

# ASSESSING THE RELATIONSHIP BETWEEN ICT INFRASTRUCTURE AND DIGITAL SKILLS AND THE INFLOW OF FOREIGN INVESTMENT TO THE ASEAN ICT SECTOR

**Policies to support the development  
of ASEAN's Digital Economy by  
attracting overseas investment  
for Digital Businesses**



## CONTENTS

<b>1</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>5</b>
<b>2</b>	<b>DIGITAL BUSINESSES AND THEIR SIGNIFICANCE FOR ASEAN'S DIGITAL ECONOMIES .....</b>	<b>12</b>
2.1	What are digital businesses?.....	12
2.2	How can digital businesses benefit ASEAN nations? .....	13
<b>3</b>	<b>ASEAN DIGITAL ECONOMY AND DIGITAL POLICY SUMMARY .....</b>	<b>16</b>
3.1	ASEAN digital maturity indicators .....	16
3.2	ASEAN and AMS digital policy .....	22
<b>4</b>	<b>INVESTMENT DRIVERS FOR DIGITAL START-UPS .....</b>	<b>24</b>
4.1	Digital businesses and digital start ups .....	24
4.2	Start-up growth and funding stages .....	26
4.3	What do investors in digital businesses look for? .....	27
<b>5</b>	<b>ATTRACTING FOREIGN INVESTMENT FOR ASEAN DIGITAL BUSINESSES .....</b>	<b>30</b>
5.1	Drivers for digital investments in ASEAN .....	30
5.2	Factors influencing overseas investment by venture capitalists .....	32
<b>6</b>	<b>RECENT INVESTMENT DYNAMICS .....</b>	<b>36</b>
6.1	Global turning point for investment .....	36
6.2	Further aspects of new funding environment .....	39
<b>7</b>	<b>ASEAN DIGITAL BUSINESSES AND POLICY OVERVIEW .....</b>	<b>42</b>
7.1	Regional overview .....	42
7.1.1	Digitization, ASEAN digital policy and economic development .....	42
7.1.2	Digital businesses and digital ecosystems in ASEAN .....	44
7.2	DIGITAL BUSINESS AND POLICY SNAPSHOT FOR EACH AMS .....	48
7.2.1	BRUNEI DARUSSALAM .....	48
7.2.2	KINGDOM OF CAMBODIA .....	49
7.2.3	INDONESIA .....	50
7.2.4	LAO PDR .....	52
7.2.5	MALAYSIA .....	54
7.2.6	MYANMAR .....	55
7.2.7	PHILIPPINES .....	56
7.2.8	SINGAPORE .....	57
7.2.9	THAILAND .....	58
7.2.10	VIET NAM .....	60
<b>8</b>	<b>STAKEHOLDER INPUTS .....</b>	<b>62</b>
8.1	Stakeholder interviews .....	62
8.2	Stakeholder online survey .....	65
<b>9</b>	<b>POLICY CONSIDERATIONS AND RECOMMENDATION .....</b>	<b>70</b>
9.1	Policy considerations for responding to the new funding environment .....	70
9.2	Recommendations .....	74
9.2.1	Policy Recommendations: Emerging Digital Maturity .....	75
9.2.2	Policy Recommendations: Lower Intermediate Digital Maturity .....	76
9.2.3	Policy Recommendations: Higher Intermediate Digital Maturity .....	77
9.2.4	Policy Recommendations: Advanced Digital Maturity .....	78
9.2.5	Policy Recommendations: Common/Collaborative .....	78
9.3	Conclusion .....	80

## ACKNOWLEDGEMENTS

The Association of Southeast Asian Nations (ASEAN) was established on 8 August 1967. The Member States of the Association are Brunei Darussalam, Cambodia, Indonesia, Lao P.D.R., Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam. The ASEAN Secretariat is based in Jakarta, Indonesia.

General information on ASEAN is available online at <http://www.asean.org>

This report, an integral part of the ASEAN ICT Fund's key deliverable projects for ADGMIN 2024, is adeptly guided by the Ministry of Technology and Communications of Lao P.D.R. It exemplifies the collaborative effort and dedication underpinning the advancement of ICT policy within ASEAN led by ADGMIN and championed by ADGSOM with support from the ASEAN Secretariat and AICT Center.

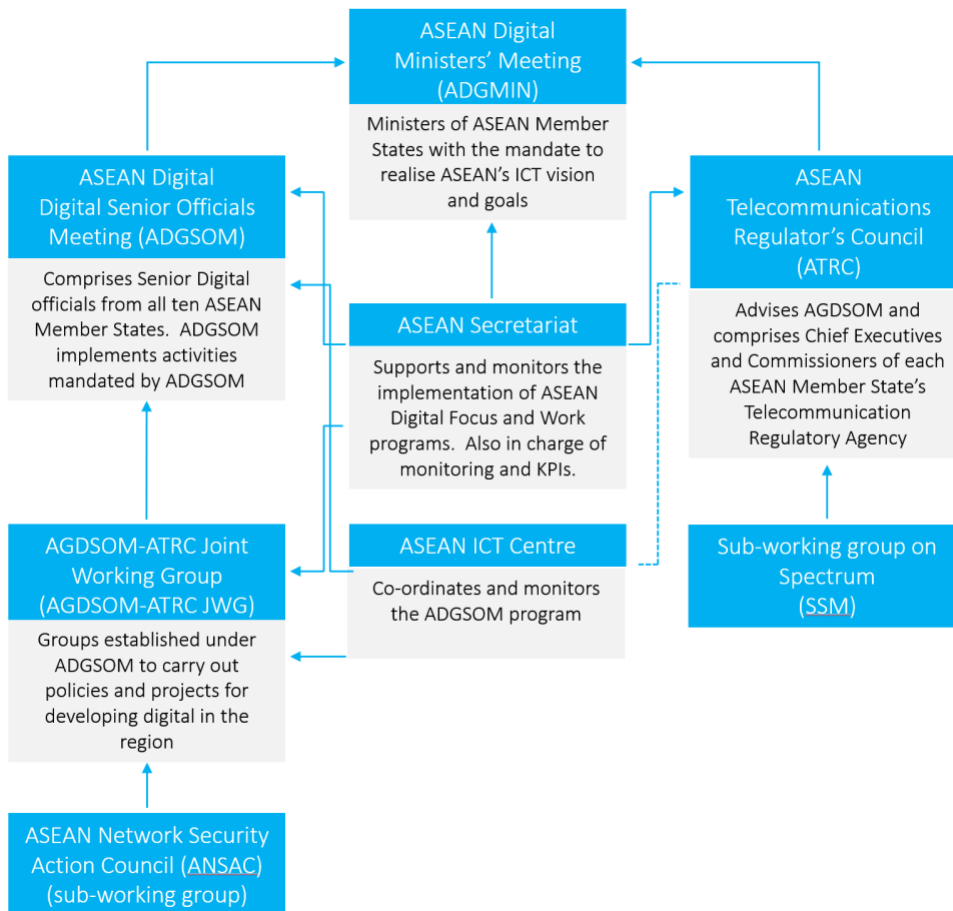
We are deeply appreciative of the ADGSOM, AMS, and the ASEAN Secretariat for their substantial contributions and steadfast commitment to the compilation of this report. Heartfelt thanks are also extended to the multitude of companies and organizations for their invaluable sharing of information and expertise, which has significantly enhanced the ASEAN Secretariat's research series on ICT-related policy.

Cover Photo by Philipp Katzenberger on Unsplash

**Exhibit 1: ASEAN Member States Map**



**Exhibit 2: ASEAN Member States Map**



# 1 EXECUTIVE SUMMARY

ASEAN’s primary goal is the economic development, in the broadest sense, of its region. This report explores how ASEAN policymakers can attract foreign capital to stimulate the growth of digital economies both sector within their nations and for the region as a whole. Why focus on the digital sector? And, in particular, why focus on private sector digital businesses?

A simple and powerful answer to this question is that, for around two-and-a-half decades, the digital economy has powered the growth of the United States. The US economy has remained at approximately 25% of the global economy for 40 years. Within this period, the US has significantly de-industrialised, but the growth of the West Coast tech giants has more than compensated for this.

Figure 3 shows the 10 largest publicly traded companies in the world in 2007, 2017 and 2023. In 2007, the year that the iPhone was launched, there was only one tech giant – Microsoft, which made up about 9% the total value of the top 10. Only 10 years later, the iPhone had catapulted Apple into first place, and the top 10 included seven tech companies that made up 77.5% of its total value.

**Exhibit 3: Ten largest public companies in world by market capitalisation**

2007 4TH QUARTER		2017 4TH QUARTER		2023 3RD QUARTER	
Company	Market cap \$b	Company	Market cap \$b	Company	Market cap \$b
PetroChina	724.0	Apple Inc.	868.9	Apple Inc.	2,677
Exxon Mobil	511.9	Alphabet Inc.	727.0	Microsoft	2,346
General Electric	374.6	Microsoft	659.9	Alphabet Inc.	1,662
China Mobile	354.1	Amazon Inc.	563.5	Amazon Inc.	1,312
I&C Bank of China	339.0	Facebook Inc.	512.8	Nvidia	1,074
<b>Microsoft</b>	<b>333.1</b>	Tencent	493.3	Tesla	794
Gazprom	329.6	Berkshire Hathaway	489.5	<b>Meta</b>	<b>772</b>
Royal Dutch Shell	269.5	<b>Alibaba Group</b>	<b>440.7</b>	Berkshire Hathaway	769
AT&T	252.1	Johnson & Johnson	375.4	Eli Lilly	510
Sinopec	249.6	JPMorgan Chase	371.1	Visa	481
<b>TOTAL</b>	<b>3,737.5</b>		<b>5,502.1</b>		<b>12,397</b>
<b>TOTAL TECH</b>	<b>333.1</b>		<b>4,266.1</b>		<b>9,843</b>
<b>% TECH</b>	<b>8.9%</b>		<b>77.5%</b>		<b>79.4%</b>

Tech companies      Non-tech companies

Source:      Compiled by Windsor Place Consulting from data at [https://en.wikipedia.org/wiki/List\\_of\\_public\\_corporations\\_by\\_market\\_capitalization](https://en.wikipedia.org/wiki/List_of_public_corporations_by_market_capitalization)

By 2023, the Chinese tech giants no longer make the list and the total value of the remaining six<sup>1</sup> is now almost 80% of the top 10 market capitalisation which is now at \$12.4 trillion.

Tech companies, digital companies and business start-up ecosystems have important and distinctive roles to play in modern economies. Not only does the increasing value of such companies create significant income, wealth and employment, they also produce services that enhance the productivity of the economy generally and provide new services that consumers value. The proliferation of digital companies tends to orient economies towards innovation in general. ASEAN is already well advanced in developing a generation of its own tech companies and a start-up ecosystem.

But is the US experience a guide for ASEAN's development? It can be argued that the US experience is not replicable: the US had first mover advantage, the US has an enormous and rich domestic market, that Europe has not succeeded in building a comparable tech sector, the US tech giants have the scale to dominate the global market, and so on.

In fact, the experience of China suggests these objections are not valid. The Chinese government has adopted a strategic approach to develop its domestic technology market, emphasizing local innovation and services. This policy, while fostering a unique technological ecosystem within the country, has also led to a more distinct separation from the global big tech industry. China's own tech giants quickly emerged to fill that vacuum.

Given the growing scale of the ASEAN regional economy, it is more than plausible to suggest that a pan-regional digital business ecosystem can contribute significantly to the ongoing economic development of ASEAN.

In light of recent shifts in the global economic landscape and recognizing China's unique challenges, ASEAN finds itself at the cusp of a transformative opportunity within the digital economy sector. Observers have noted India's ascent as a burgeoning economic powerhouse, akin to China's previous trajectory. It is within this context that one might also envision ASEAN emerging as a pivotal digital economy player on the world stage.

Yet, beyond such comparisons, which often serve more to capture the imagination than to inform policy, lies a more substantive inquiry: How can ASEAN, with its rich tapestry of cultures and economies, leverage the evolving patterns of global trade and investment to its advantage? This nuanced question invites a careful exploration of ASEAN's potential pathways to harness these shifts for regional prosperity.

The world has been reminded by the experience of Covid-19 and rising geopolitical tensions that it is important to diversify supply chains, investment destinations, and economic and strategic partnerships. ASEAN nations and India are already benefiting from the redirection of international investment.

