FAQ
FOCUSED AND QUICK
Issue 186
May 14, 2021

THE CLMVT START-UP AND TECHNOLOGY ECOSYSTEMS: WHERE ARE WE AND WHERE DO WE GO FROM HERE?

PRIMPRAO KITPANICH

บทความนี้เป็นทรัพย์สินของธนาคารแห่งประเทศไทย
การกล่าว คัด หรืออ้างอิง ข้อมูลบางส่วนตามสมควรในบทความนี้
จะต้องกระทำโดยถูกต้อง และอ้างอิงถึงผู้เขียนและธนาคารแห่งประเทศไทย โดยชัดแจ้ง

ข้อคิดเห็นที่ปรากฏในบทความนี้เป็นความเห็นของผู้เขียน
ซึ่งไม่จำเป็นต้องสอดคล้องกับความเห็นของธนาคารแห่งประเทศไทย

FOCUSED AND QUICK (FAQ) Issue 186

THE CLMVT START-UP AND TECHNOLOGY ECOSYSTEMS:

WHERE ARE WE AND WHERE DO WE GO FROM HERE?

PRIMPRAO KITPANICH

May 14, 2021

"Going forward, main engines to drive start-up development and expand technology ecosystems are regulatory harmonization and human capital development."

To reap the benefits of economic and social multiplier effect, many countries are building and expanding technology ecosystems to support local businesses' innovation development and technology adoption. While some ecosystems grow at a fast pace, many find it difficult to raise funds and catch up with the competition. Key success factors to build and expand technology ecosystems are effective public policies, adequate infrastructure as well as accessible talent pools and strong networks.

Introduction

Our lives have entwined with digital technology owing to Internet access and technology advancement. In this digital era, businesses have increasingly incorporated technologies and innovation into their business plans to maintain competitiveness. Many are disrupted not only by adaptive incumbents but also newcomers, particularly start-ups. A start-up aims to target customers' pain points and solve them using repeatable and scalable solutions; tech start-ups introduce technology in product and service offering.

In addition to improving people's quality of life, start-ups play an important role in driving economic growth, especially by creating jobs. Technology companies promote an employment multiplier: each of high technology job creates five other jobs outside the industry[1].

Moreover, new products and innovation improve efficiency and productivity, accelerating the country growth. Hence, many economies are committed to building and expanding technology ecosystems to support innovation and technology development.

Asia-Pacific is one of the most attractive regions where global capital funding is steadily pouring into local start-ups. Asian tech companies, led by Ant Group and ByteDance from China[2], are capable of attracting the large amounts of investment. Positive signs are more than 1 billion US dollars deals coming into Asian countries in the past few years and rising of investment in a number of venture capital (VC) deals valued at early investment stages, i.e. seed stage and series A – B[3]. On the back of healthy investors'

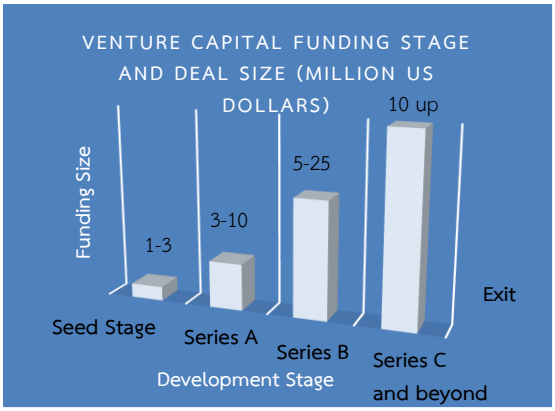
[1] MIT Sloan Management Review (2012), The Multiplier Effect of Innovation Jobs.

[2] Ant financial raised 14 billion US dollars in Q2 of 2018 and ByteDance raised 3 billion US dollars in Q4 of 2018.

[3] Venture Capital fund raising is usually divided by start-ups' development stages as follows: Seed Stage (1-3 million US dollars investment for the company to develop products or services, increase traction and acquire customers.), Series A (3-10 million

confidence and growing innovation ecosystems, 30% of top global ecosystems are currently in the Asia-Pacific region, comparing to 20% in 2012[4]. However, the development of ecosystems is unevenly distributed within the region.

