

# Fintech Management in ASEAN Countries

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**Abstract:** *The emergence of Fintech has changed the way business transactions are carried out. The development of Fintech becomes a challenge for the legal system of each country when it is not fully equipped. Lack of legal regulations will pose risks, but inflexible laws and regulations will also slow down the growth of Fintech. The development of Fintech in ASEAN countries is later than that of developed countries in the world, along with changes in Fintech management. The article studies the current state of Fintech management in some ASEAN countries.*

**Keywords:** Fintech, Fintech management, ASEAN

## 1. Introduction

Financial technology (Fintech) is increasingly attracting the attention of investors, businesses, financial market participants and regulators. With the growing of Fintech, it is imperative to weigh innovation, risk, and the current regulatory landscape (Lin Lin, 2019). Fintech is a new technology field, requiring a risk management and control mechanism different from traditional mechanisms in the banking and financial system. However, the rapid growth and expansion of Fintech has created challenges for regulators.

Fintech supports lending, payments, investments and many other financial services through the internet, smartphones, artificial intelligence, blockchain, cryptocurrency, and many other digital technologies. It brings many benefits such as reducing costs, expanding the range of products and services, and increasing the ability to find and provide services to customers (Clements, 2019). Regulators need to make policies to encourage Fintech development, take advantage of the benefits that Fintech brings, create conditions to promote innovation and competition.

Besides many benefits, Fintech also creates many potential risks that, if not managed well, could have serious consequences. These risks relate to financial stability, consumer rights, competition and financial sector efficiency (Clements, 2019). Financial risks arise with the rapid development of Fintech. Fintech does not change the nature of financial risks, but makes financial risks latent, unexpected, contagious and systemic (Zhong Xu et al., 2019). Fintech also creates new types of risks. According to the Canadian Competition Authority (2017), Fintech can cause corporate governance failures, risks to customers and investors, information asymmetry between customers and suppliers, and moral hazard. In peer-to-peer lending, counterparty risk in fast payments, cross-border payments (Clements, 2019). As banks apply Fintech internally to their operations, cyber risks and customer data risks through new technology interfaces are beginning to emerge (Clement, 2019). This poses challenges for regulators and supervisors as regulatory requirements must encourage innovation and limit risks, protect the stability of the financial system, and protect consumers. Furthermore, Zetzsche et al. (2017) point out that there are differences in the speed of Fintech development and the process of establishing principles for

governance. Fintech management rules are challenging for regulators because of Fintech's constant innovation. Many countries around the world have implemented Fintech management in different ways.

Although the time to access financial technology is later than that of developed countries in the world, ASEAN countries recently witnessed the strong development of Fintech. Fintech businesses operate in various fields such as payments, peer-to-peer lending, providing banking solutions such as electronic authentication, blockchain applications, personal financial services, etc. With the development of Fintech, the issue of Fintech management also poses many challenges to the regulatory agencies. Countries in ASEAN are gradually approaching and perfecting the regulatory framework for Fintech.

## 2. Literature Review

Research on Fintech management is carried out in many countries and regions. Currently, many countries have established departments to manage the Fintech sector. In most countries, Fintech is developed and regulated by Central Banks, financial services authorities or Securities Commissions. In Dubai, the Dubai Financial Services Authority (DFSA) regulates and supervises financial services and securities in the free zone of the Dubai International Financial Center, issues a regulatory framework for Fintech, especially the regulations on the crowdfunding platform in August 2017 (Al Bashir, 2019).

Talib et al (2017) studied Fintech governance in emerging economies including China, Singapore, and Hong Kong, which are leaders in the Fintech sector. China was one of the countries that developed Fintech quite early, but most Fintech activities were not regulated before 2010. After that, the Central Bank of China began to work with relevant authorities to build a legal framework for Fintech. China has established the Fintech Committee to study the impact of financial technology on monetary policy, stability and clearing mechanisms in order to find ways to mitigate risks (Angier, 2017). In 2016, China established a specialized management agency, the China Internet Association (NIF), to coordinate with the China Banking Supervision and Regulatory Commission, the Ministry of Information Industry, and the Ministry of Public Security to manage P2P lending, while also providing more specific regulations on

licensing and minimum capital requirements for businesses. For Hong Kong, there are no specific regulations on P2P crowdfunding and equity services. However, as Hong Kong and Singapore are vying to become Asia's "Fintech Hub", more regulatory frameworks will be enacted. Sandbox testing mechanisms are in place in Hong Kong and Singapore to monitor the innovation process to reduce risks before entering the market on a large scale.