ASEAN has a wide diversity of economic development levels, but its average GDP per capita continues to grow with a significant proportion approaching middle income status. With a population of over 680 million and an aggregate nominal GDP of

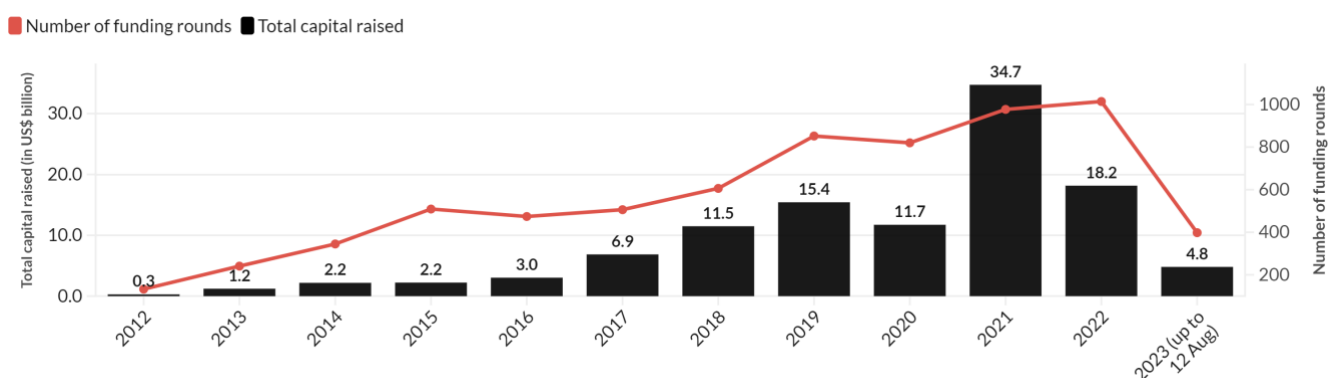
---

<sup>1</sup> Nvidia has entered the top 10 as its chips drive the AI explosion. It is arguably a hardware company rather than a digital company per se. Tesla is an auto manufacturer but a significant component of its value proposition is its software and AI dimensions.

almost US\$4 trillion. Given this economic and financial scale, ASEAN can now focus internally as well as externally for its business development capital requirements.

The story of overseas investment in ASEAN over the past decade is illustrated in Exhibit 4. This is not a perfect match for foreign investment in ASEAN digital companies, but it does illustrate the broad trends. Since around 2010, overseas investment in ASEAN digital companies has grown steadily. Then in 2022, the pattern broke distinctly (see Section 6 for more detail). The factors driving this investment decline include: the reemergence of global inflation and higher interest rates; disruption to and reconfiguration of global supply chains; and increased geopolitical volatility.

**Exhibit 4: Funding trend in Southeast Asia over the past decade**



Source: <https://www.techinasia.com/visual-story/sea-tech-funding-set-worst-year-2016>

These factors are likely to be persistent for some time. In time, foreign investment levels will almost certainly recover to some extent. It is also highly plausible that the zero interest world will not return for at least a generation.

The implication of these changes is that, while ASEAN policymakers should keep working to encourage foreign investment outside ASEAN, they should also focus on encouraging investment flows within ASEAN itself. Thus, while the US may be a template for ASEAN’s digital economy potential and while US investment has been critical for the growth ASEAN digital businesses, it is likely that the future of digital ASEAN has less to do with the US and more to do with ASEAN economic, financial, institutional and digital maturity and self-reliance.

Exhibit 5 below provides a summary table of the report policy recommendations (for more detail see Section 9). For ASEAN policymakers, some of the challenges fall under ‘systemic policies’. These are generally the same as digital economy policy objectives including, for example: improving digital skills, deploying more e-government services, improving telecommunication services, and improving regular tree frameworks and practices.

In terms of policies that are specific to encouraging digital businesses, these include: providing financial support for very early stage start-ups, and providing start-up incubators/accelerators. These types of policies are more important for AMSs that are at the ‘emerging’ or ‘lower intermediate’ stages of digital maturity where local funding systems are relatively underdeveloped.

For AMSs at higher levels of digital maturity, again, general digital economy policies should be vigorously pursued including: Cybersecurity/Digital Identity



Measures/Digital Payment Systems initiatives and the ongoing improvement of telecommunications infrastructure and associated regulation.

Singapore's digital maturity is high. Singapore can play a leading role in the digital and financial integration of ASEAN more broadly.

This report allocated AMSs to one of four 'digital maturity' categories:

- Emerging Digital Maturity
- Lower Intermediate Digital Maturity
- Higher Intermediate Digital Maturity
- Advanced Digital Maturity.

In addition, recommendations under the heading 'Overall Common/Collaborative ASEAN Initiatives' are provided. The following list highlights key recommendations for AMSs in each of these groups:

### Emerging Digital Maturity

**Lao PDR and Myanmar:** Focus areas include improving infrastructure, digital education, e-government services, regulatory frameworks, and providing financial support and incentives for incubators and accelerators.

### Lower Intermediate Digital Maturity

**Cambodia and Philippines:** Emphasize enhancing infrastructure, digital education, e-government services, cybersecurity, digital identity measures, and financial support for startups.

### Higher Intermediate Digital Maturity

**Indonesia, Malaysia, Vietnam, Thailand, and Brunei Darussalam:** Prioritize cybersecurity, digital identity measures, regulatory frameworks, and regional digital integration and collaboration.

### Advanced Digital Maturity.

**Singapore,** recognized for its exceptional digital maturity and status as a global leader in the digital economy, holds a distinctive position within ASEAN.

### Overall Common/Collaborative ASEAN Initiatives

Include aligning regional capital movement policies and taxation systems, enhancing cybersecurity and digital identity measures, developing an ASEAN Technology Stock Market, and establishing an annual ASEAN Digital Business Funding Conference and Startup Showcase.

In addition to the summary table of recommendations provided below in Exhibit 5, the following list provides a brief summary of each AMS's digital business sector and digital policy settings (see Section 7 for more detail):

### Brunei Darussalam

Established Darussalam Enterprise (DARe) to boost entrepreneurship and skill development among MSMEs. Pursuing Brunei Vision 2035 to diversify the economy with a focus on Halal Tourism and Innovative Technologies. Achieved high ranking in



the region's entrepreneurship environment according to the 2018 Global Entrepreneurship Index.

### Kingdom of Cambodia

Focused on nurturing a startup landscape with government-funded initiatives like the Techo Startup Center and the National Incubation Center of Cambodia. Facing challenges such as lack of sufficient funding and infrastructure for startups.

### Indonesia

Boasts a rapidly growing digital economy, expected to be worth \$124 billion by 2025. Home to over 2000 startups, including several unicorns and decacorns, especially in on-demand services, fintech, and e-commerce.

### Lao PDR

Government programs provide early-stage funding and international partnerships for business innovation. Applaud the Lao PDR government's initiatives, such as the "matching grant" program supported by international partnerships, which demonstrates a tangible commitment to the success of early-stage enterprises.

### Malaysia

Recognized as an emerging hotspot for tech investments. Implements programs like the National Technology and Innovation Sandbox to support startups.

### Myanmar

Emerging in the digital space, with Wave Money as a potential unicorn candidate, reflecting the country's evolving financial inclusion landscape. Start-up landscape primarily funded by foreign donors and venture capital, focusing on edtech, fintech, and healthtech. Young population conducive to innovation but currently lacks local investor interest in startups.

### Philippines

At a significant growth inflection point, characterized by a strong micro, small, and medium enterprise (MSME) sector and diverse regional markets. Notable for its Innovative Startup Act and collaborative efforts between government and local startups for ecosystem growth.

MSMEs form the backbone of the economy, with the Innovative Startup Act supporting emerging businesses. Aims to create a conducive ecosystem for startups to grow and develop through government funding and support.

### Singapore

A top-tier startup and venture capital hub globally, renowned for its nurturing startup culture and focus on food security through innovative foodtech startups. Home to successful enterprises like Grab, Ninja Van, Love Bonito, and the unicorn Sea Limited. Singapore leads in regional digital integration and collaboration of digital business and funding ecosystems. A leading startup and venture capital hub, aiming to produce one-third of its food needs locally by 2030 through foodtech startups. Home to more than 4000 tech-enabled startups with a focus on innovation and sustainability.

## Thailand

Showcases potential for growth, with an emphasis on innovation-driven investments. The government's initiatives in fintech, agritech, and smart city development, along with efforts to attract foreign entrepreneurs, signal its commitment to enhancing the startup ecosystem.

Although the startup ecosystem is developing, the country is becoming a more attractive destination for startup investment. Initiatives in agritech, smart city development, and foodtech are supported by government grants.

## Vietnam

Known as the 'third pillar of the golden triangle' in Southeast Asia's startup ecosystem, it boasts a fast-growing domestic market and top tech talent. With a strong online retail presence and companies like VNG leading the way, Vietnam demonstrates a vibrant digital business landscape.

Known for top tech talent and a fast-growing domestic market, becoming a significant part of ASEAN's startup ecosystem. E-commerce platforms are leading the market, and the food delivery industry is thriving.

**Exhibit 5: Recommendations summary table**

DIGITAL MATURITY CATEGORY/AMSS	SYSTEMIC POLICIES	SPECIFIC POLICIES
<b>Emerging Digital Maturity</b>  <b>LAO PDR</b> <b>MYANMAR</b>	<ol style="list-style-type: none"> <li>1. Improve Infrastructure and Spectrum Management</li> <li>2. Increase Digital Education and Skill Development/Digital Inclusion.</li> <li>3. E-Government Services</li> <li>4. Regulatory Frameworks and Practice</li> </ol>	<ol style="list-style-type: none"> <li>1. Financial Support and Incentives, Incubators/Accelerators</li> </ol>
<b>Lower Intermediate Digital Maturity</b>  <b>CAMBODIA</b> <b>PHILIPPINES</b>	<ol style="list-style-type: none"> <li>1. Improve Infrastructure, Spectrum Management and Telecommunications Regulation</li> <li>2. Increase Digital Education and Skill Development/Digital Inclusion</li> <li>3. E-Government Services</li> <li>4. Cybersecurity/Digital Identity Measures/Digital Payment Systems</li> </ol>	<ol style="list-style-type: none"> <li>1. Financial Support and Incentives, Incubators/Accelerators</li> </ol>
<b>Higher Intermediate Digital Maturity</b>  <b>INDONESIA</b> <b>MALAYSIA</b> <b>VIETNAM THAILAND</b> <b>BRUNEI DARUSSALAM</b>	<ol style="list-style-type: none"> <li>1. Cybersecurity/Digital Identity Measures/Digital Payment Systems</li> <li>2. Regulatory Frameworks and Practices including Spectrum Management</li> </ol>	<ol style="list-style-type: none"> <li>1. Supporting Regional Digital Integration and Collaboration</li> </ol>
<b>Advanced Digital Maturity</b>  <b>SINGAPORE</b>	<ol style="list-style-type: none"> <li>1. Leading Regional Digital Integration and Collaboration of Digital Business and Funding Ecosystems</li> </ol>	
<b>Common/Collaborative</b>	<ol style="list-style-type: none"> <li>1. Align Regional Capital Movement Policies and Payment Systems</li> <li>2. Align Regional Taxation Systems, Particularly Capital Gains Taxes and Taxation Treatment of Equity-Based Compensation</li> <li>3. Cybersecurity/Digital Identity Measures/Regulatory Frameworks</li> </ol>	<ol style="list-style-type: none"> <li>1. Develop an ASEAN Technology Stock Market based on the US NASDAQ Model</li> <li>2. Establish an Annual ASEAN Digital Business Funding Conference and Start-up Showcase</li> </ol>

Source: Windsor Place Consulting 2023

# 2 DIGITAL BUSINESSES AND THEIR SIGNIFICANCE FOR ASEAN'S DIGITAL ECONOMIES

This section describes digital start-ups and describes how thriving digital ecosystems benefit ASEAN economies.

## 2.1 What are digital businesses?

What is a digital business? What is a digital start up? Why are digital start-ups important for national economies? How does a growing digital economy drive national economic growth and development? This section provides answer to these types of questions.

Consider first the term: 'start-up'. Why call one kind of new business a start-up and not another? A new retail store or a new manufacturing operation, for example, would not typically be described as a start-up. They would probably be described as simply a new business.

A digital start-up is a business and is based on the application of internet-based business processes for interacting with customers and suppliers. Typically, a digital start-up will create a digital alternative process for a process that already occurs in the non-digital world. Uber, for example produced a digital process for ordering and paying for ride services and for managing drivers that created an alternative to traditional taxi services. New digital fintech products can provide banking, payments and finance services at much lower cost than traditional banking institutions.