Figure 1: Venture Capital Funding Stage and Deal Size (million US dollars)



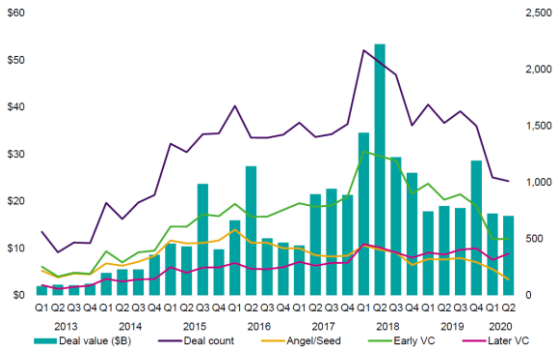
Note: Generally, successful exits for start-ups are categorized into 1) another company's acquisition, 2) an Initial Public Offering (IPO), 3) a Merger and Acquisition (M&A) or 4) reinvesting.
Source: FundersClub Inc.

This article is divided into 3 parts. The first provides an overview of start-up and technology ecosystems in Southeast Asia (SEA). The next part is to draw lessons learned from how the successful Southeast Asian technology ecosystems can grow expeditiously. The final part provides policy recommendations on how public and private sectors in Cambodia, Lao PDR, Myanmar, Vietnam and Thailand (the CLMVT) can build and expand their domestic ecosystems.

1. Overview of Start-Up and Technology Ecosystems in Southeast Asia

In the past 5 years, more than 115 billion US dollars were raised by technology companies in Asia. Figure 2 shows that VC investment increasingly went into early and later stages start-ups' fund raising since 2014 and the Asian start-ups seemed to be prospective as they still could attract funding. So, they are growing, maturing and some of them are ready to exit, despite confronting the COVID-19 pandemic's adverse effects.

Figure 2: Venture Financing in Asia (Q1 2013- Q2 2020) (billion US dollars)



Source: KPMG Enterprise, Venture Pulse Q2' 20 Global Analysis of Venture Funding.

Though China has been the main destination for VC investment in Asia, share of deals into China fell in 2019 as Southeast Asian ecosystems along with other Asian ecosystems such as South Korean and Japanese have been expanding and stepping their game up to attract investment. The fact that an average early stage VC funding deal size in SEA has doubled is a valid indicator. The average series A funding in SEA, for instance, rose from 2 million US dollars in 2016 to 4 million US dollars in 2019. Google, Temasek and Bain have also estimated that the value of SEA's digital economies would exceed 300 billion US dollars by 2025.[5]

Within the SEA region, Indonesia and Singapore enjoy large-size investment deals and have the most home-grown unicorn start-ups[6]. Indonesia, in particular, has currently the largest and fastest growing Internet Economy in the region. The

US dollars investment- a company is developing and should have an actual business model.), Series B (5-25 million US dollars investment- a company is transitioning to be well-established.), Series C and beyond (In later-stage funding, companies hold higher value and will be able to raise larger funding sizes accordingly before exit).

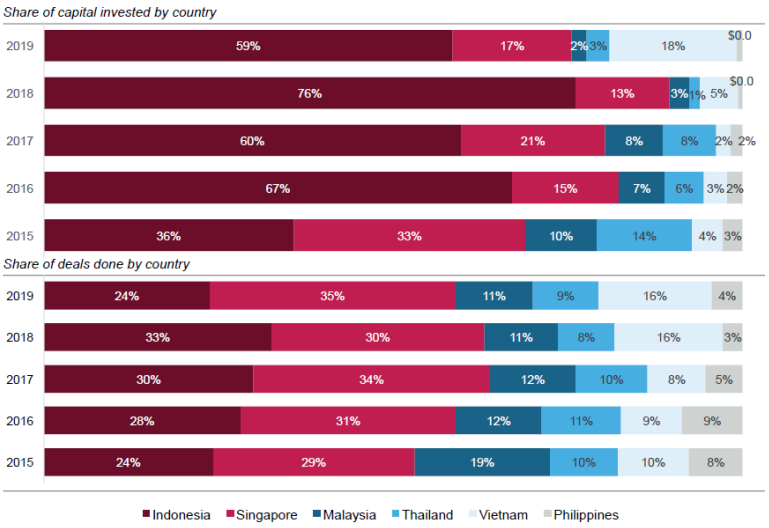
[4] Startup Genome (2020).
[5] Gross Merchandise Value (GMV)
[6] A unicorn is a start-up company with a value of over 1 billion US dollars.

Indonesian ecosystems' value will be able to reach 130 billion US dollars by 2025.

For the CLMVT region, Vietnamese ecosystems have been expanding rapidly; as shown in figure 3. In 2019, Vietnam has overtaken Singapore, the birthplace of such unicorns as Grab and Razer[7], as the second highest share of capital investment. The more Vietnamese start- ups are moving towards later stages of fund raising, the larger funds they raise. More importantly, Vietnam is the only among the CLMVT with unicorn start-ups, namely VNG and VNPay, to date[8]. In 2020, e- commerce and transport & food sectors in Vietnam were high performers with 46% and 50% growth in Gross Merchandise Value from 2019.