Didenko (2017) research on the regulatory framework for Fintech in Kenya and South Africa. Although Kenya and South Africa are considered as regional leaders in the Fintech sector, they do not have an overarching regulatory framework for Fintech and do not address different issues. Regulations in this country often lag behind the rapid development of technology. The developments in Fintech regulation in these two countries include a new social and economic impact analysis system in South Africa and a Sandbox pilot scheme in Kenya. This is the basis for setting priority regulations in Fintech and promoting cooperation between regulators and Fintech businesses so that regulators can better understand Fintech.

In a developed country like the United States, Fintech has the potential to replace banks and financial institutions. Fintech governance in this country has significant regulatory fragmentation and a rules - based approach. Several US states have established Sandbox testing mechanisms that allow Fintech companies to test regulated and regulated financial products and services (Ryan, 2019; Allen, 2019). Meanwhile, Canada regulates Fintech based on principles (principles - based) and has an experimental sandbox. In Canada due to high barriers to entry and regulatory fragmentation for certain segments of the Fintech market that are not under federal supervision, Fintech in Canada relies heavily on large banks. Banks often partner with emerging Fintech companies to develop products and services within the bank's existing infrastructure to improve the quality of operations and services. Ryan (2019) conducted research on Fintech management in Canada and the US, posing challenges and opportunities for Fintech and Fintech management in these two developed countries.

There is clearly no universal approach to Fintech regulation (Didenko, 2017). Regulators take different measures to better understand Fintech, its potential impacts, and address the issue. Moreover, gradually, domestic regulatory agencies are also participating in international cooperation in the Fintech field, which requires a management mechanism that complies with international standards. Although there are many different approaches to regulating Fintech, the current regulatory framework is still not complete enough to confirm the optimal solution. Many challenges are still being raised with Fintech management.

### 3. Fintech management in ASEAN countries

#### Singapore

Singapore is a leader in the ASEAN region in providing Fintech services and attracting innovative funding sources (Lin, 2019). In 2019, Singapore is considered the "financial capital of the region" with its financial ecosystem and favorable policies for Fintech services (Tao and

Azhgaliyeva, 2018). In the early stages, like other countries in the region, Singapore did not have a specific regulatory framework for Fintech companies. Fintech companies must obtain a license that matches their business model, while certain Fintech business models may require more formalities.

According to Cisco's assessment of the Digital Readiness index 2019, Singapore leads the world with 20.26 points out of 25 points (while the global index score is only 11.9 points). Out of 07 components to calculate index scores, Singapore has 4 factors ranked first and second in the world (Basic Needs, Business & Government Investment, Human Capital and Start - up Environment). This shows the leading level of technology application and development of an Asian country.

As of early 2021, Singapore has 90% of the population using the Internet, 145.5% of mobile subscribers are connected and 56.6% of purchases are made online. 82.5% of Singaporeans between the ages of 25 and 35 now shop online every month. The trend of using mobile wallets among Singaporeans quadrupled between 2014 and 2019 and accelerates strongly in 2020 amid the Covid - 19 pandemic. Along with that, in 2021, Singapore opens PayNow (an electronic money transfer service through the FAST payment system) to non - bank financial institutions, creating an important development in the adoption process. digital payments. By the end of 2020, the number of Singaporeans who have signed up for PayNow has reached 240, 000, equivalent to 80% of residents and businesses using PayNow.

In Singapore, the Monetary Authority of Singapore (MAS) was one of the regulatory bodies that responded early to the growth of Fintech globally. Realizing the potential to fundamentally transform the financial industry under the influence of Fintech, MAS has actively introduced appropriate management and supervision methods to ensure the development of Fintech.