Perhaps the most important characteristic of a start-up is its potential for substantial growth and usually, rapid and sustained growth. In most cases, a business described as a start-up, if successful, will be expected to become very large, eventually reaching valuations in the hundreds of millions or billions of US dollars.

One of the key reasons that a digital start-up has the potential for rapid growth is the *scalability* of digital applications and systems. This scalability has been greatly facilitated by the wide availability of cloud computing and the growth in the numbers of digital consumers. If a digital start-up experiences rapid growth, additional capacity

can be added quickly and continuously via expansion of cloud-based resources. In many cases, such digital businesses are in a race for scale.<sup>2</sup>

More detailed definitions and descriptions of digital businesses are provided in Section 4, the essential point to note is that digital businesses are economically significant because their potential for rapid growth means that they are a potent source of income and wealth creation. Income and wealth creation are what developing economies need to raise overall living standards. But in addition, the source of income and wealth creation, in the long-term, is the creation of economic value through the provision of new or improved services and products. For consumers, this type of innovation means higher levels of consumer welfare. For businesses, digital innovation means lower costs, higher productivity, and greater international competitiveness which is the only sustainable path to higher incomes and living standards across ASEAN.

## 2.2 How can digital businesses benefit ASEAN nations?

As new technologies continue to deliver new capabilities and the integration of global markets continues to evolve, digital companies will play an increasingly important role as contributors to economic activity, creators of wealth and as sources of employment.

Digital companies, especially digital disruptors, almost by definition, are in the business of trying to find new way to undertake business processes more cheaply or efficiently. In the consumer domain, this means delivering new and cheaper goods and services to end consumers. In the business domain it means cost reduction, greater productivity and enhance competitiveness. At the national level, both of these things mean enhanced economic growth and improving living standards. The benefits to ASEAN and its AMS of a healthy digital business ecosystem include:

### Improving national productivity and competitiveness

digital start-ups do one of two things: they enable something that is already done to be done more efficiently and at lower cost or they enable something new to be done which could not economically viably be undertaken with the digital solution. In either case, successful digital companies improve efficiency and productivity and/or deliver enhance or new experience or products to consumers. By enabling such things as better access to banking and financial services, better and cheaper ride hailing, improving medical service or enabling better stock management, digital application my national economies more efficient, more productive and more competitive.

### Job Creation and Skill Development:

Digital businesses create significant employment opportunities. By nurturing entrepreneurship, digital ecosystems enable the creation of new ventures, generating a diverse range of job prospects. Start-up employment contributes to skill development and capacity building. Digital startups often operate at the forefront of technology and demand specialized skill sets. Wider characteristics of an active digital ecosystem include training programs, mentorship initiatives, and collaboration with educational institutions.

---

2 ITU, The Race for Scale: Market Power, Regulation and the App Economy, GSR-16 Discussion Paper. Available at [www.itu.int/en/ITU-D/Conferences/GSR/Documents/ITU\\_AppEconomy\\_GSR16.pdf](http://www.itu.int/en/ITU-D/Conferences/GSR/Documents/ITU_AppEconomy_GSR16.pdf)

### **Attracting Investments and Foreign Direct Investment:**

A vibrant digital startup ecosystem acts as a magnet for domestic and foreign investments, fuelling economic growth in emerging economies. The presence of successful startups and supportive infrastructure attracts venture capitalists, angel investors, and private equity firms, who provide financial support and mentorship to budding entrepreneurs. Enhancing prospects for foreign direct investment (FDI) brings many benefits. Multinational corporations and international tech giants are inclined to invest in emerging economies with robust digital ecosystems, because they increase the digital skill base and opportunities for strategic partnerships. FDI brings capital, expertise, and global connections.

### **Facilitating business networks:**

Building relationships with overseas individuals and companies who have the potential to play a role as future financing, supply chain, distribution partners.

### **Local Solutions for Local Economic Development**

Local digital startups often leverage technology to address local challenges, offering products and services that cater to specific needs in their home markets. This localized approach not only provides solutions for societal challenges but also creates avenues for export and regional or even global expansion.

### **Empowering Local Communities**

Digital solutions can empower local communities in emerging economies by creating inclusive opportunities for economic participation particularly for example, through lower costs access to banking, payments and financial services as well as better access to government services. Therefore, expanding digital ecosystems enable individuals from diverse backgrounds to start their own ventures and become self-reliant. This helps in reducing income inequality, alleviating poverty, and promoting social mobility. By leveraging digital platforms and mobile technologies, start-ups can bring essential services to underserved populations, bridging gaps in access and improving quality of life. The digital economy also offers remote work and freelancing opportunities, enabling individuals to tap into new economic opportunities.

Overall, digital businesses and digital ecosystems offer ASEAN economies are new and dynamic source of economic growth and development which is economically significant not only in its own right, but also as a source of productivity growth across every industry of the economy. Economies with high levels of digital development are more likely to be attractive to overseas investors from overseas.

**Exhibit 6: Economic benefits arising from digital businesses**



Source: WPC, September 2023



# 3 ASEAN DIGITAL ECONOMY AND DIGITAL POLICY SUMMARY

Understanding the differences between ASEAN nations' levels of digital maturity provides useful context for understanding differences between their digital ecosystems. ASEAN nations have quite disparate levels of digital maturity. Levels of digital maturity are quite closely correlated with GDP per capita. This section provides an overview of digital maturity across ASEAN Member States.

## 3.1 ASEAN digital maturity indicators

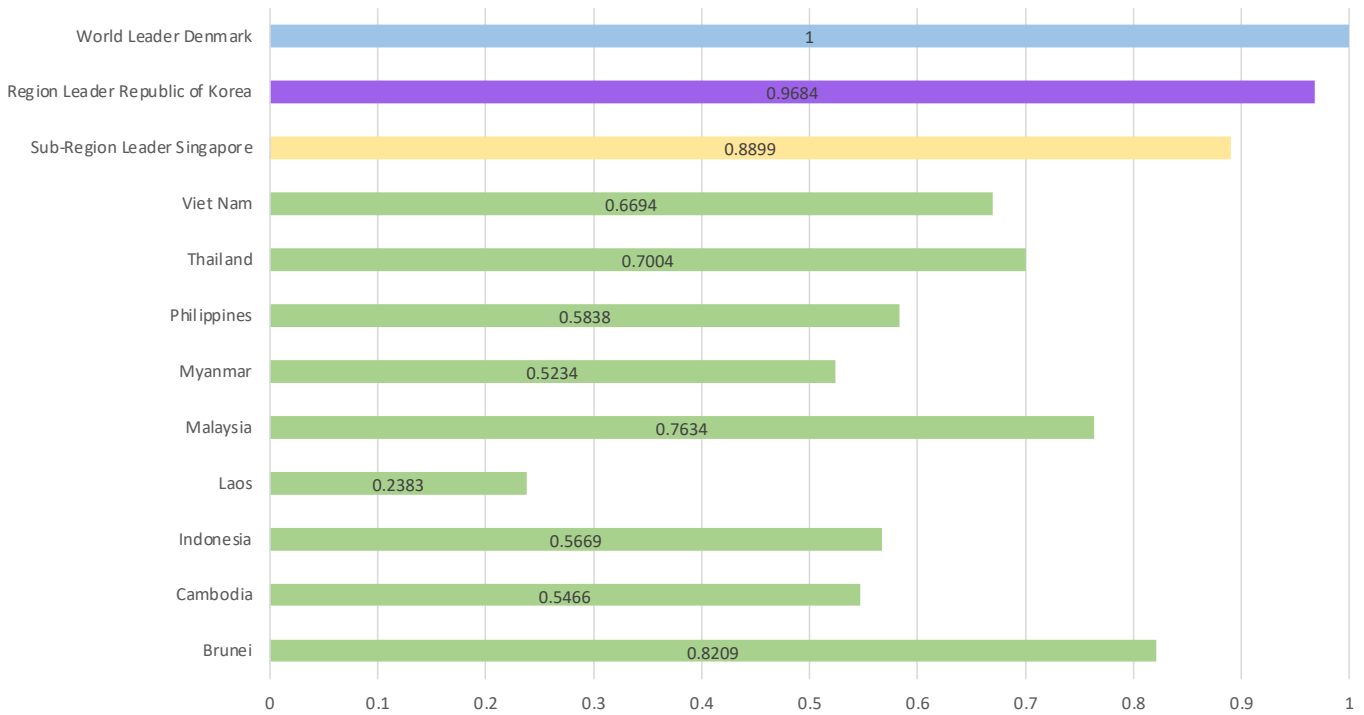
ASEAN nations cover a spectrum of economic and digital development. Among ASEAN nations, Singapore is rated one of the world's leading countries in terms of digital maturity, with a high level of GDP per capita. Countries with lower GDP per capita were rated significantly lower on measures of digital maturity. This section summarizes findings from a previous ASEAN report on post-COVID digital priorities<sup>3</sup>.

There are many indicators of national connectivity and digital maturity. One of the most prominent and comprehensive measures of digital development is the International Telecommunication Union (ITU) ICT Development Index (IDI) which rates almost every country in the world on the basis of many connectivity variables. Unfortunately, this index was discontinued in 2018, although ITU continues to provide data on its ITU Digital Development Dashboard. Exhibit 7 and Exhibit 8 provide examples of the types of data that are used to analyse digital maturity.

3

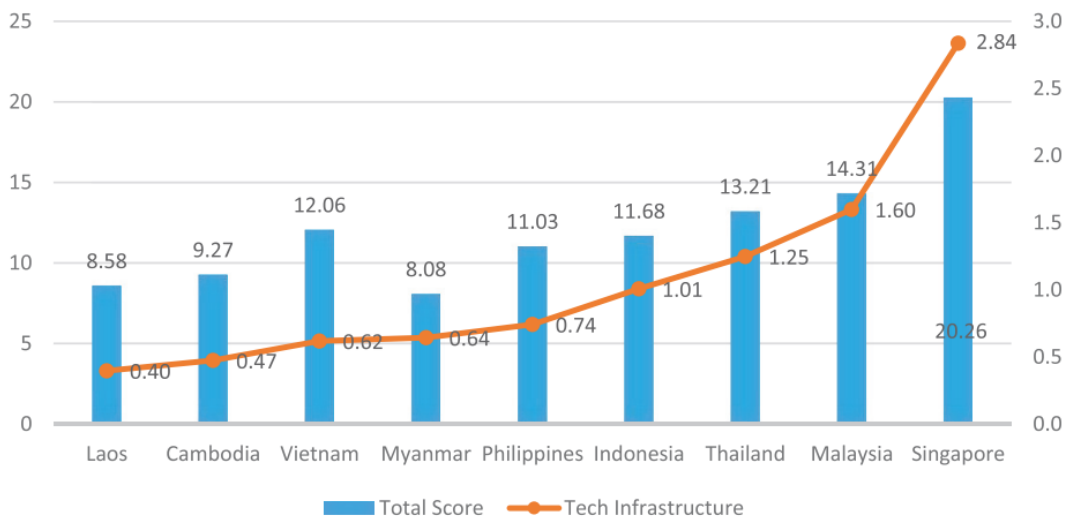
ASEAN Post-COVID Digital Policy Priorities, How do COVID-19 and emerging economic drivers change ASEAN digital policy priorities? ASEAN Secretariat, 2022

**Exhibit 7: Telecommunication Infrastructure Index of ASEAN Countries, 2020**



Source: ITU, 2020.

**Exhibit 8: Digital Readiness Index Score of countries in ASEAN**



Source: CISCO, Digital Readiness Index, 2019

Digital maturity is important because it is both a measure and a facilitator of national digital ecosystems. For the purposes of this study, understanding the digital maturity of each AMS is important because:

- Digital startups are more likely to arise where more of the population is digitally literate and has access to good quality connectivity and digital devices.
- Digital entrepreneurs are more likely to emerge in countries where there are higher levels of digital skills.
- Foreign investors are more likely to be attracted to environments where there are high levels of digital skills and strong digital infrastructure.

In a previous ASEAN report, *ASEAN Post-COVID Digital Policy Priorities*<sup>4</sup>, ASEAN countries were divided into three categories of digital maturity: emerging, intermediate and advanced. Some of the data on which that categorisation was based was from the period 2018 to 2021. In the last two years, conditions in some AMSs have changed significantly. Exhibit 9 and Exhibit 10 show World Bank historical data up to 2022 for mobile and fixed broadband connections per 100 people for AMSs.