Thailand has a vibrant start- up and technology ecosystem with a growing number of start- ups as well as rising public and private participation in innovation and entrepreneurship promotion. There is still no Thai unicorn start- up, though. The number of Thai start-ups was estimated to be around 1,000 in 2017[9], of which 50 firms were in the Financial Technology (fintech) sector. As of October 2020, there are 73 fintech companies in Thailand, reflecting the sector's healthy growth mainly driven by rising digital payment usage. Amid the pandemic, the country's digital payment transaction skyrocketed to an all- time high. The usage volume of PromptPay, the Thai retail payment infrastructure, reached 15. 6 million transactions per day in September 2020, a significant milestone relative to 260,000 transactions per day when the system was launched back in 2017. Internet and mobile banking accounts grew to 99.4 from 89.5 million accounts in December 2019. The value of Internet Economy in Thailand was estimated to be 18 billion US dollars in 2020 and 53 billion US dollars in 2025.

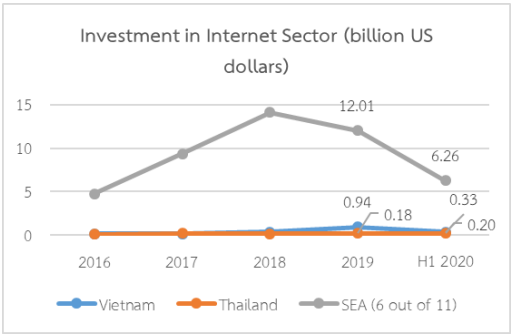
Figure 3: Share of capital invested and share of deals done by country (as of 2019)

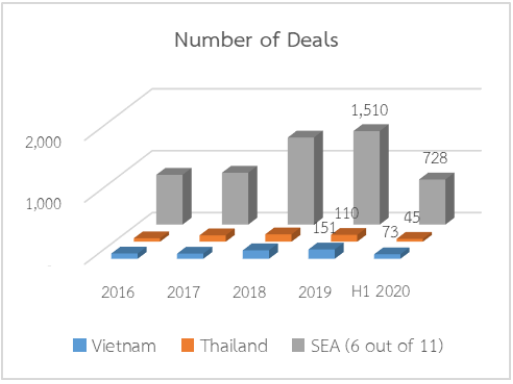


Note: The data excludes Sea Group (Garena), Grab, Lazada, and other companies with regional footprints.

Source: Cento Ventures, Southeast Asia Tech Investment in 2019.

Figure 4 and 5: Investment and Number of Deals in Internet Sector in Southeast Asia





Note: Google, Temasek and Bain's Internet sectors include e-commerce, transport and food, online travel, online media, financial services, healthtech and edtech.

Source: Google, Temasek and Bain, e-Conomy SEA 2020

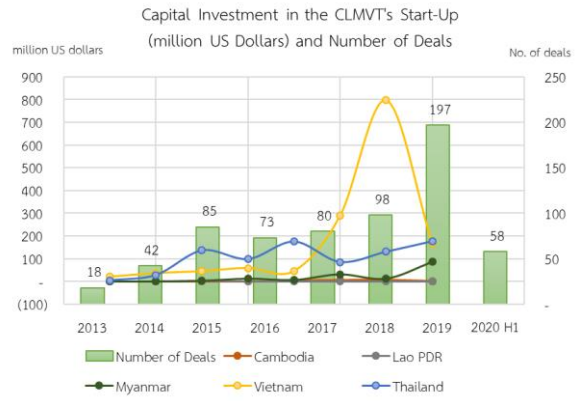
[7] Many Singaporean unicorns operate internationally but have headquarters in Singapore such as Grab, Trax and Sea Group.

[8] VNG and VNPay became a unicorn in 2014 and 2020 accordingly.

[9] จิรัฐ เจนพึ่งพร (2560). ปัจจุบันและอนาคตของสตาร์ทอัพ: ตอนที่ 1 ระบบนิเวศน่าอยู่นั้นสำคัญไฉน

On the investment side, within the first half of 2020, Thai start-ups closed 45 deals, raising 199 million US dollars in total (Figure 4 and 5). E-commerce and online media sectors grew rapidly in 2020, according to Google, Temasek and Bain[10].