First, MAS established the Fintech and Innovation Group (FTIG - FinTech & Innovation Group) in August 2015. The FTIG will be responsible for development policies and strategies to facilitate public adoption. technology and innovation to better manage risk as well as improve efficiency and enhance competitiveness in the financial sector. In addition, MAS established the International Technology Advisory Panel (ITAP) to seek advice from global experts on Fintech.

MAS and the National Research Foundation (NRF) established a Fintech office (Fintech Official) in May 2016 to manage Fintech issues as well as promote Singapore's image as a Fintech hub. Over the years, MAS has encouraged financial companies to develop and apply new technologies in the financial system to add value to their clients, better manage risks, create new opportunities, and improve people's lives. Under the current management mechanism of MAS, technology risks and other risks are systematically identified based on a Comprehensive Risk Assessment Framework and Techniques (CRAFT). CRAFT

operates on a set of digital banking and technology risk management guidelines issued in 2001 and revised in 2013<sup>1</sup>.

At the next stage, MAS allows Fintech service trials but with different approaches for each application. The concept of a one - size - fits - all policy is considered unfeasible due to the fact that the Fintech start - up wave in Singapore is developing individually for each specific financial product. Therefore, the risk for each activity is different. For example, digital payments and digital currency will pose problems with authentication and identification; P2P lending and crowdfunding platforms will affect fraud risks and consumer protection issues; Cloud computing and big data face cybersecurity risks, etc. MAS will develop management policies after a specific assessment of each technology segment and review the activities of specific Fintech<sup>2</sup>.

MAS is well aware that early regulation could hinder innovation and derail Fintech technology development. Therefore, the policies introduced by MAS are always guaranteed to follow innovation activities. Specifically, the MAS applies materiality testing. This means that when a technology risk has an impact, regulation will be issued commensurate with that risk. For example, with securities crowdfunding platforms not allowed to accept deposits, the MAS usually does not introduce regulations that focus on this activity. However, when it is discovered that some crowdfunding platforms seek to mobilize loans from the population for small and medium enterprises, MAS will require those platforms to comply with some strict regulations. such as capital requirements, information disclosure. The purpose of these regulations is to strike a balance between improving the accessibility of crowdfunding platforms for startups while also protecting investors' interests. In the event that such funding platforms are large and may affect financial stability, the MAS may consider the same regulations as for a credit institution such as credit rating, application capital adequacy regulations, etc.

Then, to test Fintech, on November 16, 2016, MAS issued guidance on Fintech Sandbox<sup>3</sup>. In it, MAS proposes to test the Sandbox for all Fintech startups and large financial companies with Fintech applications. With this decision, Singapore became the first country in the region to conduct a trial of the Sandbox mechanism for Fintech products, and at the same time review and assess the appropriateness in protecting the interests of Fintech. consumers (Fan, 2018; Lin 2019). Yunus (2019) in a comparative study of P2P services in Singapore and Indonesia concluded that Fintech startups in Singapore are very well supported by consumers

<sup>1</sup>“Technology Risk Management Guidelines” issued by MAS in March 2013. <http://www.mas.gov.sg/~media/MAS/Regulations%20and%20Financial%20Stability/Regulatory%20and%20Supervisory%20Framework/Risk%20Management/TRM%20Guidelines%202021%20June%202013.pdf>.

<sup>2</sup>“FinTech – Harnessing its Power, Managing its Risks” – Panel Remarks by Mr. Ravi Menon, Managing Director, Monetary Authority of Singapore, at Singapore Forum on 2 April 2016.

<sup>3</sup>MAS FinTech Regulatory Sandbox – MAS Media Release, 16 November 2016. <http://www.mas.gov.sg/Singapore-Financial-Centre/Smart-Financial-Centre/FinTech-Regulatory-Sandbox.aspx>.

through previously implemented Sandbox mechanisms. The fact that the number of businesses participating in the Sandbox in Singapore is not much in the early stages makes MAS have to adjust its policy to encourage start - ups in Singapore to participate. As of July 2019, there are only two businesses operating in the Sandbox, ICHX Tech Pte Ltd and Inzsure Pte Ltd. Three businesses completed the Sandbox and two others left the trial without the expected success (Lin, 2019).