Fixed and mobile subscription per hundred people are important indicators of a country's digital maturity – although other variables, such as digital skills, are also important. AMSs generally high levels of mobile subscriptions, except Lao PDR, while there is a significantly greater spread in performance for fixed broadband subscriptions.

An important development and policy question remains: can ASEAN nations expect mobile systems to do the 'heavy lifting' of economic development or is it necessary to develop significant fixed infrastructure to develop advanced economies?

It is clear from the data that fixed and mobile infrastructure are not substitutes. Singapore has the greatest fixed infrastructure penetration and the second highest level of cellular subscriptions and some of the countries with the lowest level of fixed infrastructure also have lower mobile subscriptions, although this is not always the case.

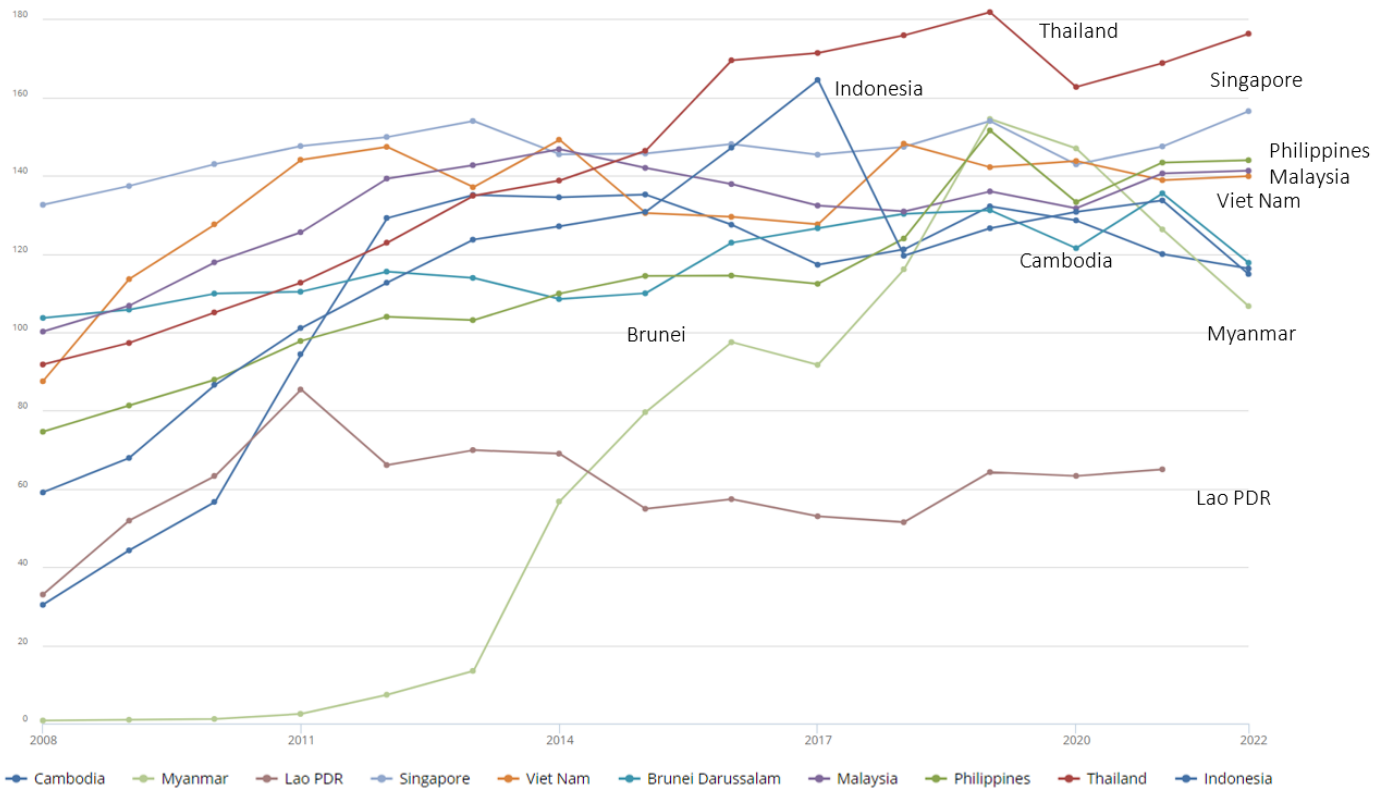
To a large extent, this discussion concerns the different connectivity needs of ASEAN cities and rural and remote areas. To provide connectivity for modern and competitive cities significant fixed broadband infrastructure is necessary while most of the connectivity needs rural and remote areas can be met using wireless solutions, especially using advanced technologies such as 5G.

Cities require the capacity of fixed solutions as well as the mobility benefits of advanced wireless services. What is abundantly clear is that spectrum is the key. Spectrum will provide the connectivity for mobile applications including Industrial Revolution 4.0 and Internet of Things technologies while providing the dominant connectivity solution outside cities. From a policy perspective, this puts spectrum management at centre stage. Countries that have relatively underdeveloped fixed infrastructure must achieve highly efficient spectrum management and deploy advanced 5G solutions. In the cities, these can buy time but in the long-term wireless is a complement to city-based fixed infrastructure.

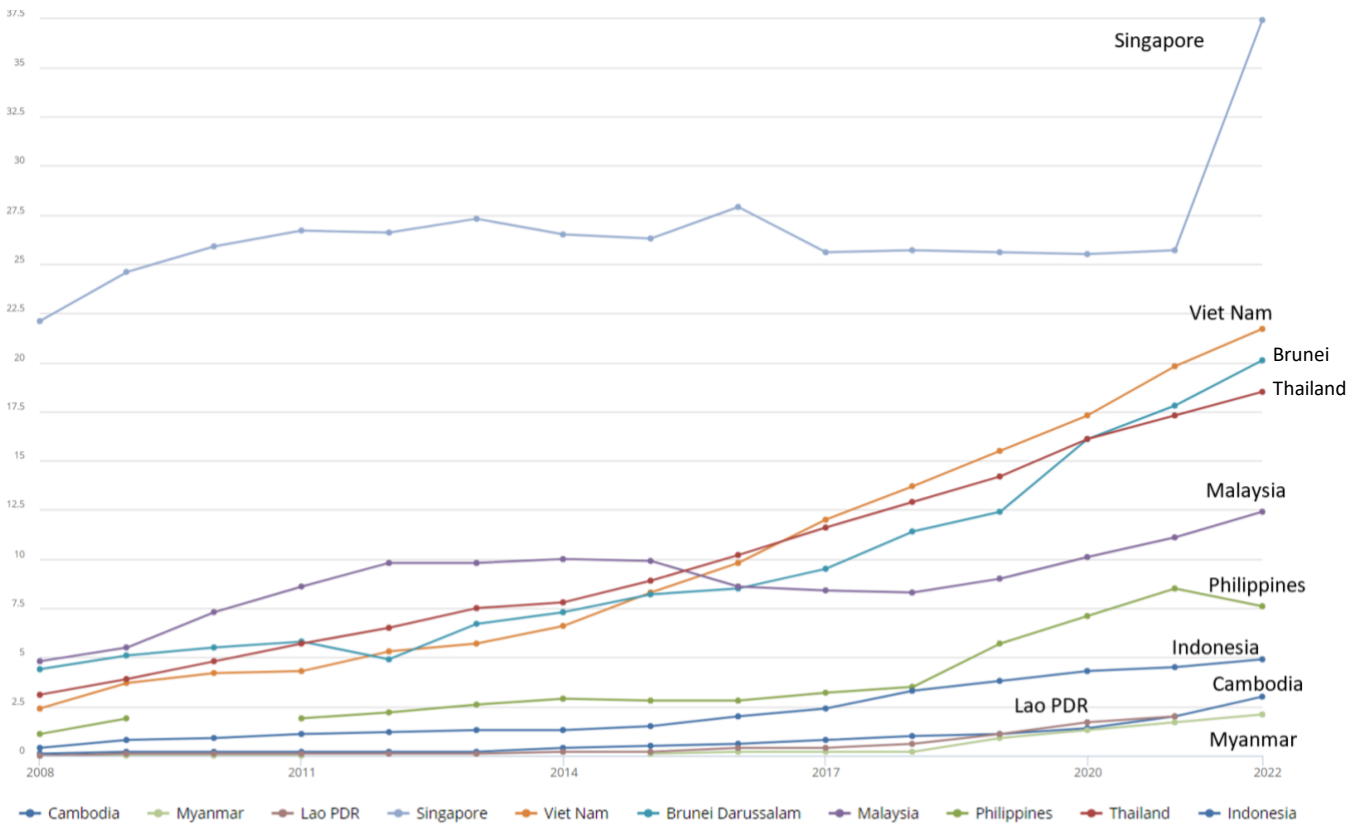
---

4 ASEAN Post-COVID Digital Policy Priorities, How do COVID-19 and emerging economic drivers change ASEAN digital policy priorities? ASEAN Secretariat, 2022

**Exhibit 9: Mobile cellular subscriptions (per 100 people)**



**Exhibit 10: Fixed broadband subscriptions (per 100 people)**



Source: The World Bank, World Development Indicators

In the context of this more recent data in the preceding discussion that previously used categories of digital maturity – emerging, intermediate and advanced – have, for this report been expanded to four as follows.

### Emerging digital maturity nations

Two countries, Lao PDR and Myanmar are included in this category. Both countries have connectivity access and service cost challenges compared to other countries in the region. The World Bank reports<sup>5</sup> that Myanmar’s economy is still around 10% smaller than it was in 2019 and future growth is expected to be slow. In Cambodia there are around 3.04 fixed broadband subscriptions per hundred people in 2022 and 116 mobile subscriptions per hundred people <sup>6</sup> Myanmar has 2.08 fixed broadband subscriptions and 107 mobile subscriptions per 100 people.

The United Nations Development Programme (UNDP) published a Digital Maturity Assessment in 2022 for Lao PDR<sup>7</sup>. Exhibit 11 shows the Digital Maturity levels used by UNDP. The Digital Maturity Assessment for Lao PDR was an overall score of 1.7 with Ministries higher at 1.8 and provinces lower at 1.3.

Exhibit 11: UNDP Digital Maturity levels

Digitally Nascent	Digitally Emerging	Digitally Agile & Integrated	Digitally Transformed	Digitally Innovative
<ul style="list-style-type: none"> <li>Undefined focus areas and sub-areas</li> <li>Low level of digital literacy, skillsets among the workforce</li> <li>Processes are not citizen centric and do not capture feedback from the end users</li> <li>Policies and regulations not defined for the digital services and standards</li> <li>Institutions not yet digitally enabled</li> <li>Digital vision and implementation strategies are unclear</li> <li>Processes are manual and require intervention for decision-making</li> <li>Lack of technology infrastructure in place</li> </ul>	<ul style="list-style-type: none"> <li>Somewhat defined focus areas and sub-areas</li> <li>Emerging level of digital literacy among the workforce</li> <li>Processes capture user feedback to some extent for improving functionality</li> <li>Policies and regulations defined in silos for the digital services and standards for specific functionalities</li> <li>Digitally enabled governance in place with digital services offered in silos</li> <li>Defined implementation and monitoring strategies in place</li> <li>Digital projects exist under some focus areas and sub-areas</li> <li>Processes are being digitized to execute digital initiatives, but in functional silos</li> <li>Emerging technological infrastructure leading to development of digital functionalities</li> </ul>	<ul style="list-style-type: none"> <li>Defined and connected focus areas and sub-areas</li> <li>High level of digital literacy and skillsets among the workforce</li> <li>Processes are citizen centric to some extent with improved user experience</li> <li>Common policies and regulations established across ministries for the digital services and standards</li> <li>Digital services are fully integrated with other systems, standards and applications</li> <li>Clear vision/strategy and roadmap defined</li> <li>Strong digital mindset and agile culture</li> <li>Digital initiatives are built in a streamlined manner and launched successfully</li> <li>Technological ecosystem contributing to rapid development of digital services established</li> </ul>	<ul style="list-style-type: none"> <li>Focus areas are completely aligned with digital strategies</li> <li>High level of digital literacy and skillsets among the workforce</li> <li>Widespread adoption of digital services by citizens and businesses due to highly engaging user experience</li> <li>Evolved set of policies and regulations resulting from multiple amendments</li> <li>Digital processes and systems have been embedded throughout the functionalities of Government</li> <li>Processes are fully optimized through an evolved transformation roadmap</li> <li>Well-defined technological ecosystem enabling development of world-class digital services</li> </ul>	<ul style="list-style-type: none"> <li>Vision and goals align with innovative new systems and solutions</li> <li>Very high level of digital literacy and skillsets among the workforce</li> <li>Citizen-driven service design with highly engaging user experience and inclusivity</li> <li>Policies and regulations support continuous digital innovation</li> <li>Fully automated integrated functionalities across ministries</li> <li>Openness to evolving technologies and their implementation</li> <li>Optimized deployment for rapid innovation</li> <li>Ecosystem fostering continuous technology innovation for faster adaptability to a changing external environment</li> </ul>