Figure 6: Capital Funding to Start-ups in the CLMVT Region and Number of Deals[11]



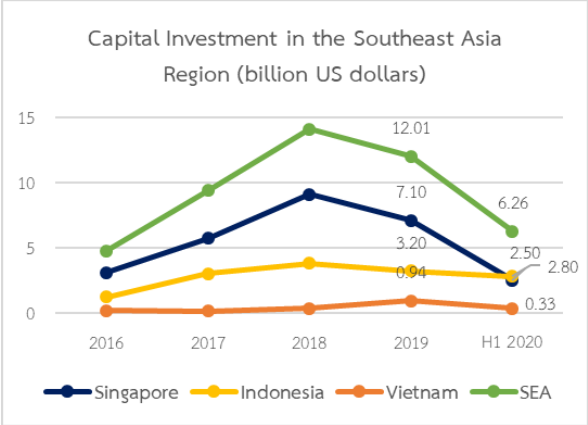
Note: VC investment in Lao PDR's technology ecosystem is as of 2019.
Source: Cento Ventures

Unlike in Vietnam and Thailand, technology ecosystems in CLM (Cambodia, Lao PDR and Myanmar) are in early development stages. Figure 6 illustrates growing amounts of VC investment into the CLMVT start-ups. Among the CLM countries, the Cambodian ecosystem has the fastest growth with more than 300 start-ups, most in the fintech sector. Some gain international recognition. For example, Singapore's Startupbootcamp FinTech selected BahnJi, an online platform providing financial services for Micro, Small and Medium Entreprises (MSMEs), and Morakot Technology, a core banking service provider for financial institutions, to be 'Top 10 Fintech Startups in Asia'. Accommodative investment policies together with national strategic plans for transformation into a digital economy by 2023 contribute to spur the ecosystem's growth.

In **Myanmar**, more players and activities are on the way despite a small numbers of local start-ups. In 2019, Digital Money Myanmar Limited (" Wave Money") would receive the amount of 73.5 million US dollars investment from its partner, China's Ant Financial Services Group. This was planned to promote financial inclusion for unbanked people.

In **Lao PDR**, Vientiane has the fastest growing ecosystem with co-working spaces and regular events such as Startup Weekend Vientiane organised for start-ups and entrepreneurs. Going forward, policymakers, authorities and businesses are collaborating to promote innovation and technology ecosystem.

Figure 7 and 8: capital investment into Southeast Asia



Note: SEA investment represents Thailand, Malaysia, Singapore, Vietnam, Philippines and Indonesia.
Source: Google, Temasek and Bain, e-Conomy SEA 2020

[10] E-Commerce and online media grew 81% and 20% YoY, respectively.
[11] Data are compiled from a number of sources, heavily relying on press announcements and community disclosures of companies to their investors. Data in this session may differ from the rest of the paper due to different methodologies and sources.

2. Why some Southeast Asian technology ecosystems grow at a faster pace than the rest?

During 2016- 2019, Singapore gained the highest average investment at 6.3 billion US dollars, followed by Indonesia with 2.8 billion US dollars (figure 7). However, from 2017 to 2019, Vietnam had the highest average growth rate at 103.5%, relative to Singapore's 40.5% and Indonesia's 53.6% (figure 8).[12] The three ecosystems have impressively outperformed their peers in terms of numbers of exit and shares of liquidity proceedings (Appendix 1).

This section analyses key factors contributing to Singapore, Indonesia and Vietnam' success in building technology ecosystems to produce local unicorn start-ups.[13]

The countries' success stem from three common factors: effective public policies, adequate infrastructure, as well as accessible talent pools and strong networks. These factors are consistent with the framework introduced by Mulas et al. (2015)[14] that the technology ecosystems' sustainable growth relied on supportive communities for technology entrepreneurs together with targeted and strategic policies as well as proper incentives.

a) Effective public policies

It is no coincidence that attracting investment to Singapore is a huge success. To build and expand the ecosystem, the government has taken proactive and holistic approaches. Plans and initiatives[15] were explicitly laid out to promote technology ecosystem and entrepreneurship with particular public and private bodies to oversee and support. The Ministry of Trade and Industry set up the Action Community for Entrepreneurship (ACE) in 2003 to build and expand the start-up ecosystem. Its major role is creating a suitable environment for start-ups and key stakeholders and designing pivotal policies such as data protection scheme, as well as law and regulations on Intellectual Property Rights (IPR).

The Vietnamese authorities have put abundant efforts in promoting innovation. The government has designed and implemented policies and incentives to facilitate the ecosystem e.g. the 2035 Innovation and Technology Development Plan and Law on Technology Transfer.[16] In order to attract the foreign direct investment, it also launches the favourable tax regime for start-ups and foreign investors.[17] Another vehicle to support the ecosystems is an online platform, Project 844.[18] All stakeholders, start-ups, investors, policy makers, accelerators, incubators etc., can get access to start-up business policies and procedures. Moreover, the platform acts as the portal for sharing information including but not limited to scientific and technological research, details of technology transfers to Vietnam, and lists of experts and consultants.