Along with the Sandbox mechanism, Regulatory Technology (RegTech) is issued using advanced technology to monitor compliance and enhance risk management, providing insights into market operations. Regtech allows regulators to more effectively protect consumers from potential risks rather than being restricted by established regulations. Singapore also enacted various technology regulations including: KnowYour - Customer (KYC) and Utility and Supervisory Technology (SupTech). With KYC and SupTech technologies, Singapore and MAS are continuing their efforts to build the RegTech ecosystem to identify potential solutions to technical and technological risks. MAS also plans projects related to machine learning (Machine learning) and big data technology (Big Data) to solve problems in trading and market manipulation.

It can be seen that, with the Government's goal of a global technology finance center, Singapore has taken quick steps but still achieved efficiency when turning the country into a world leader in technology only in less than 10 years. The Singapore regulator (specifically MAS) has taken many measures from building a Fintech trial under the Sandbox mechanism to issuing regulations to regulate Fintech's activities in a flexible way.

### Malaysia

The impact of the Covid - 19 epidemic has caused Malaysia's GDP to decrease by 5.6% in 2020. However, Covid - 19 has spurred the development of digital technology in Malaysia. The digital economy contributes 20% to the country's GDP in 2020 (up from 19.1% in 2019)<sup>4</sup>. The growing digital economy has boosted the presence of startups as well as attracting domestic and foreign investors into the sector. The number of Internet banks has quadrupled in the past decade, the rate of internet banking usage increased by more than 100% in 2020. Mobile banking also has a boom when 4G networks are almost nationwide. The World Economic Forum ranked Malaysia high out of 139 countries and first among emerging and developing economies in Asia in 2019. According to statistics from Fintechnews. my in 2021, Malaysia has 27.4 million Internet users (out of 32.7 million people), 95% of the population uses banking services, of which 61.8% Using Mobile banking, 112.5% of the population access online banking, 143% of the population own a debit card and 30% of the population own a credit card. These are numbers that show the potential for the development of Fintech services in this country.

According to the Malaysian Fintech Report 2021, digital payment methods and e - wallets are accounting for the

<sup>4</sup> Malaysia Fintech Report 2021

largest Fintech market share in Malaysia, accounting for 20% and 15% of the total number of Fintech companies, respectively. Followed by Fintech lending (14%) and insurance (9%).

The transformation in Malaysia's digital technology sector has taken place in nearly a decade with a series of initiatives by Bank Negara Malaysia (BNM). BNM introduced the Sandbox mechanism in 2016 to facilitate the development of Fintech platforms. Like Singapore, the Sandbox trial in Malaysia has provided a flexible regulatory environment that allows Fintech companies to experiment in certain environments. The legal framework for Malaysia's Fintech Sandbox mechanism also has many similarities with the Sandbox regulation of the FCA (Financial Conduct Authority), which is considered the first regulation for Sandbox in the world and was first introduced in Vietnam, UK in 2013. However, there are some differences between these two pilot programs. As of January 2022, Malaysia has 106 members participating in the Sandbox trial mechanism, of which leading in number are insurance businesses (30 companies), followed by money services (23 companies) and payment methods (23 companies), banking and lending (16 companies). BNM has established a FinTech Support Group (FTEG) with the function of developing regulations to facilitate technology development in the country. FTEG also acts as the point of contact with BNM in Fintech - related issues and Fintech applications in the financial services industry (Alam, 2021).

Malaysia still does not have a separate regulatory mechanism applicable to entities participating in Fintech activities, the current regulations are generally applicable to both traditional financial services and Fintech startups. Some Acts are The Financial Services Act 2013 (FSA); the Islamic Financial Services Act (IFSA); the Money Services Business Act (MSBA); The Capital Markets and Services Act (CMSA) and several other guidelines issued by BNM and the Securities and Exchange Commission. The main regulator for Fintech activity is BNM and the Securities Commission of Malaysia (SC) in partnership with the Malaysian Digital Economy Corporation (MDEC).