Source: UNDP, Digital Maturity Assessment – Lao PDR, 2022

Both countries need to significantly improve that spectrum management:

- Lao PDR: There is a need to accelerate the deployment of the 700 MHz and other sub-1 band spectrum in order to improve country wide wireless broadband connectivity.
- Myanmar: While it has recently released a small parcel of mobile spectrum, the key challenge on the spectrum front is that it needs to provide investor certainty

5 Myanmar’s economic recovery slowed by high prices and shortages, The World Bank, [www.worldbank.org/en/news/press-release/2023/06/25/myanmar-s-economic-recovery-slowed-by-high-prices-and-shortages](http://www.worldbank.org/en/news/press-release/2023/06/25/myanmar-s-economic-recovery-slowed-by-high-prices-and-shortages)

6 The World Bank, [data.worldbank.org/indicator/IT.CEL.SETS.P2?end=2022&locations=KH&start=2002&view=chart](http://data.worldbank.org/indicator/IT.CEL.SETS.P2?end=2022&locations=KH&start=2002&view=chart)

7 UNDP, Digital Maturity Assessment – Lao PDR, 2022, [https://www.undp.org/sites/g/files/zskgke326/files/2022-08/UNDP\\_LaoPDR\\_DMA\\_2022.pdf](https://www.undp.org/sites/g/files/zskgke326/files/2022-08/UNDP_LaoPDR_DMA_2022.pdf)

and confidence for MNOs to make investments in 5G infrastructure and services. The departure of Telenor and Ooredoo, two world class MNOs from the market means that the pressure is on local owners to invest in high quality mobile communications to support the economy.

### Lower Intermediate ICT digital maturity nations

Philippines and Cambodia are included in this category. Both have low levels of fixed infrastructure although they have relatively high mobile subscription levels. High speed mobile coverage is relatively poor<sup>8</sup>. Both need to do more on spectrum policy and competition regulation.

- Philippines: As well as ensuring continuing strong mobile competition following the licensing of DITO in 2018, the Philippines should be releasing additional 3.5 GHz band spectrum and the upper 6 GHz band post 2025 in order to provide additional mobile spectrum to help provision world class 5G services in urban areas of the country including Manila, Davao and Cebu.
- Cambodia: As well as ensuring continuing strong mobile competition, Cambodia needs to make the decision to licence 5G services. In doing so, it needs to releasing the 3.5 GHz band spectrum in the near term and the upper 6 GHz band post 2026-27 in order to provide additional mobile spectrum to help provision world class 5G services in urban areas of the country. It also needs to accelerate the digital dividend by the transition from analogue/older generation digital television systems to digital television which allows the 700 MHz band to be made available. In the near term, consideration should be made by the TRC to convert the hybrid 2.6 GHz band to n41 in order to facilitate the better use of 4G/5G in this band.

of Thailand (with almost 85 percent population 5G coverage), and to a much lesser extent the Philippines there is also extensive deployment of 5G services. Malaysia and Indonesia are seeing the growth in 5G services with more extensive coverage by 2024. The release of much needed mobile spectrum in Vietnam after more than a decade of no mobile spectrum releases will also significantly boost 5G in the country.

### Higher Intermediate digital maturity nations

Viet Nam, Malaysia, Thailand, Brunei Darussalam and Indonesia are included in this category. While Indonesia's overall mobile network coverage needs to significantly improve, its large city populations are sufficiently covered by mobile networks although its levels of fixed broadband subscriptions are relatively low. Viet Nam, Brunei Darussalam and Thailand have achieved considerable progress over the past decade in both fixed on mobile subscriptions.

- Brunei Darussalam has relatively high income per capita, very good infrastructure and high levels of smart phone ownership.
- Indonesia: While Indonesia has announced it will soon release 700 MHz and 26 GHz band spectrum, it also needs to secure the 2.6 GHz band and 3.5 GHz band spectrum for the Jakarta, Surabaya and the other top 10 cities in the near term and the upper 6 GHz band post 2025 in order to provide additional mobile spectrum to help provision world class 5G services in urban areas of Indonesian archipelago.

---

8 Windsor Place Consulting research

- Malaysia: Following the Government’s decision to introduce a second 5G provider from January 2024 after considering the sustainability of the telecommunications industry ecosystem and the benefits of a competitive landscape for 5G wholesale services, it needs to share the 700 MHz and 3.5 GHz allocations to DNB and then aim to release additional the 3.5 GHz band spectrum in the near term and the upper 6 GHz band post 2025 in order to provide additional mobile spectrum to help provision world class 5G services in urban areas of Malaysia like the Klang Valley.
- Thailand: As well as ensuring continuing strong mobile competition, Thailand should be releasing the 3.5 GHz band spectrum in the near term and the upper 6 GHz band post 2025 in order to provide additional mobile spectrum to help provision world class 5G services in urban areas of the country.
- Vietnam: While Vietnam has recently released the information memorandum for the auction of 100 MHz lot of 2.6 GHz spectrum, this needs to be followed in the near term with the release of the maximum quantum of 3.5 GHz band and 700 MHz band spectrum. Further, the upper 6 GHz band should be made available for mobile services post 2025 in order to provide additional spectrum to help provision world class 5G services in the rapidly growing cities of Hanoi, HCMC, Haiphong, Danang and Can Tho.

### Advanced ICT digital maturity nations

Singapore has made further progress in recent years and is now approaching 40 fixed broadband subscribers per hundred persons. Singapore is in its own category within ASEAN in terms of digital maturity. Its consumers and workers have the region’s highest levels of digital skills and it is a regional landing point for International telecommunications links.

It is obvious that there is a high degree of correlation between digital maturity and the performance of national digital ecosystems. It is important to point out, however, that other factors also play a significant role. Countries with larger populations have larger domestic markets that can support new digital businesses. The case of Singapore, although it has a relatively small population, high levels of digital maturity, and global economic and financial connections, contributed to its position as ASEAN’s leading digital ecosystem.

## 3.2 ASEAN and AMS digital policy

All AMS have developed plans to develop their digital economies. Examples are Malaysia’s MyDIGITAL Initiative and Singapore’s 2018 and 2020 updated, *Digital Government Blueprint*. The ASEAN Secretariat has developed the ASEAN Digital Masterplan 2025 and is in the process of undertaking a mid-term review of its outcomes. As would be expected, all of these plans contain common elements.

The ASEAN digital and ICT development plans reflect underlying national economic development priorities and the differences in digital and connectivity development in each AMS. While there are differences in these plans and strategies, there are significant similarities and common themes are apparent. These common themes are also present in the ASEAN Digital Masterplan 2025.

The seven digital priorities below are present to, varying extents, in all of the national digital plans discussed above.

1. Equality of access: includes infrastructure/coverage, service quality;



2. Digital skills (creating 'digital citizens');
3. Improving accessibility, quality and cost effectiveness of government services via digital processes and delivery;
4. Digital adoption by business as a growth driver via greater innovation, productivity and competitiveness;
5. The digital economy sector itself as national growth driver;
6. Local digital entrepreneurialism and innovation, locally produced services and content; and
7. Digital institutions: digital ID, privacy, trust, transparency, accountability, 'fifth generation' regulation, best practice communications legislation.

### Exhibit 12: ASEAN digital policy priorities



Source: WPC, September 2022

All of these digital priorities feed into the digital start-up/digital business ecosystem. Better digital infrastructure and services are critical inputs for digital businesses and also enable better experiences for their customers. A population with more digital skills means higher quality employees for digital businesses. All of these factors are interdependent and reinforce each other and increase the likelihood that digital business will succeed in their national markets and further afield.

# 4 INVESTMENT DRIVERS FOR DIGITAL START-UPS

What are the drivers of investment in digital start-ups and more mature digital businesses irrespective of their geographic location? Understanding these drivers will provide context for understanding the drivers of all investment in ASEAN digital businesses, including foreign investment.

## 4.1 Digital businesses and digital start ups

As described in Section 2, digital businesses are economically important for AMS for their capacity to boost economic development directly and as enablers of the digital economy and contributions to efficiency and competitiveness.

One of their most important characteristics is that digital businesses can grow quickly in a capital-efficient manner. A manufacturing business, for example, needs to acquire land, build a factory, install equipment etc, before it can sell a single unit. A digital business needs some up-front capital to develop software, pay early employees and so on, but these investments are relatively modest, and employees of early-stage start-ups are often willing to work for equity in the company.

This report will use the term 'digital start-up' in a broad sense to describe a range of different kinds of companies with different types of business model. These main types are:

- **Software companies:** These companies develop and sell software products, such as productivity software, operating systems, and games. Some examples of well-known software startups include Microsoft, Apple, Oracle, and SAP.
- **E-commerce businesses:** These companies sell products or services online. Some examples of e-commerce startups include Amazon, eBay, Grab, and Alibaba.
- **Social media platforms:** These are platform providers that enable users to connect with each other and share content. Some examples are Facebook, Twitter, ByteDance and Instagram. Revenue is generated primarily through advertising.
- **Search:** Companies that provide search results such as Google, Microsoft (Bing) and Baidu. Advertising is the primary source of revenue.

- **Digital disruptors:** These companies create new ways to do existing things: for example: Uber, Netflix, Slack, YouTube, Spotify, and Airbnb. There are many examples, with different business models including subscriptions, fees and advertising. ASEAN examples include GRAB, Gojek, and Lazada.

It is important to note that many companies operate across these categories particularly the larger global players. See Exhibit 13 for the ASEAN’s definition from the ASEAN Investment Report 2022.

### Exhibit 13: The ASEAN Secretariat Start-up definition

Start-ups have been defined on the basis of a combination of criteria, which range from time frame, turnover, life cycle of the company (from idea to exit stage), scalability of business ideas or models, being high-growth businesses and having the potential to disrupt markets.

There is a close connection between start-ups and SMEs. Many start-ups are SMEs; however, not all are. For instance, many of the most-funded start-ups have grown rapidly to become large companies or unicorns with significant revenues or potential to generate huge future streams of income, and they receive substantial funding from private equity and venture capital funds.

For this report, start-ups are defined with a more targeted scope, corresponding to a venture-capital-backed entity with ambitions for rapid growth. The definition includes the life-cycle aspect of an entity from inception to exit and business ideas or models that attract funding from private equity and venture capital funds. They also include companies that have scaled up or have the potential to scale, including in technology-enabled start-ups. This targeted scope is used instead of timeline<sup>a</sup> or revenue to capture internationalization aspects, as start-ups in certain market segments (e.g., e-commerce and fintech) that have dynamic industry specifics scale at a faster rate than others. The approach also focuses on the largest-funded start-ups with diverse nature of regional growth or potential to scale regionally. Many of the largest-growth start-ups fall in this category; however, some of the technology start-ups may have stayed longer in the incubation stage than others.

Source: ASEAN Investment Report 2022.  
<sup>a</sup> Most start-ups referred in this report are less than 10 years old.

Source:

Two other characteristics of digital businesses are worthy of emphasis: their geographic reach and their potential for establishing some degree of market power.

There are many examples of digital companies with global brands and reach – Google, Facebook, Netflix, Uber, Amazon, WeChat – but there are also many companies which have regional, national or even local or citywide market presence (for example, LINE, Zalo, and Viber). The geographic size of the market for a particular digital company might depend on the underlying characteristics of the market it serves, for example, domestic real estate markets are predominantly citywide, or market reach might be determined by regulatory considerations such as the blocking of various services by national governments.

The potential for digital companies to scale to any size of operations, means that a single company can come to dominate the market for a particular product or service. The capacity for open-ended scale is associated with pronounced economies of scale meaning that the per unit/per customer cost of operation falls as the scale of the business grows. In many cases, economies of scale are further enhanced by network effects. Network effects make a digital business more attractive the larger it becomes: the more customers a ride hailing business has, the more attractive it is to drivers and vice versa.

If a business comes to dominate its market, it can potentially earn higher margins which, in turn, can make it more attractive to investors and enable it to continue to grow in size and in market dominance.