[12] Philippines has the highest average growth of capital investment during 2017 – 2019 due to some great deals in 2018 e.g. Voyager Innovation received investment of 0.18 billion US dollars from KKR and Tencent Holdings in October 2018. Though, investment during 2016 – 2019 was only 0.16 billion US dollars, on average.

[13] To date, Singapore, including regional companies such as Garena or Sea Group and Grab, and Indonesia have 5 unicorn start-ups each and Vietnam has 2 unicorn start-ups.

[14] Four main factors to build a sustainable innovation ecosystem are 1) Human capital or people 2) Physical assets or infrastructure 3) Economic assets and 4) Public policy and enabling environment.

[15] Under the Smart Nation Initiative, Singapore builds on three pillars: digital government, digital economy and digital society.

[16] The Law on Technology Transfer was revised in 2017 to promote technological advances and commercialisation such as AI, IoT, edtech, O2O, e-commerce, fintech and agritech.

[17] For example, preferential tax rates for businesses in high-tech sector and/or in high-tech zones (10% for 15 years and 17% for 10 years when compared with the 20% regular rate).

[18] 'Supporting National Innovative Start-up Ecosystem to 2025' project or project 844 was initiated by the National Agency for Technology Entrepreneurship and Commercialization Development (NATEC) – Ministry of Science and Technology (MOST).

The Indonesian journey of technology ecosystem development started along with today's large tech start-ups existence in 2010 e.g. Tokopedia, Bukalapak, Go-Jek, and Traveloka. The government made most earnest ambition to create 1,000 local tech start-ups by 2020, with a total value of 10 billion US dollars. It turns out to be that Indonesia has beaten the goal with approximately 2,100 start-ups. The country set up the Indonesia Investment Coordinating Board (BKPM) to accommodate investors, and the centralised start-up database to assist investors' decision and public policy making.

Thailand and Cambodia have established national plans to navigate the countries towards digital economies. Supportive policies were put in place to promote their ecosystems, but harmonization and cooperation among stakeholders, both policymakers and private players, seem to be an issue. Certain sectors such as fintech, outgrow others, partially due to an adaptive approach to design policies and regulations based on close cooperation among the public and private players. Plus, both countries have existing payment infrastructure as crucial stepping stones for start-ups and technology corporates to leverage on (Appendix 2: Financial Technology Sector in the CLMVT).

b) Adequate infrastructure

The next key success factor is adequate infrastructure such as Fiber-optic Internet, telecommunication systems, Research and Development (R&D) bodies, high-tech parks [19] and co-working spaces, etc. Most tech start-ups launch their businesses in big cities where necessary infrastructures are well established. Evidently, SEA start-ups and technology ecosystems mostly emerged in capital cities as well. Also, international technology companies enable start-ups to grow and an ecosystem to expand. Giant technology companies (Facebook, Google and Microsoft) provided cloud computing services in Singapore and Indonesia, allowing regional data centres to be located there.

c) Accessible talent pools and strong networks

Access to local and international talents with necessary skills e.g. computer engineering, coding and programming, data analytics, business expertise, and entrepreneurship, is an essential pull factor for start-ups and technology companies. One indicator to assess quality of workforce is English proficiency. Singaporean has the highest proficiency in SEA (table 1). The country's small population size does not reflect its people's quality. They do not only have astoundingly high level of literacy[20], but also high technology adoption rate proxied by deep penetration of Internet and smartphone [21]. In addition, Singapore's open policies for foreign talents allow its market to be one of the top choices for capital investment and market expansion in SEA.

For Vietnam and Indonesia, even with considered low English proficiency scores, they have abundant supply of young workforce, coupled with high level of Internet and smartphone usage. 73% of Vietnamese registers a mobile phone number in 2018 and more than half of the population has access to the Internet. These positive forces enhance their markets' attractiveness by driving both demand (user) and supply (workforce) sides of the ecosystem.

[19] Vietnam has many high-tech parks, e.g. Quang Trung Software City, Hoa Lac High-tech Park, Saigon High-tech Park, and Da Nang Hi-tech Park.

[20] literacy was 97.5% in 2019, and GDP per capita was 88,991 US dollars. [source: Department of Statistics Singapore]

[21] Internet and smartphone usage was 88.9% in 2019 and 71.7% in 2013, respectively.

