Seizing Opportunities: The Race Toward Digital Banking in ASEAN

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Abstract. The Southeast Asia (ASEAN) stands as one of the compelling markets for digital banks to grow due to its large population and fact that financial inclusion still be an issue for the region. Within the region, Commercial banking is still the backbone of the region's financial system, but Regulators in various Southeast Asia countries have started to issue guidelines for digital banking licenses in their respective countries. We found that in general, there is a different regulatory approach in Southeast Asia in which the requirement is less stringent during the initial start-up period versus the commercial banks such as Indonesia, Singapore, and Malaysia. Several countries such as Singapore and Malaysia also limit the issuance of digital banking licenses. Additionally, regulators also seem to give some business restrictions for the pure digital bank during the initial period to prove the business model and limit the potential impact should they fail. We also conducted a country-level analysis to identify the readiness of ASEAN members bloc to adopt digital banking using two dimensions, which are room for growth and state of readiness. The findings have highlighted ASEAN is a highly diverse region.

Keywords: Digital Adoption · Digital Bank · Digital Readiness · Southeast Asia

1 Introduction

The development of the digital world that is happening today penetrates almost all the activities we do, both personal and business activities. Almost all daily activities such as looking for entertainment, looking for basic needs to study can be presented through digital media. This is no exception in the world of finance, especially banking. The Financial Services Authority (OJK) in Indonesia is not standing idly by looking at existing developments. OJK through POJK 12-03-2021, stated that currently banking institutions are not only conventional banks that have physical branches everywhere but can also be in the form of digital banks that only have minimal branch offices or no branches and head offices.

The race toward digital banking has clearly been heating up in the past few years, yet the boom is just starting for the ASEAN market. ASEAN stands as one of the compelling markets for digital banks to grow due to its large population and the fact that financial

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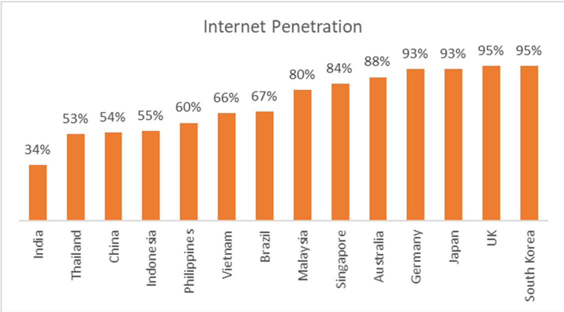


Fig. 1. Banking Penetration

inclusion still is an issue for the region. Based on the latest United Nations estimates for July 2022, the current population of South-Eastern Asia is more than 680 million, which is equivalent to 8.6% of the total world population. The top six economies of the ten ASEAN countries are Indonesia, Vietnam, Thailand, Philippines, Singapore, and Malaysia [1]. They have a combined population of 570 million, making them not only the engine of the ASEAN economy but also a hotspot where the new economy is most vibrant.

With a combined gross domestic product (GDP) of US$3.2 trillion as of 2020, the 10-member trading bloc collective, become the fifth largest economy in the world, after the United States (US$20.9 trillion), China (US$14.7 trillion), Japan (US$5.0 trillion), and Germany (US$3.8 trillion). The region's total GDP in 2020 was almost fivefold the value in 2000. This shows the region's potential to become the world's next economic powerhouse.

Commercial banking is still the backbone of the region's financial system. The banking systems of different ASEAN countries are diverse, with different models and paces of development (Nguyen, 2018). Some are undergoing consolidation processes aiming to reduce the number of banks, as in Indonesia or Vietnam. Others have just completed the consolidation process and are focusing mainly on tightening bank regulations, such as Thailand and Malaysia, both of which completed their bank consolidations in 2010. In Cambodia, the banking system is in the development and expansion stages, but regulators there are also focusing on tightening regulations to ensure the soundness of their banking system. Furthermore, the banking systems of the region still face a fundamental challenge. More than 70% of the adult population is either "underbanked" or "unbanked," with limited access to financial services (Fig. 1).

In addition to how to acquire customers, digital banks also have advantages over conventional banks, namely being able to offer higher savings interest. Why is that? This can happen because of the more efficient digital bank work system (there are no costs for branch offices, branch employees, branch operational costs and even no ATM machine maintenance costs) [2]. If conventional banks offer savings interest ranging from 1%–3% per year, then digital banks dare to provide savings interest of up to 7%–8% per year for a certain period of time.