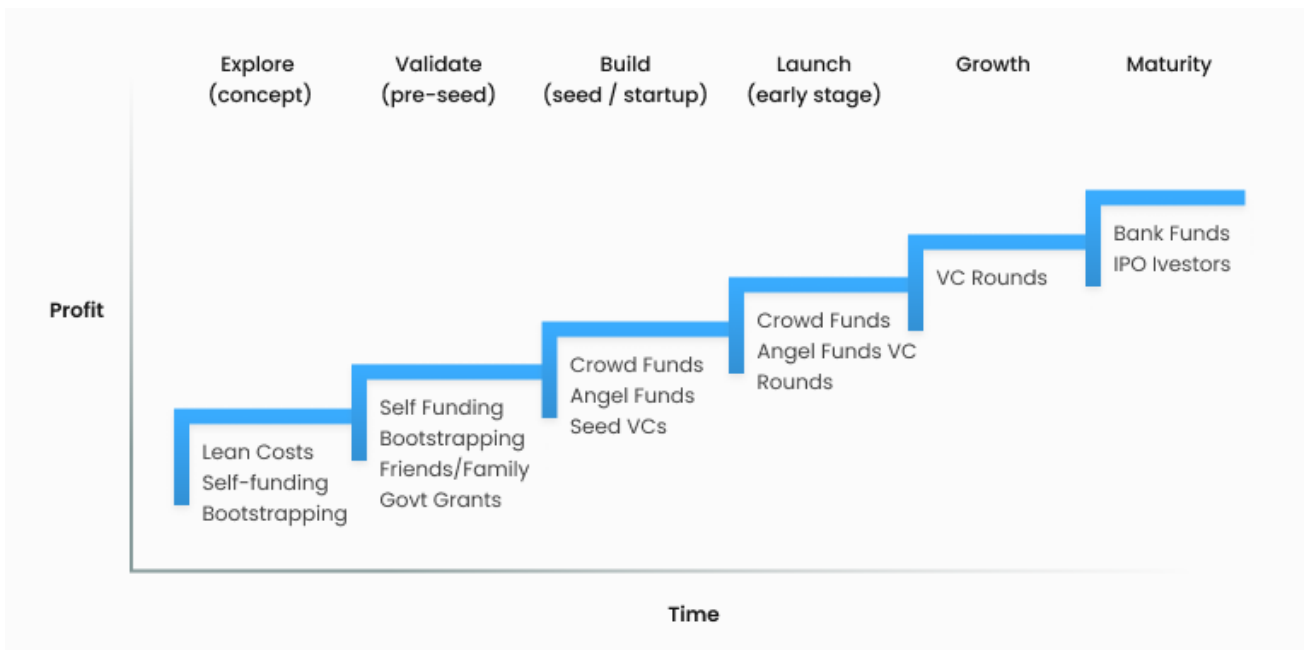
These are the factors that make digital businesses attractive to investors. The opportunities associated with start-ups – including those in other domains such as biotech and energy technologies – have led to the development of sophisticated funding ecosystems and processes.

## 4.2 Start-up growth and funding stages

Funding for start-ups has developed into a highly evolved sequence where investments come from different sources, in different amounts, on different terms for different purposes. Very early stage funding comes from the entrepreneur, friends and family, and government grants. This stage involves working up ideas, researching the market, building prototype products and software. Next, a team needs to be built or expanded and perhaps office accommodation needs to be secured and equipment purchased. Funding at this stage might come from crowd sources, angle investors and ‘seed’-stage’ venture capital (VC) companies. Next, as the start-up grows and begins expanding its market, VCs will typically provide successive ‘rounds’ of funding denoted ‘Series A’, ‘Series B’ etc. After some period of further growth, the next objective is an acquisition by a large company or an Initial Public Offer (IPO) at which point the company’s equity (shares) become tradable on a public share market (stock exchange).

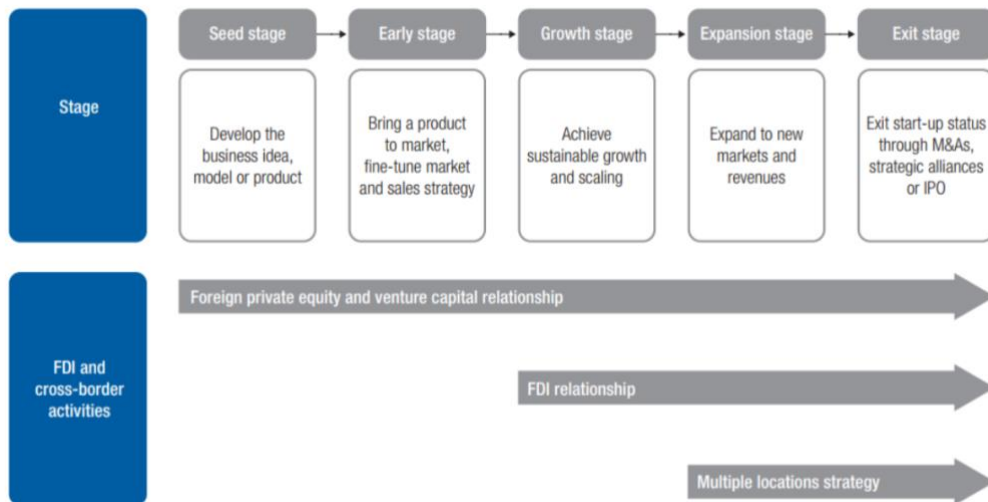
There are many ways to conceptualise and illustrate the start-up growth process. Exhibit 14 and Exhibit 15 provide two visualisations of the various growth stages and associated funding sources.

**Exhibit 14: Start-up development stages**



Source: Devox Software, <https://devoxsoftware.com/blog/5-core-startup-stages-an-ultimate-guide/>

## Exhibit 15: Stages of start-up development and FDI relationship



Source: ASEAN Investment Report 2022 Pandemic Recovery and Investment Facilitation, The ASEAN Secretariat and United Nations Conference on Trade and Development

## 4.3 What do investors in digital businesses look for?

As described in Section 2, one of the key characteristics that make digital start-ups attractive to investors is their potential for rapid scaling at relatively low capital cost: digital technologies can make digital start-ups highly capital efficient.

Nonetheless, most start-ups fail, and the field is highly competitive – investors have many new companies to choose from. So, what are the characteristics of particular companies that investors find attractive?

Investors will be attracted by the following factors when considering digital business investments:

### Market opportunity

Is the market opportunity large and growing? Digital technologies are disrupting many industries, creating new markets or market segments. Providing lower cost more efficient solutions for these markets can potentially lead to rapid revenue growth especially given that lower cost solutions will stimulate overall growth in market size.

### Business scalability

Digital businesses can often be scaled up very quickly and easily. This is because the cost of adding new customers or users is relatively low (low marginal cost to increments in output). For example, a software company can easily sell its software to millions of customers without having to add significant new infrastructure or an online business can service more customers simply by adding server capacity. This scalability potential is very attractive to investors, as it means that a small investment in a digital start-up could potentially lead to a very large return.

### Potential for market power

Is there potential to develop significant market power? Given the scalability of digital businesses and the economies of scale and network analogies that are associated with a large-scale operation, digital businesses in the same segments are in a 'race to scale'. It is likely that, within a particular segment, there is room for only two or three players or perhaps only one. In such circumstances, businesses may have some degree of market power which enables them to charge high prices and increase profitability.

### Low barriers to entry

Are there low barriers to entry? The cost of starting a digital business is potentially significantly lower than physical operations such as manufacturing or retailing. Even if the need for investment in physical infrastructure is low, there may be a need for significant marketing expenditure. In such cases, investors want to see an efficient and effective marketing strategy for the business as a core part of the overall business strategy. This is because there is less need for expensive physical assets. While low barriers to entry mean it is relatively easy to start a digital business, it also means that, initially at least, it is likely there will be many competitors.

### Valuable intellectual property

Is there significant and protectable intellectual property (IP). Digital businesses often have valuable IP, such as patents, trademarks, and copyrights. IP can help to protect the business from competition and grant some level of market power.

Not all investors are driven by IP. Patents can be 'patented around' or can simply become obsolete when new technologies are developed. Some VCs argue for speed and execution of business plans over the value of IP assets.

### Leaders, teams and talent

Investors look for teams with a proven track record of success in the technology industry. They also look for teams with a strong and complimentary mix of skills, such as technical expertise, marketing savvy, and general business acumen.

### Early market traction

Investors want to see that a digital start-up has already achieved some level of market traction. This means that the company has already started to generate revenue and build a customer base. Market traction is a good indicator that the company has a viable business model.

### General positive investor sentiment for technology investments

The overall sentiment towards digital start-ups among investors is also an important factor. When investor sentiment is positive, it means that there is more money available to invest in start-ups, and that investors are more willing to take risks on new ideas.

### Attractiveness of alternative investment opportunities.

The long period of low global interest rates drove investor interest in alternatives to interest-bearing investments. The relatively recent changes in the inflation and interest rate environment have initiated significant developments in investor attitudes to start-up investment.

These investment drivers are illustrated in Exhibit 16.

**Exhibit 16: Drivers of investment in digital companies**



Source: Windsor Place Consulting

These factors are 'generic', in the sense that they are the drivers of investment in digital businesses anywhere in the world. In the next Section, the investment drivers that encourage investors to cross international borders are discussed in order to better understand the drivers of investment by overseas investors in ASEAN businesses.



# 5 ATTRACTING FOREIGN INVESTMENT FOR ASEAN DIGITAL BUSINESSES

How can ASEAN nations attract more overseas capital for their digital businesses? What factors drive investment in digital businesses in ASEAN in particular? These questions are considered in this section. The current dynamics of digital start-up investments are also discussed at the end of this section.

## 5.1 Drivers for digital investments in ASEAN

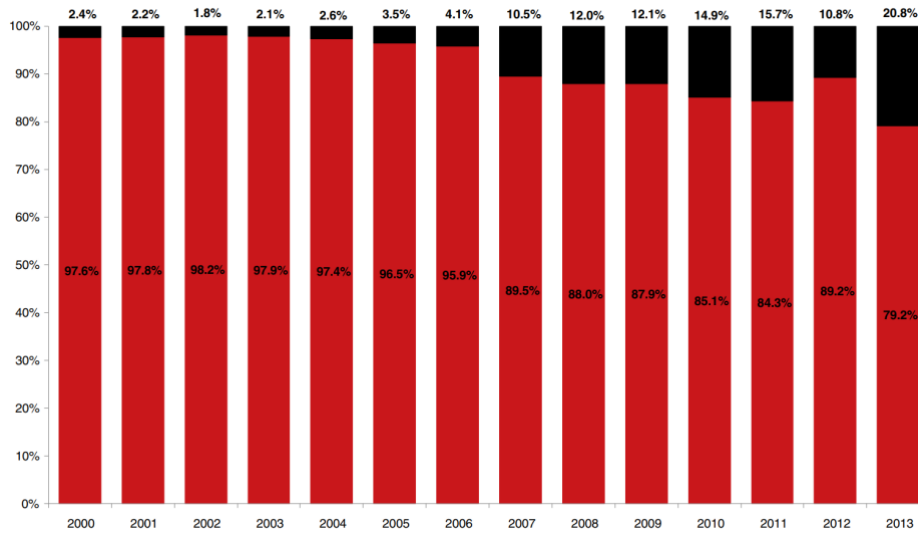
Investors seeking returns on their capital face a wide range of risk-reward options. Digital start-ups are towards the risky end of the of the risk-reward spectrum and so must offer the potential for high returns. Investing in digital start-ups is a specialist field particularly as start-ups move beyond early stage.

The West Coast of the USA is the global centre for digital start-ups and it has by far the largest and most refined start-up funding ecosystem. The extent of the maturity and sophistication of this funding ecosystem is difficult to overstate. Categories of investors are comprehensively identified and categorised. These include: friends and family, angels, seed, VC Series A, VC Series B etc. Fundings types have assigned roles and positions in the sequence of business development and growth. Along with funding, comes a range of advisors, partners and service providers who assist with the start-up's development.

Funding ecosystems around the world, to varying extents, are modelled on the US system, and, indeed, the reach of US start-up funding is increasingly international. The past decade as seen a significant maturation of ASEAN's digital ecosystems. This development has been associated with a significant growth in funding for digital businesses originating from both within national borders and within ASEAN. Funding, however, is not limited to local and regional ecosystems – over the past 20 years (Exhibit 17<sup>9</sup>), funding has become increasingly internationalised. ASEAN has likely been a major beneficiary of an increase in the proportion of total global venture capital funding flowing to developing economies.