Table 1: English Proficiency Index (2020)

Ranking Year 2020		Proficiency
Singapore	10	very high
Vietnam	65	low
Indonesia	74	
Cambodia	84	very low
Thailand	89	
Myanmar	93	
Total economies	100	

Source: EF EPI 2020

These 3 key success factors are also critical to improve a country's Ease of Doing Business index. Singapore was ranked the second out of 190 economies in 2020 (table 2). Business-friendly environment and supportive local public policies allow Singapore to achieve its status as one of global financial centres, a top fintech hub and the regional data centre. Out of 12 SEA unicorn companies, more than half have headquarter offices located or operating in Singapore. Meanwhile, Vietnam and Indonesia have a large market size advantage offsetting low ranking in 'starting a business' and 'trading across border'.[22] Thailand was ranked in the top 30 with high scores in 'getting electricity' and 'protecting minority investors', highlighting hidden potential of its ecosystems.

Table 2: Ease of Doing Business Global Ranking 2020

Global Rank	2020
Singapore	2
Thailand	21
Vietnam	70
Indonesia	73
Cambodia	144
Lao PDR	154
Myanmar	165
Total economies	**190**

Source: World Bank, 2020, Doing Business Database.

3. How can the CLMVT support start-ups and technology ecosystems?

Each of the CLMVT ecosystems has unique advantages and, thus, is capable of becoming the next generation of leading regional ecosystems. Although, their common persisting problems, eg. high cross-border remittance cost and expensive domestic and cross-border logistics, call for innovative solutions. There is also huge opportunity to improve financial inclusion, healthcare and education.

This section is to provide policy recommendations for the CLMVT countries to build and expand their ecosystems.

Public Sector

a) Laws and Regulations:

The innovation and entrepreneurial ecosystems could benefit substantially from clear and cohesive policies and action plans. Stakeholders could plan ahead and share common visions. The CLMVT authorities can review, revise or issue appropriate policies to promote start-ups'ease of doing business, such as a partial exemption from income tax for capital gains income derived from employee stock option [23], and flexible regulation of foreign talents' migration.

b) Infrastructure Investments:

Having adequate digital infrastructure is pivotal for businesses to scheme market expansion strategies.[24] The policymakers and authorities should embrace technology and be proactive to promote innovation. Implementing a 'regulatory sandbox', for example, allows start-ups to conduct their business experiment within a limited space, so, preventing negative

[22] Out of 190 economies, Vietnam and Indonesia' s rank on "starting a business" was 115 and 140, respectively. They were ranked 104 and 116 for "trading across border".

[23] Employee Stock Option Plan (ESOP) is included in an employee package when a firm offers an employee a right to buy the its shares under certain conditions. In Singapore, employees get a 50% exemption from income tax for capital gains income derived from the ESOP.

[24] CCAF, ADBI, FinTechSpace (2019). ASEAN FinTech Ecosystem Benchmarking Study. Cambridge, UK.

spillovers. Thailand is currently the only country among the CLMVT to officially implement fintech regulatory sandboxes back in late 2016. Other regulators in the region are more active. For example, the State Bank of Vietnam, Vietnam's central bank, recently starts its fintech regulatory sandbox.

c) Open Data:

The public sector collects large amounts of invaluable data generated during its role as a service provider e. g. transportation, payment and money transfer, healthcare, etc. These data would be fully utilised only if they are available for the public to access under comprehensive data governance' s guideline to preserve consumer protection and data privacy. The private sector can leverage such precious resources, thereafter.

Private Sector

a) Knowledge and expertise:

The ecosystem players particularly in the education sector can tremendously contribute to deepen and widen knowledge base. This can be done through investment in R&D as well as knowledge sharing platforms such as networking, mentorship, an accelerator programme, etc.

Using edutainment and media also ignites enthusiasm for an ecosystem' s participation. South Korea exemplifies outstandingly how to educate the public through the highly successful Korean drama "Start-Up" in October 2020. The story centering around start-up companies, VC investment and technology ecosystems did not only spark domestic interests but also leaved global audience enthralled[25].

b) Talents Retention and Community Building:

A common challenge that almost all SEA countries are facing is nurturing and retaining talents. Policymakers and leaders in the ecosystem have to prevent a 'brain-drain' situation, along with maintaining investing in human capital accumulation. Facilitating formation of close-knit communities and expanding linkages with regional and international ecosystems would create a more vibrant and supportive network.

Going forward, main engines to drive start-up development and expand technology ecosystems are regulatory harmonization and human capital development. Well-rounded and concise strategic frameworks and action plans along with tractable implementation are essential for building and expanding the CLMVT ecosystems. Key success factors are effective public policies, adequate infrastructure as well as accessible talent pools

Source: Netflix

[25] Start-Up earned the highest score among the existing Netflix' s Korean TV shows. It became the most popular Kdrama in the world on 23 November 2020.