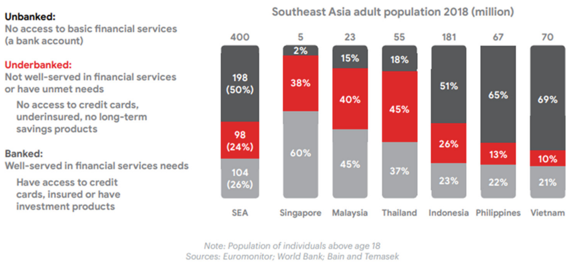


Fig. 2. ATM density. Source: Merchant Machine.co.uk

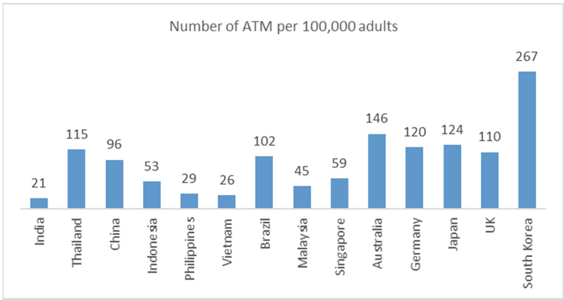


Fig. 3. Internet Penetration. Source: Merchant Machine.co.uk

According to the research report, the biggest market is Indonesia, which has around 42 million underbanked and 92 million unbanked adults. Philippines comes second, which has around 9 million underbanked and 58 unbanked adults. This is further validated by the very low number of ATM coverage per 1000 people (Fig. 2), which indicates quite low access to banks/financial services overall. Digital Banking is considered can solve this problem.

Digital banking is the frontier innovation of banking activities and financial services. Unlike other technology-enabled banking services such as internet banking or mobile banking, digital-only banking is branchless, with no physical banks. All interactions occur through Apps interface and are supported by an internet connection.

The saving grace for ASEAN countries is that internet penetration is quite high at 50%–60% with Malaysia and Singapore at the forefront, though it still lags vs. developed countries (Fig. 3) [3]. Going forward, further improvement in smartphone/internet penetration coupled with acceleration in digital adoption post the Covid-19 pandemic should serve as a good base for digital banks to grow.

Thus, the purpose of this study is to provide an overview of how digital bank is developing in Southeast Asia and help identify the readiness of each ASEAN country to adopt digital banking. The study is conceptual based on literature review and document analysis to address the research objectives above and guide future research by putting forward a research agenda.

2 Literature Review

Digital bank terminology has been used interchangeably with virtual banking, digital banking, or internet banking, making it difficult to distinguish them from digital services provided by traditional banking. In our view, Digital banks aim to combine the best features of conventional banks and fintech companies. [4] Conventional banks' key benefits over fintech among others are unlimited deposit amounts with more sophisticated deposit products, and lower cost of fund due to strong brand value and trust for public deposit. Meanwhile, fintech has agility of system to adapt to changing trends, cost efficient operation led by branchless operation and strong online ecosystem. In the end, these advantages will lead to the intention to use. Prior research on digital banking show that customer intention to use is determined by several factors.

3 Result

Digital banks are now ubiquitous in several parts of the world, especially in the Asia-Pacific region. Several new virtual bank brands have been launched. Japan's Jibun bank was launched in 2008 as the first Asian digital pure player, which then reporting to have achieved profitability less than five years after launch.

Asia's massive digital licensing process began with Chinese regulators in 2015, and has since expanded around the region, with central banks in South Korea, Taiwan China, and Hong Kong SAR China granting limited numbers of licenses [6]. Currently, Hong Kong has eight virtual banks, followed by Taiwan, China, Singapore, Japan, Korea, Malaysia, and Indonesia, who launched virtual banks after their government approved the virtual system in the banking industry (Mckinsey and Company, 2021).

Regulators in various Southeast Asia countries have started to issue guidelines for digital banking licenses in their respective countries (Table 1). In general, there is a different regulatory approach in Southeast Asia in which the requirement is less stringent during the initial start-up period vs the commercial banks such as Indonesia, Singapore and Malaysia. Several countries such as Singapore and Malaysia also limit the issuance of digital banking licenses. Additionally, regulators also seem to give some business restrictions for the pure digital bank during the initial period to prove the business model and limit the potential impact should they fail.