<sup>9</sup> Determinants of venture capital investments in emerging markets, Alexander Peter Groh, Johannes Wallmeroth, Emerging Markets Review 29 (2016) 104–132

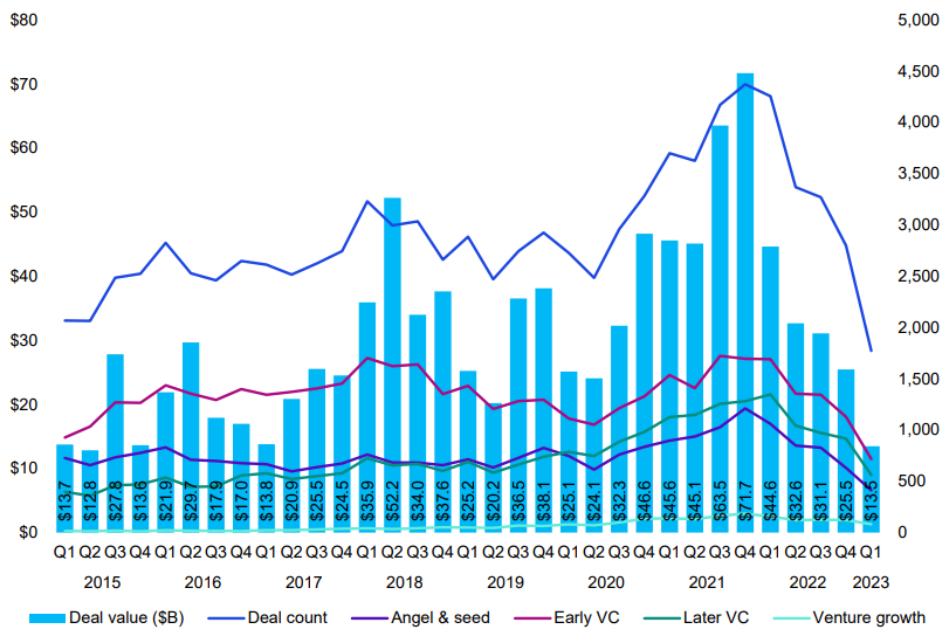
**Exhibit 17: Venture capital investments in developed versus undeveloped countries (in % of total).**



Source: Determinants of venture capital investments in emerging markets, Alexander Peter Groh, Johannes Wallmeroth, Emerging Markets Review 29 (2016) 104–13

More recent data (see Exhibit 18) shows ongoing growth in total venture financing in Asia, at least up until the end of 2021 (recent investment dynamics are discussed in the next section). While these data do not provide a breakdown of the sources of investment, the United States remains an important contributor to venture financing in Asia and ASEAN and so is a significant driver of these outcomes.

**Exhibit 18: Venture financing in Asia, 2015–Q1'23**



Source: Venture Pulse, Q1'23, Global Analysis of Venture Funding, KPMG Private Enterprise. \*As of March 31, 2023. Data provided by PitchBook, April 19, 2023

## 5.2 Factors influencing overseas investment by venture capitalists

What factors do VCs consider when investing overseas? What have been the drivers of the internationalisation of venture capital investment? What makes a particular country more or less attractive to investors?

These are important questions for ASEAN leaders because understanding the drivers of foreign investment in ASEAN digital businesses will enable them to shape policies that attract the capital that will drive growth and improving living standards. While overseas capital remains important to ASEAN businesses, it can be expected that, as ASEAN economies grow and mature, they will become less dependent of foreign capital inflows. Understanding these dynamics will help decision-makers form appropriate policy.

Given the importance of foreign investment to the growth of developing economies, it is not surprising that an economic literature exists on the subject. Drawing on this literature, the drivers of foreign investment, in particular, venture capital investment are discussed below. Exhibit 19 provides an illustration of these drivers.

**Exhibit 19: Drivers of FDI for digital start-ups**



Source: Windsor Place Consulting, 2023

## Information and venture capital investment

A large part of the task faced by VCs is gathering information about potential target investment businesses. VCs will often work with candidate businesses for some time before committing to funding. Therefore, proximity matters. “Traditionally, venture capital (VC henceforth) was a local industry. Geographic proximity of an investor firm to its portfolio company was considered crucial for identifying investment opportunities, monitoring, adding value, and achieving higher performance.<sup>10</sup>”

In addition to geographic proximity other factors that promote VC investment are common languages and historical ties, existence of trade ties, the presence of transnational communities established by migration, and the presence of existing collaborators in the foreign market. It can be seen that all of these factors contribute to the quantity, quality and trustworthiness of information that the VCs can gather about potential foreign investment targets and the cost of obtaining it.

Such factors explain why the vast majority of VC investment is local, or at least within national boundaries. In the vast majority of global venture capital is from the USA. Nonetheless, if the supplier venture capital funding is large relative to the number of local opportunities, and as the global economy has become more highly integrated, the tendency has been that venture capital is increasingly international. It is important to emphasise, however, that US venture capitalists are likely to consider that US investments are core but investments overseas are somewhat more peripheral. The point of this observation is that, when economic factors change in a way that negatively impacts venture capital investing, it is probable that the impacts on peripheral markets will be greater than on core markets.

## Quality of institutions, rule of law, IP protection

VCs investing in foreign markets will be concerned about a range of institutional factors such as IP protection, the quality of the rule of law, the effectiveness of contracts, the quality of governance and the existence of corruption.

*legal protections are significant in determining private equity returns for the Asian markets. Specifically, ... that the quality of the legal system is positively related to returns whilst corruption is negatively related. ... Their findings are that legal systems are diverse around the world and play a significant role, such as for example common law countries tend to provide more investor protection than civil law countries<sup>11</sup>.*

Of course, these are factors that are beyond the control of digital policy makers and changes to institution settings are slow to change and have far-reaching effects.

## Equity markets: size and activity

The maturity of the country’s equity markets is also a factor in investment decisions for overseas investors. If equity markets are large and active then opportunities for trading in the equity of a digital business as it moves through its growth phases will be increased. This has the effect of decreasing overall risk for investors and making any particular investment opportunity more attractive.

---

<sup>10</sup> Cross-Border Venture Capital Investments: What Is the Role of Public Policy? Journal of Risk and Financial Management, Wendy A. Bradley 1, Gilles Duruflé, Thomas F. Hellmann and Karen E. Wilson. Published: 1 July 2019.

<sup>11</sup> Determinants of venture capital investments in emerging markets, Alexander Peter Groh, Johannes Wallmeroth, Emerging Markets Review 29 (2016) 104–13

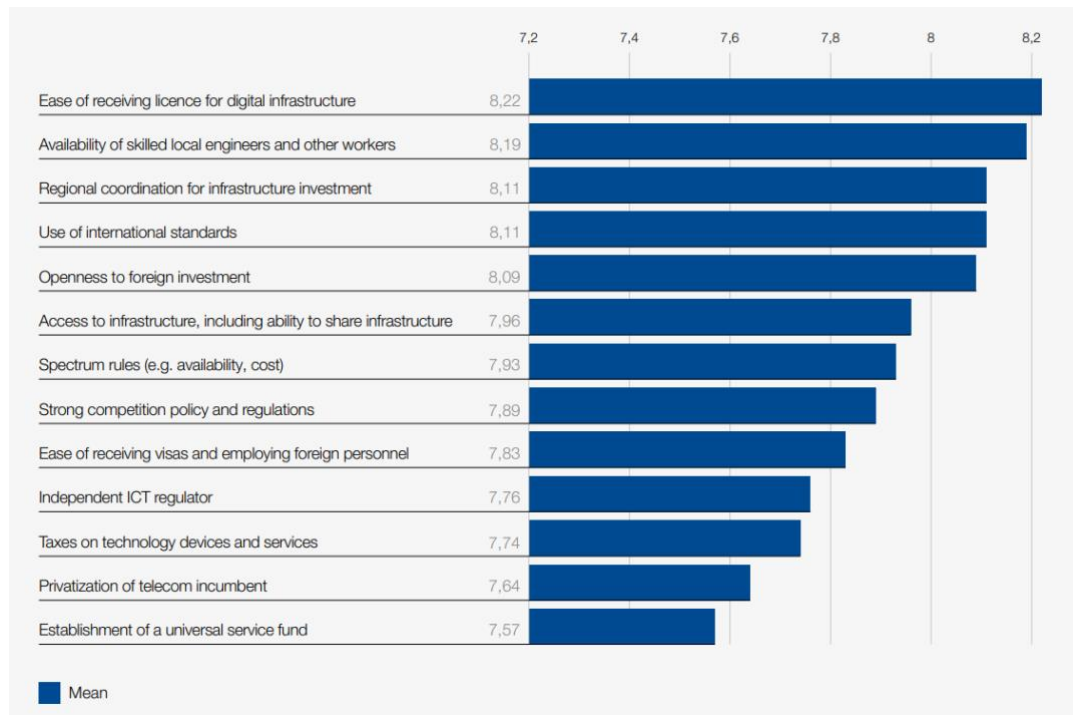
## Taxation and regulation

Taxation arrangements in a particular country can have a large influence on the returns that venture capitalists can achieve from investments in those countries. Relevant taxes include income capital gains and withholding taxes. Also, taxation or regular tree arrangements that affect the ways that companies can pay employees through equity sharing will also have an impact.

Generally excessive regulatory burdens will discourage investment. Regulatory frameworks need to be streamlined and made investor-friendly. Governments should proactively review existing regulations and identify any barriers that may impede investment. This involves simplifying administrative processes, reducing bureaucratic red tape, and ensuring a transparent and predictable regulatory framework.

Exhibit 20 shows results from a survey of global investors. This relates to investment in digital infrastructure, but the same drivers are likely to be relevant for investment in digital businesses as well.

### Exhibit 20: Importance of regulatory elements for investing abroad in digital infrastructure



Source: [Digital FDI: Policies, regulations and measures to attract FDI in the digital economy, World Economic Forum, WHITE PAPER SEPTEMBER 2020](#)

## Economy and market size and growth potential

A primary consideration for overseas investors is likely to be the overall size, strength and growth rate of the domestic economy. An investor will need to be convinced that the local economy has the capacity and the market size to support substantial growth in the company that the investor is considering. This, of course, applies to companies that are focused on their own local or regional markets. If a particular company has a global product focus, local market characteristics will be less important.

In addition to these high-level economic aggregates, investors will be interested in more specific factors that are more relevant to the particular market that is being targeted by the start-up company. It is the target market business, consumer or government? Is the start-up company targeting a demographic that is growing strongly? Does the target demographic have sufficient disposable income?

These various economic and demographic characteristics are, to a fairly large extent, 'baked in' to each domestic economy. They are not, except in the long run, under the control of policymakers and governments.

### Digital infrastructure and services

The quality and availability of digital infrastructure and services within a particular country will likely influence investors through several pathways. It is more likely that digital start-ups will emerge in marketplaces that have good digital services because this will mean better access to consumers of digital services and because digital services are important inputs for start-ups. Put simply if you cannot access customers you cannot sell to them. Exhibit 20 shows that 'Access to infrastructure including ability to share infrastructure' is important to firms investing in ASEAN.

Thus, VCs will be more likely to target countries with good quality digital services for investment.

### Digital skills

Similarly to digital services, start-ups that are providing various types of online services will be more likely to succeed where local populations have higher levels digital skills. In addition, start-ups need a workforce with good quality digital skills and so are more likely to be able to grow successfully in an environment where educational standards are high and digital skills are emphasised. In, Exhibit 20 shows that firms' value 'Availability of skilled local engineers and other workers' very highly in their investment decisions.

The ASEAN Australia Strategic Youth Partnership points out the scale of the skills challenge in Indonesia:

*Broadly speaking, there are several things that the Indonesian government needs to prepare and improve thoroughly. First, regarding the digital talent deficit, Indonesia needs around 9 million digital talents in the IT sector in the next 15 years. Indonesia needs 600,000 digital talents per year. The Indonesian government can collaborate with the private sector to reduce the digital skill gap in terms of increasing the capacity and capability of its human resources.<sup>12</sup>*

### Government support

ASEAN governments have developed a suite of policies and programs to support digital ecosystems. Such programs can make a significant difference to the digital start-up ecosystem and can be particularly effective in the very early stages of business formation and growth. ASEAN pro digital business programs are discussed in the next section below.