References:

Areitio A (2018). What is a startup and how is it different from other companies (new and old)?.

Austrade (2019). Vietnam's Innovation Ecosystem 2019.

CCAF, ADBI, FinTechSpace (2019). ASEAN FinTech Ecosystem Benchmarking Study. Cambridge, UK.

Cento Research

Cento Ventures (2019). Southeast Asia Tech Investment in 2019.

Cento Ventures (2020). Southeast Asia Tech Investment H1-2020.

Commonwealth of Australia (2019). Vietnam's Innovation Ecosystems 2019.

EDB Singapore (2019). Singapore Tech Ecosystems.

EF Education First (2020). English Proficiency Index.

Google & Temasek /Bain (2019). e-Conomy SEA 2019.

Google, Temasek and Bain (2020). e-Conomy SEA 2020.

Kem B., Sou J., Ng Z., and Chan P. (2019). Startup Kingdom: Cambodia's Vibrant Tech Startup Ecosystem in 2018

KPMG Enterprise (2020). Venture Pulse Q2'20 Global Analysis of Venture Funding.

Minh K. (2020). VNPay officially named Vietnam's second unicorn startup.

MIT Sloan Management Review (2012). The Multiplier Effect of Innovation Jobs.

Panizza G. (2017). Vietnam Start-up Ecosystem.

e27 (2019). Indonesian "1000 Startups" initiative being renewed by the government.

Sim C. (2017). Report on Financial Technology (FinTech) In Cambodia.

Startup Genome (2020). The Global Startup Ecosystem Report 2020.

The Bank of Thailand

The BKPM and the Indonesian Start-Up Database

The Thai Fintech Associtaiton

World Bank (2020). Doing Business Database.

จิรัฐ เจนพึ่งพร (2017). ปัจจุบันและอนาคตของสตาร์ทอัพ: ตอนที่ 1 ระบบนิเวศน่าอยู่นั้นสำคัญไฉน.

พริ้มเพรา กิจพาณิชย์ (2019). กัมพูชาจะมียูนิคอร์นกับเขาไหม?.

This article would not have been possible without guidance, support and encouragement from Naruemol Wesaratchakit, Paphasinee Kulachote, Mutjalin Nualnim and the team. My particular appreciation goes to Archari Suppiroj and Wijitleka Marome for their valuable insights on Thailand's ecosystem. Lastly, I convey my deep gratitude to Dr. Nakarin Amarase, the FAQ editorial team, for listening, sharing helpful ideas and giving me opportunities to serve.

Contact author:

Primprao Kitpanich
Senior Economist
International Department
Communications and Corporate Relations Group
PrimpraK@bot.or.th

Appendix

1. Key measures of SEA growth and development of start-ups ecosystem

While measuring growth and development of an ecosystem is difficult, this article uses the following proxies[26]. In addition to funding success, volume and growth of VC funding and the number of start-ups (discussed in the main text), this appendix illustrates another variable: performance success, ecosystem's values as well as the numbers and proceeds of startups' exits.

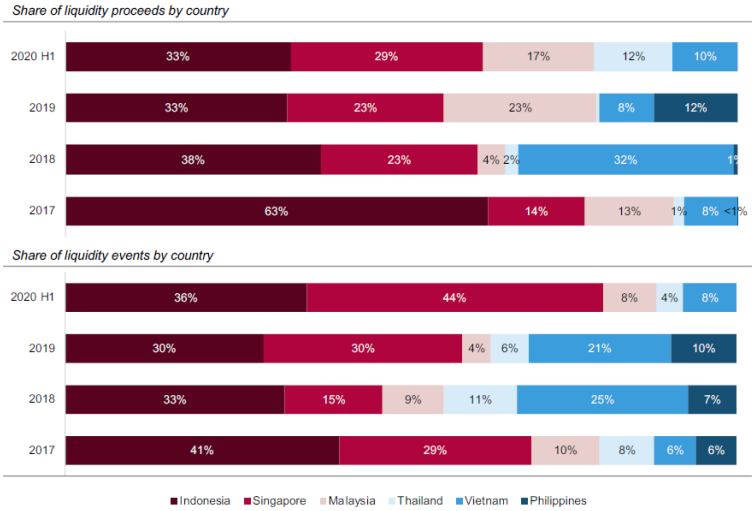
Numbers of Start-Ups

Although the start-up's life cycle makes it challenging to count the number of active companies[27], Singapore had 3,600 start-ups as of 2020, the highest among 6 major markets in the SEA region, following by Indonesia who has approximately 2,100 companies in 2020. With limited information regarding the CLMVT markets, Vietnam's number of start-ups was estimated at 3,000 companies in 2017, while Thailand had at least 1,000 start-ups, of which 50 firms were in the fintech sector.