Most of digital banks in Asia often operate under a consortia business model that contrasts to the vertical approach seen in Europe and the United States. For example, China's WeBank is consortia led by Tencent, Hong Kong's Fusion Bank is led by Tencent and ICBC, while Standard Chartered-led Mox is backed by HKT, PCCW, and online finance company CTrip Financial. A consortia approach enables new banks to more easily assemble the ingredients required for a successful proposition, including: customer loyalty and trust; data and touchpoints; advanced technology capabilities, and a deep understanding of banking products and regulation.

In Southeast Asia, the digital banking landscape has expanded rapidly over the last couple of years. In the Philippines, its central bank, Bangko Sentral ng Pilipinas (BSP), granted digital banking licenses to six banks, which are Tonik Digital Bank, Inc.; GOtyme of the Gokongwei Group and Singapore-based Tyme; Maya Bank of Voyager

Table 1. Past research

Author	Purpose	Finding
Mbama and Ezepue (2018)	Examines managers' perceptions of digital banking's effect on customer experience and banks' financial performance	Perceived value, functional quality, service quality, employee-customer engagement, perceived risk, and perceived usability positively affect customer experience
Enzmann and Moesli (2022)	Identifying clusters within Southeast Asia countries based on manufacturing resources and associated them to different levels of technological capabilities	Human capital plays a key role in productivity and in facilitating technology absorption. A well-educated, healthy, and older population is associated with higher technological capability
Ariansyah et al. (2021)	Investigate the underlying factors affecting Indonesian individuals' decision to make e-commerce adoption	Digital skills are prerequisites for e-commerce adoption. Internet, logistics, and financial infrastructure are essential factors in e-commerce adoption
Windasari et al. (2022)	Explores the experiential factors affecting digital-only banking services among the generation Y and Z in Indonesia.	Economic value, ease of use, social influence, firm reputation, features, and reward significantly impact intention to use digital-only banking
Susanto, Eko & Solikin, Ikin & Purnomo, Budi. (2022)	Using a Systematic Literature Review, the study examined various articles from Asian countries digital, electronic, and mobile payment articles) to obtain an overview of the factors that influence the adoption of digital payments	Factors affecting the adoption, use, and retention of digital payment use concluded in two forms of 1) internal user factors: perceived risk, perceived usefulness, enjoyment, perceived ease of use, satisfaction, trust, performance expectancy, motivation, and perceived benefit; 2) Environmental factors: subjective norms, social influence and facilitating conditions

Innovations, Inc.; Overseas Filipino Bank (OFBank), Subsidiary of Land Bank of the Philippines; UNObank of DigibankASIA Pte. Ltd.; and UnionDigital of UnionBank of the Philippines. These all-online banks are expected to help the BSP reach its goal to bring 70% of Filipino adults into the banked population and 50% of payments done online by 2023.

In Singapore, the Monetary Authority of Singapore (MAS) granted digital full banking license to two banks. The licenses went to a consortium of Singapore-based telco Singtel and Grab, and Sea Limited, and two Digital Wholesale License to Ant Financial and another consortium of Greenland Financial, Linklogis Hong Kong and Beijing Co-operative Equity Investment Fund Management [7].

In Malaysia, Bank Negara Malaysia (BNM) had announced the five successful applicants for the digital bank licenses. Three are to be licensed under the Financial Services Act 2013: a consortium of Boost Holdings Sdn Bhd and RHB Bank Berhad, a consortium led by GXS Bank Pte Ltd and Kuok Brother Sdn Bhd, and a consortium led by Sea Limited and YTL Digital Capital Sdn Bhd. Two are to be licensed under the Islamic Financial Services Act 2012: a consortium of AEON Financial Service Co Ltd, AEON Credit service Bhd, and MoneyLion Inc, and a consortium led by KAF Investment Bank Sdn Bhd.

In Indonesia, there are already ten digital banks and several others are waiting for licences from the Financial Services Authority (OJK). Those ten banks are Bank Jago, Jenius by BTPN, Digibank by DBS, TMRW by UOB, Bank Raya of BRI, BLU by BCA, Allo Bank, SeaBank, Bank Aladin Syariah, MotionBanking. The digital banking market in Indonesia, in particular, is ripe because of the 145 million millennials, who account for more than half of the country's population.