To promote the development of Fintech services in the country, BNM has issued regulations for digital banks. These regulations are aimed at reducing the legal burden on new Fintech organizations entering the market but also ensuring the stability of the financial system. Regulations in the new regulatory framework simplify capital adequacy requirements. Specifically, the types of component risks used in the calculation of credit risk and market risk according to Basel II standards. In addition, some liquidity requirements for digital banks are also issued, such as 25% of the on - balance sheet debt of digital banks must be secured by highly liquid assets.

In addition, BNM also issued many policies regulating Fintech - related activities such as anti - money laundering, e - KYC, P2P, crowdfunding, etc. Regulations on anti - money laundering through digital currency. The regulation sets out minimum rules and standards to improve the transparency of digital currency transactions. The e - KYC policy was issued in June 2020, applicable to all financial institutions. This

policy requires Fintech service providers to be responsible for implementing e - KYC in customer identification and verification, using AI to automate customer identity verification decisions through e - mail. - KYC. The Guidelines on Digital Assets (2020) and The Capital Markets and Services Order (2019) set out guidelines regarding digital currency transactions in the capital market.

### Islamic Fintech in Malaysia

Malaysia is known as a leader in Islamic Finance and the country itself is committed to maintaining this role globally. As of the end of March 2021, Malaysia has 21 Islamic Fintech providers out of a total of 161 Fintech companies in the country. However, only four platforms based in the country currently offer services such as crowdfunding, peer - to - peer lending and digital portfolio management. Islamic Fintech is considered to have growth prospects in the Malaysian market. However, current regulations are not sufficient to regulate the digital financial activities of Islamic financial institutions. Islamic Fintech is different from conventional Fintech due to its requirement to comply with Shari'ah, advocate for human happiness and integrate ethical and corporate principles in Fintech solutions. All Islamic financial products and services must comply with Shariah requirements, which are mandatory for all financial transactions. BNM has introduced regulatory policies that ensure Shariah requirements are intended to enhance comprehensive compliance and ensure the continued operation of Islamic financial institutions.

The current trend in Malaysia as well as other Muslim countries is that Islamic Fintech platforms are expected to follow the same rules as regular Fintech, with some operations still subject to Traditional Shariah governance rules. Islamic Fintech products in the immediate future will only focus on developing Fintech products available in the financial market. Islamic Fintech in Malaysia currently focuses on three main technology solutions: Digital Assets, Electronic Money (E - money) and Crowd funding.

It can be seen that Malaysia as well as countries in the ASEAN region such as Singapore put the issue of developing the Fintech ecosystem first. With the Fintech Sandbox mechanism, domestic Fintech activities have the opportunity to be developed and tested in a free and efficient environment while ensuring the safety of the national financial system. However, unlike Singapore, Malaysia is an Islamic country, compliance with regulations related to Islamic finance forces the government as well as regulatory agencies to come up with appropriate policies. The current regulations in Malaysia are being implemented, although there is no separation and no real assurance of compliance with Shariah regulations, but initially, they have shown effectiveness when the development speed of the platforms. and Fintech applications improved day by day.

### Thailand

Thailand is a pioneer in Southeast Asia in applying 5G technology to improve and expand national digital technology capabilities (artificial intelligence, blockchain, big data, cloud computing and machine learning). Thanks to its efforts in developing IT infrastructure and regulatory environment, Thailand has become one of the fastest

growing Fintech markets in ASEAN. Currently, Thailand is one of the countries with the largest database of digital and mobile banking service users in the world<sup>5</sup>.

According to Global Digital Report 2021, Thailand ranks first globally in using banking and financial applications, 68.1% of the population uses the Internet and second globally in digital with 45.3% of people use the Internet for mobile payments. According to the central bank of Thailand (BOT), the value of electronic payment transactions through the Internet and Mobile banking in 2020 reached THB 5972.1 billion, up 29.6% compared to 2019.