Performance Success

In SEA, Indonesia and Singapore are leading in liquidity proceedings and exits[28], accounting for more than 50% of the 6 major SEA economies (figure 11). Vietnam generally follows in the third place while Thailand shows mediocre performances, implying Thai start-ups are mostly not in a mature stage to exit yet.

Figure A1: Shares of liquidity proceeds and liquidity events by country (2017- first half of 2020)



Note: The data excludes companies with a regional footprint (e.g., Grab, Sea Group, and Lazada) to avoid biases towards any particular country.
Source: Cento Research

Overall, Singapore's ecosystem was ranked the highest in SEA; in 2020, Singapore was ranked at the 17th in the Top 30 Global Start-up Ecosystems, while the other SEA's fast growing ecosystems are not even in the list. However, Thai (Bangkok) and Vietnam's (Ho Chi Minh City) ecosystems were listed in the Top 100 Emerging Ecosystem Ranking. Bangkok was ranked within 51-60 range of the list, higher than Ho Chi Minh City, on the back of Thailand's strength in the 'talent' area.[29]

[26] This follows methodologies used by Startup Genome to assess global start-up ecosystems' values.

[27] According to Crunchbase, start-up's life cycle could be as short as 90% of failure primarily due to self-destruction or external factors (e.g. founder's poor decisions and market condition).

[28] An exit for start-ups generally means business acquisition, going for an Initial Public Offering (IPO), Merger and Acquisition (M&A) or becoming an established company.

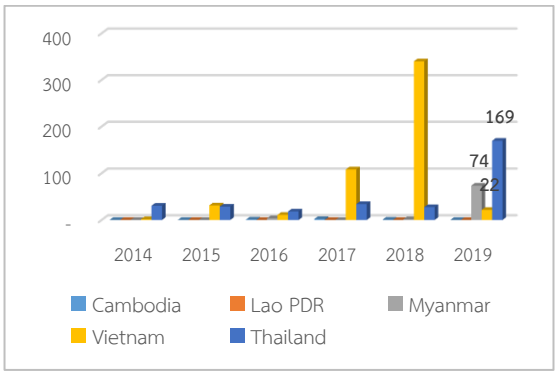
[29] HCM was ranked at 71-80 in the top 100, by Startup Genome.

2. Fintech Sector in the CLMVT

Although Vietnam has the highest number of fintech companies (123 in 2020) in the CLMVT, **Thailand and Vietnam both have high adoption rates of digital financial services, particularly in mobile payment and money transfer.**

In the first half of 2020, Thailand received 176 million US dollars in VC investment with 82% into payment system and 14% into other financial services, while Vietnam's fintech sector was accounted for 13% of total VC investment of 166 million dollars.

Figure A2: Funding in the CLMVT fintech start-ups (million US dollars)



Source: Cento Ventures

The fintech sector in Cambodia has experienced a moderate growth in recent years, relying on increasing digital payment and money transfer. The authorities, especially the National Bank of Cambodia, have proactive plans to establish key infrastructures as enablers, e.g. the interoperable QR code initiative cooperating with the Bank of Thailand (BOT), to develop a convenient method of payment in Cambodia. They also explored new ideas such as a central bank digital currency (CBDC) with the Bakong project.

The fintech sector in Myanmar and Lao PDR are more and more active, especially in the Lao PDR's mobile payment. For instance, the Banque Pour Le Commerce Exterieur Lao (BCEL), a state-owned commercial bank, launched its mobile application for payment services and partnered with Thanachart Bank (currently, TMBThanachart Bank) to provide QR code technology for Lao PDR-Thailand's cross-border transfer. Myanmar experienced rising growth in mobile phone penetration rate (from 7.3% in 2012 to 49.9%* in 2017) as well as Internet and social media usage. The Central Bank of Myanmar also plans to implement the country's standard QR code for retail payment, gearing towards a cashless society.

Looking forward, the CLMVT region has an undeniably high potential in the fintech sector as key stakeholders are keen on developing the ecosystems, not to mention positive drivers, e.g. increasing mobile phone and Internet penetration rates. Besides, authorities promote regional cooperation to facilitate the development such as the State Bank of Vietnam – the Bank of Thailand project on cross-border interoperable QR code payment. There are also many regulatory framework designs to boost key technologies' application, e.g. blockchain, electronic Know Your Customer (e-KYC), open Application Programming Interface (API), and Artificial Intelligence (AI). These prospective progress come along with supportive private sectors to bring in expertise, network and funding to generate ecosystems' values.

Note: *GSMA Mobile Connectivity Index