency**  
Fintech can help improve operational efficiency in various sectors by simplifying the transaction process, reducing administrative costs, and speeding up payment settlement. This can reduce the workload and time required for administrative processes and financial transactions.
3. **Product and Service Innovation**  
Fintech brings new innovations in financial products and services, such as digital payment applications, peer-to-peer lending, and investment platforms. This can provide a more personalized, efficient, and affordable solution for the community and businesses in Bintan Regency.
4. **Improving Financial Literacy**  
Through Fintech applications and platforms, people can obtain financial information and education that is easier to understand. This can help improve financial literacy and understanding of financial management in Bintan Regency.

Disadvantages of Fintech:

1. **Reliance on Technology**  
The main drawback of Fintech is its reliance on technology. Technical glitches or system failures can cause disruptions in financial services, which can negatively impact the community and businesses in Bintan Regency.

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### 2. Lack of Data Security

In some cases, Fintech can increase the risk of data security and user privacy. It is important for Fintech providers to ensure security and adequate data protection to protect sensitive user information in Bintan Regency.

### 3. Low Digital Literacy Rate

The use of Fintech requires a fairly high level of digital literacy. Lack of understanding of technology and applications can be an obstacle for some individuals and businesses in Bintan Regency to adopt Fintech.

Despite some shortcomings, Fintech's significant advantages, including increased financial accessibility, operational efficiency, and product innovation, make it an attractive option to implement in all sectors in Bintan Regency.

## CONCLUSION

In this scientific paper, it is concluded that financial technology innovation (Fintech) has great potential in improving the operational efficiency of MSMEs in Bintan Regency. Various Fintech solutions, such as digital payments, peer-to-peer lending, and financial data analysis, have been proven to speed up the transaction process, reduce administrative costs, and increase financial accessibility for people and businesses in Bintan Regency. With collaboration between the government, financial institutions, and industry players, the implementation of Fintech can be the key to improving economic welfare and the development of MSMEs in Bintan Regency.

## REFERENCES

- Abdurohim, D. 2020. MSME Institutional Development Strategy. Yogyakarta: Bintang Pustaka Madani.
- Abeka, M. J., Andoh, E., Gatsi, J. G., & Kawor, S. (2021). Financial development and economic growth nexus in SSA economies: The moderating role of telecommunication development. *Cogent Economics & Finance*, 9(1), 1–24.  
<https://doi.org/10.1080/23322039.2020.1862395>
- Adiningsih, S. (2019). Digital-Based Economic Transformation in Indonesia: The Birth of New Trends in Technology, Business, Economics, and Policy in Indonesia. Jakarta: Gramedia Pustaka Utama.
- Al Aidhi, A., Harahap, M.A.K., Rukmana, A.Y., & Bakri, A.A. (2023). Increasing Economic Competitiveness through the role of Innovation. *Western Science Multidisciplinary Journal*, 2(02), 118-134.
- Alimudin, A., Falani, A. Z., Mudjanarko, S. W., & Limantara, A. D. (2019). Analysis of the Influence of the Application of the Balanced Scorecard Perspective on Improving MSME Performance. *Econ, J. Ekon. Univ. Diri*, 4(1), 1.
- Amartha. (2024, March 2). The contribution and role of MSMEs in the Indonesian economy. <https://amartha.com/blog/work-smart/kontribusi-dan-peran-umkm-dalam-perekonomian-indonesia/>
- Bimantara Pradana, B. (2022, September 29). Economic prospects in post-pandemic Indonesia. <https://www.djkn.kemenkeu.go.id/kpknk-kupang/baca-artikel/15468/Prospek-Economy-in-Indonesia-Pasca-Pandemi.html>
- Fajar, M., & Larasati, C. W. (2021). The Role of Financial Technology (Fintech) in the Development of MSMEs in Indonesia: Opportunities and Challenges. *Humanis (Humanities, Management and Science Proceedings)*, 1(2), 702–715.
- Provincial Ministry. (2020, June 09). Bintan SME products are constrained by online marketing. <https://kepriprov.go.id/berita/pemprov-kepri/produk-ukm-bintan-terkendala-pemasaran-melalui-daring>
- Ningsih, D. R. (2020, April). The Role of Financial Technology (Fintech) in Helping the Development of MSME Entrepreneurs. In the Proceedings of the National Seminar of the Postgraduate Program of the University of PGRI Palembang.
- Narastri, M. (2020). Financial Technology (Fintech) in Indonesia is reviewed from an Islamic perspective. *Indonesian Interdisciplinary Journal of Sharia Economics (IJSE)*, 2(2), 155–170. <https://doi.org/10.31538/ijse.v2i2.513>
- Putri Melati, W. (2022, September 29). MSMEs began to squirm after the covid 19 pandemic. <https://www.djkn.kemenkeu.go.id/kpknk-lhokseumawe/baca-artikel/15474/UMKM-Mulai-Menggeliat-Pasca-Pandemic-Covid-19.html>
- Grab your money OJK (nd). <https://sikapiuangmu.ojk.go.id/FrontEnd/CMS/Article/10468>

## THE ROLE OF FINANCIAL TECHNOLOGY INNOVATION (FINTECH) IN IMPROVING THE OPERATIONAL EFFICIENCY OF MSMES IN BINTAN REGENCY

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- Supriyanto, E. E. (2016). Information Technology (IT) Innovation Policy Through the Government's Electronic Program in Improving the Quality of Public Services in Indonesia. *JIP (Journal of Government Science): A Study of Regional Government and Politics*, 1(1), 141-161.
- Wachyu Adi, W. W (2020). The Role of Fintech in Micro, Small and Medium Enterprises (MSMEs). *Journal of Sharia Economics & Economics*, Vol.3(1).
- Financial Services Authority Regulation Number 77/POJK.01/2016 concerning Borrowing and Borrowing Services Money Based Technology Information.