Meanwhile, Thailand is one of the few Southeast Asian economies that has not unveiled a digital banking roadmap as of yet. However, plans to issue digital banking licences are in the pipeline. It can be argued there is a lack of urgency to promote digital banking in Thailand from the authorities, it is primarily due to the fact that 80 percent of Thai adults have an account at a formal financial institution.

4 Discussion

In the absence of physical branches and live interaction, one of the largest hurdles faced by pure-play digital banks is a lack of trust by consumers where physical branches have been considered a symbol of trust. This is in line with the significant influence of perceived risk on the trend of technology adoption. [10] Meanwhile, with this operating model, digital banks are presenting a realm of possibilities to the unbanked and underbanked population of Southeast Asia's developing countries, especially to focusing on the millennial population to attract a digital-savvy and young market who doesn't do their banking in branch as previous generations did. This is in line with perceived value, ease of use and other self-motivation factors that can support technology adoption.

From external perspectives, Southeast Asia's socio-demographic are likely to support significant growth potential in its Digital Banking. Recall the facts that Southeast Asia is the 3rd most populous region, only behind China and India, making up 8% of the world's population. It is the 5th largest economy in the world with a fast-growing projected GDP

Table 2. Readiness of ASEAN Members

Dimension	Indicator	Preference for digital bank
"Room for growth"	Domestic credit to private sector by banks (% of GDP)	Lower is better
	% Unbanked and underbanked population	Higher is better
	% Digital Consumers	Higher is better
	% Internet penetration	Higher is better
"State of Readiness"	Mobile broadband download speed (global ranking)	Lower is better
	Digital Skills Gap Index (global ranking)	Lower is better
	Financial literacy	Higher is better
	Regulator Support	Clearer the better

annual growth rate of 5.5% over the next decade [8]. The number of internet users in the six largest Southeast Asia countries is expected to increase from 400 million in 2020 to 525 in 2025, and its internet economy gross merchandise value (GMV) is expected to surpass $300 billion by 2025. These projections signal very promising growth for the region.

Despite the optimistic outlook, there are still a challenge in form of disparity in digital and physical infrastructure and also digital literacy. Inequality in Southeast Asia's digital infrastructure is firstly driven by varied internet coverage and network performance across the region [9]. There is also disparity between urban and rural areas when it comes to the availability of digital financial services infrastructure.

Thus, we explore two dimensions for conducting a country-level analysis and identify the readiness of ASEAN members bloc to adopt digital banking (Table 2).

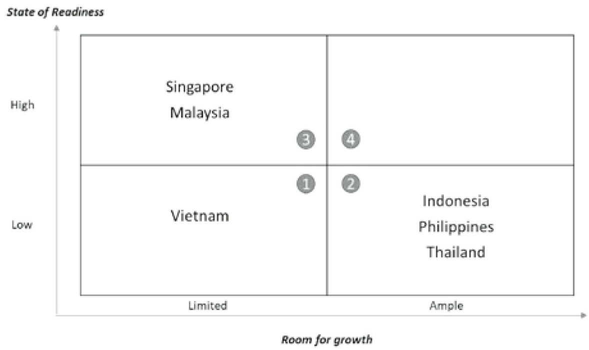
Indicators	Indonesia	Singapore	Malaysia	Philippines	Thailand	Vietnam
Domestic credit to private sector by banks (% of GDP)[1]	33%	131%	134%	52%	126%	117%
% unbanked and underbanked population[2]	77%	40%	55%	78%	63%	79%
% Digital Consumers[3]	68%	79%	83%	74%	68%	65%
% Internet penetration[4]	55%	84%	80%	60%	53%	66%

Source:

1. World Bank
2. Google, Temasek and Bain & Company Study (2019)
3. Bain SEA-6 Consumer Survey (2020)
4. Merchant Machine.co.uk

As the result, the analysis produced the four "home" clusters:

Countries in Cluster 1 display below average state of readiness and limited room for digital banking penetration. Vietnam in this cluster has a relatively lower level of readiness due to lower financial literacy and higher rank of digital skills gap index, although its digital infrastructure as reflected by internet coverage and network performance is relatively one of the best in the region. Vietnam's domestic credit to private sector by banks (% of GDP) is also amongst the highest in SEA, which offers limited potential to be tapped by the digital banking players as it exhibits direct head-to-head with incumbents' conventional banks.