Fintech activities in Thailand focus on three areas including financial services, securities and insurance. Fintech regulators include the Ministry of Finance (MOF), the Central Bank of Thailand (BOT), the Stock Exchange (SEC), and the Insurance Commission (OIC). The Thai government has been promoting Fintech activities by developing new services through the Fintech platform provided by the Government. BOT has cooperated with global payment card service providers to launch the product "Thai QR Code". Fintech has become more popular during the COVID - 19 epidemic, especially for electronic, contactless transactions.

Like some countries in the region, Thailand currently does not have any separate legal documents for Fintech activities. However, for each Fintech service platform, the government makes its own Acts that are relevant to the transaction of each service. However, there is not much difference between Fintech platform management and mining regulations and other financial regulations. Some Fintech activities fall within the scope of previous regulations for conventional financial activities.

Payment systems and payment services are governed by the Payments Act 2017 (PSA). For P2P peer - to - peer lending, SorNorSor.4/2562 Announcement on procedures and conditions for peer - to - peer lending issued in 2019. For P2P services, businesses are required to participate in the Sandbox of the BOT and successful with this test will provide services nationwide. The P2P platform must only act as an online marketplace or broker for loans without performing any other function. Crowdfunding activities are again governed by regulations issued by the Capital Market Supervisory Board in 2020. This regulation governs all crowdfunding and escrow activities of liability companies, limited and public company. These activities must be licensed by the SEC because of their involvement in the domestic capital market.

Mobile banking and online banking are also governed by separate notices regulating services for commercial banks. The bank's products and services, when provided in digital form, will not need the approval of the BOT such as depositing, withdrawing, transferring money, opening accounts and foreign exchange. . . . Thailand's 2018 Royal Decree regulates digital asset business, especially with

specific definitions of types of tokens, fundraising, and how cryptocurrencies are offered<sup>6</sup>.

Another regulation in Thailand is related to Fintech businesses – Personal Data Protection Law, which governs how customers' personal data is controlled and handled. Fintech businesses as collectors of users' personal data will have to obtain consent from data subjects. The collection and use of data also need to ensure safety and security. In case businesses do not comply, they will be severely punished by the authorities.

Sandbox mechanism in Thailand is similar to Sandbox in Singapore and Malaysia. Sandbox allows Fintech businesses to offer products and services within a certain range without having to comply with conventional regulations. When registering to participate in the trial, businesses must commit to providing Fintech services unprecedented in Thailand or support services to improve the efficiency of existing services.

In December 2016, BOT introduced a regulated Fintech Sandbox for products related to loans, payments, remittances and similar transactions on Fintech platforms. Of the four companies approved by the BOT to participate in the trial, three are using blockchain in letters of guarantee and cross - border remittances, one in the field of biometric identification. The SEC also launched a number of Fintech Sandboxes in the field of securities and derivatives. Several products are tested during this period such as robot advisors, algorithmic trading and algorithmic investment recommendations. Besides, a number of other Sandbox applications for securities clearing, custody and registration with support from Blockchain technology. In the insurance sector, OIC has also implemented a Sandbox that allows insurance companies, agents and Fintech businesses to test new technology applications since mid - 2017<sup>7</sup>.

It can be seen that the Thai government has made great efforts in developing Fintech activities through regulations and policies issued in the past time. There is no big difference compared to the regulations of the ASEAN countries on Fintech, but the Thai regulatory agency still has its own ways to match the development situation of the country and limit the risks that impact on the safety of the financial system.

#### 4. Conclusion

As can be seen, different countries in the ASEAN region have different regulations to manage Fintech. However, the legal framework for Fintech in these countries is regularly changed and improved, in line with the development situation of Fintech. Central banks play an important role in regulating Fintech, cooperated with related organizations to create a favorable regulatory environment.

<sup>5</sup> <https://practiceguides.chambers.com/practice-guides/fintech-2021/thailand/trends-and-developments>

<sup>6</sup> <https://silklegal.com/thailands-regulatory-environment-surrounding-fintech-businesses-summarized/>

<sup>7</sup> <https://financialinstitutions.bakermckenzie.com/2017/08/03/thailand-the-fintech-wave-and-regulatory-response/>

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