Indonesia, Philippines, and Thailand are in cluster 2. These countries have a low level of readiness from an infrastructure and digital literacy point of view, with Indonesia and the Philippines having a one-step advantage because their banking regulators have already issued umbrella rules regarding digital banking. Nevertheless, the room for growth is ample from a socio-demographic perspective, especially Indonesia which has the largest population with high unbanked-underbanked population, and the lowest domestic credit to private sector by banks (% of GDP) in the region.

Singapore and Malaysia are relatively classified into cluster 3. In terms of readiness, Singapore is at the forefront with leading digital infrastructure and digital literacy in the region. The similarity between Malaysia and Singapore is that the landscape of the banking industry is relatively the most mature, the banking sector has competed at the regional level, which is reflected in its high domestic credit to private sector by banks (% of GDP). This indicates that the growth space for digital banks in these two countries is very limited and tends to be relevant for a niche market [11].

This study shares a contribution to the elaboration of the development of digital banks, especially in 6 major countries in Southeast Asia, including a comparison between digital bank regulations that have been issued by banking regulators in each country so far. The findings of this study related to assessing the potential and readiness of digital adoption are also relevant for companies intending to enter the digital banking industry in Southeast Asia. We propose several indicators to be used in assessing the potential for the development of digital banks, which are reflected by domestic credit to private sector by banks (% of GDP), the portion of unbanked and underbanked population, and the level of internet penetration and digital consumers. Meanwhile, several indicators that can provide an overview of the readiness of each country in digital adoption include the quality of digital infrastructure, level of financial literacy and digital skills mastery as well as whether the local banking regulator has a regulatory package that supports the development of Digital Banks. Future studies could better explore specific issues such as mapping specific customer journeys, cultural probes, persona research, etc. to obtain a more comprehensive assessment of digital banking adoption. We also believe that the competition in digital-only banking will be fiercer in the future. Therefore, future research could also be conducted to find the competitive advantages needed to win customers' attention on the usage of digital-only banking service.

5 Conclusion

This study sought to examine how digital banks are developing in Southeast Asia and help identify the readiness of each ASEAN country to adopt digital banking, prompted by the phenomenon that the race toward digital banking has clearly been heating up in the past few years, yet the boom is just starting for the ASEAN market. ASEAN stands as one of the compelling markets for digital banks to grow due to its large population and fact that financial inclusion still be an issue for the region.

Asia's massive digital licensing process began with Chinese regulators in 2015, and has since expanded around the region, inspired also by the success of digital banks such as Japan's Jibun, China's WeBank and Russia's Tinkoff. Most of digital banks in Asia often operate under a consortia business model that contrasts to the vertical approach seen in Europe and the United States. A consortia approach enables new banks to more easily assemble the ingredients required for a successful proposition, including customer loyalty and trust; data and touchpoints; advanced technology capabilities, and a deep understanding of banking products and regulation.

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Apart from the banking regulation that have been released, we conducted a country-level analysis to identify the readiness of ASEAN members bloc to adopt digital banking using two dimensions, which are room for growth and state of readiness. The findings have highlighted ASEAN is a highly diverse region. Vietnam in cluster 1 is considered to have a relatively lower level of readiness due to lower financial literacy and higher rank of digital skills gap index, although its digital infrastructure as reflected by internet coverage and network performance is relatively one of the best in the region. Vietnam's domestic credit to private sector by banks (% of GDP) is also amongst the highest in SEA, which offers limited potential to be tapped by the digital banking players as it exhibits direct head-to-head with incumbents' conventional banks.

Indonesia, Philippines, and Thailand are in cluster 2. These countries have a low level of readiness from an infrastructure and digital literacy point of view, with Indonesia and the Philippines having a one-step advantage because their banking regulators have already issued umbrella rules regarding digital banking. Nevertheless, the room for growth is ample from a socio-demographic perspective and those three countries have the lowest domestic credit to private sector by banks (% of GDP) in the region. While, Singapore and Malaysia are classified into cluster 3, at the forefront with leading digital infrastructure and digital literacy in the region but considered to have a limited room for growth due to mature banking landscape and its high domestic credit to private sector by banks (% of GDP).

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