---

12 The Digital Economy Landscape in Indonesia ASEAN Australia Strategic Youth Partnership, [aasyp.org/2023/06/10/the-digital-economy-landscape-in-indonesia/](https://aasyp.org/2023/06/10/the-digital-economy-landscape-in-indonesia/)

# 6 RECENT INVESTMENT DYNAMICS

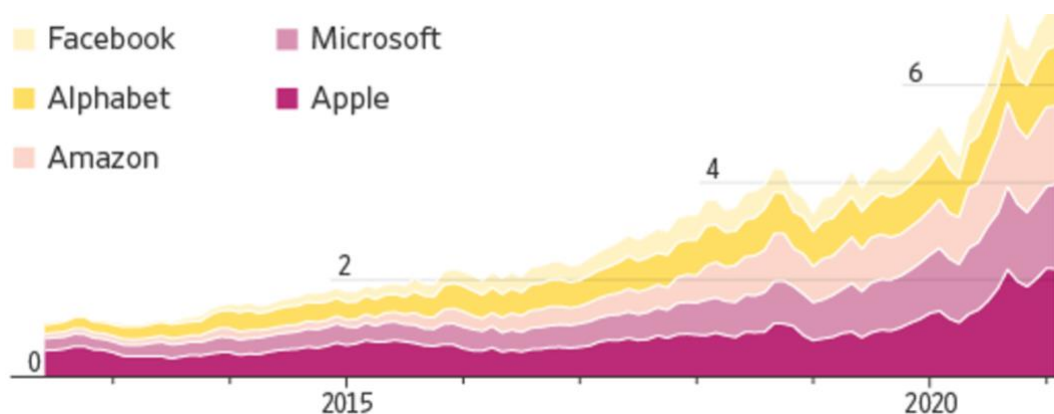
After a decade of steady growth, the year 2022 represented an important turning point in the recent history of business funding in ASEAN nations. In this section, recent developments in the flow of inbound investment to digital businesses in ASEAN are considered.

## 6.1 Global turning point for investment

The combination of the Covid pandemic and shifting geostrategic alignments has led to a period of worldwide economic and financial change. The re-emergence of inflation across the globe has induced central banks to undertake the most sustained period of interest rate rises since the 1980s. This marks a sharp break with in the almost two decades of near zero interest rates. Long term low interest rates made the low returns on cash and cash-like investments very unattractive to wealth holders. This led investors to seek investments which had the potential for capital gains, typically, real assets and equities.

This period saw enormous increases in the market capitalization of large US tech companies as well as the US tech start-up ecosystem becoming very active. As the scale of the US tech ecosystem grew, US investors increasingly began to look outside the US for investments and this included investment in Asia.

**Exhibit 21: Market value of 2020's five biggest US tech stocks**

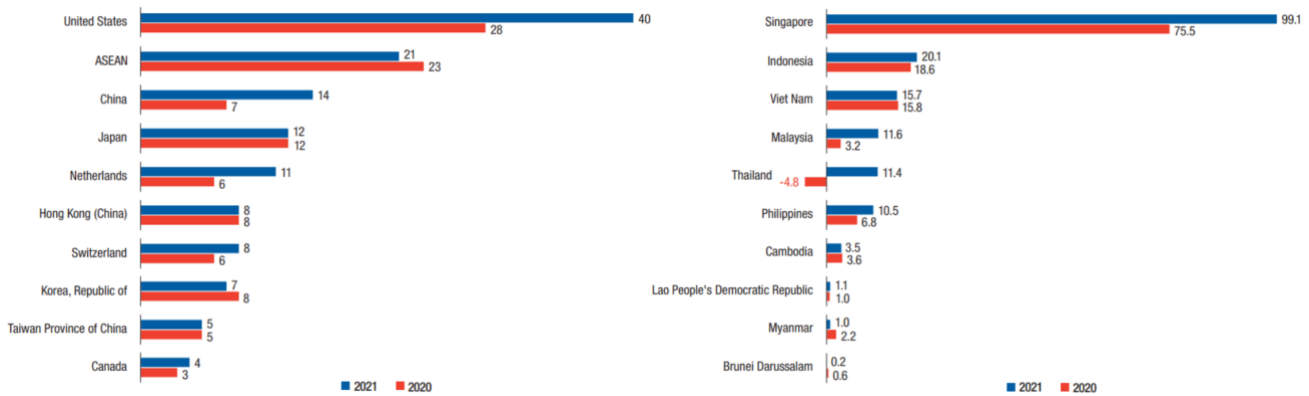


Source: <https://e-gmat.com/blogs/tech-companies-hiring-mba-in-record-numbers-covid-pandemic/>



Exhibit 22 shows sources and destination of FDI to ASEAN nations. This shows that the USA is the largest investor in ASEAN and Singapore is the most preferred destination for FDI.

**Exhibit 22: Sources and destinations of FDI to ASEAN nations (\$ billion)**



Source: ASEAN Investment Report 2022 – Pandemic Recovery and Investment Facilitation

In October Forbs headlined an article with “The Venture Capital Boom In Southeast Asia: The Best Is Yet To Come”<sup>13</sup> in which it said:

*“This year is the coming of age of Southeast Asia’s tech ecosystem,” says Amit Anand, founding partner of Singapore’s Jungle Ventures. “Today the region is home to more than 35 unicorns, and many more in the pipeline.”*

*Anand says Southeast Asia has now taken center stage for many investors: “VC investment has grown 5.2x between 2015 and 2020, compared to [a] 1.4x increase over the same period in India and China. The first half of 2021 itself has overtaken all of 2020 for VC investments in Southeast Asia at roughly \$10 billion.”*

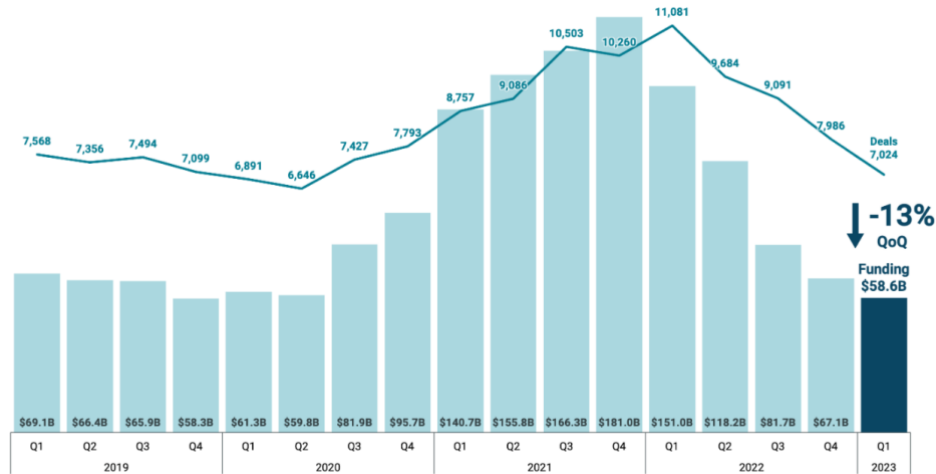
Exhibit 23 shows the dramatic growth in that occurred in global venture capital funding from 2019 to early 2022. After a slight drop at the onset of the Covid pandemic, there was a huge jump in investment. This jump was associated with the global rise in the value of tech companies as the pandemic drove the demand for digital services.

The dramatic fall in investment in 2022 is a response to the worldwide return of inflation and higher interest rates. In the USA, inflation started to jump from a long-term level of around 2% reaching around 8 or 9% in early to mid-2022. This experience was repeated around the world in a highly synchronized manner leading many central banks to rapidly increase interest rates. The result of increased interest rates was that tech company investments became relatively less attractive to investors as returns to cash and cash-like investments rose in relative terms.

<sup>13</sup> The Venture Capital Boom In Southeast Asia: The Best Is Yet To Come, Rich Karlgaard, 7 October [www.forbes.com/sites/richkarlgaard/2021/10/06/the-venture-capital-boom-in-southeast-asia-the-best-is-yet-to-come/?sh=4f1f3fe42483](https://www.forbes.com/sites/richkarlgaard/2021/10/06/the-venture-capital-boom-in-southeast-asia-the-best-is-yet-to-come/?sh=4f1f3fe42483)



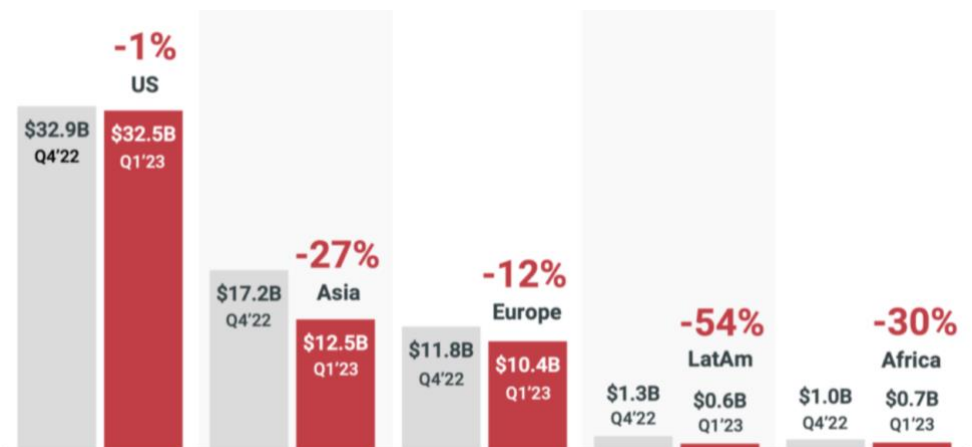
**Exhibit 23: Global venture funding continues to slide in Q1'23**



Source: CB Insights: [www.cbinsights.com/research/report/venture-trends-q1-2023/](http://www.cbinsights.com/research/report/venture-trends-q1-2023/)

This assessment of aggregate global venture capital trends, however, obscures details that are highly relevant to the investigation of ASEAN investment drivers. Exhibit 24 shows the changes in venture capital flows from Q4 2022 to Q1 2023 by major regions. The standout message from this data is that the new financial environment has had a far smaller impact on investment in the USA than everywhere else.

**Exhibit 24: Every major region sees a double-digit drop in funding in Q1'23, except for the US**



Source: CB Insights: [www.cbinsights.com/research/report/venture-trends-q1-2023/](http://www.cbinsights.com/research/report/venture-trends-q1-2023/)

This result is probably explained by the fact that, other things remaining equal, investors prefer to invest in companies that are geographically closer to them and they understand. The rise in investment in companies outside the US by US VCs was likely due to a limited supply of suitable investment targets inside the US relative to the supply of investment funding in the decade or so leading up to 2022. This drove US VCs offshore in search of new opportunities. Much of the investment directed to Asia went to China but significant amounts went to ASEAN nations as well. A reasonable way to characterize this is that US investors, not unexpectedly, regard domestic investment as core and overseas investment as being at the margin.

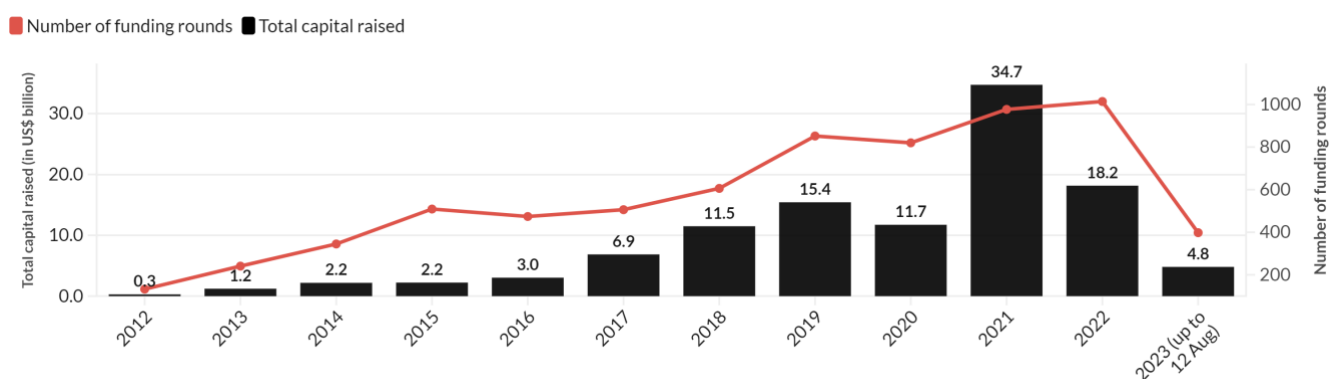
Higher inflation and interest rates explain much of the decrease in start-up investment but there are additional factors from the perspective of US investors considering overseas investments. Dynamic supply chains and geopolitical tensions add to the overall level of uncertainty facing investors, particularly when investing overseas. There is additional uncertainty about country-by-country economic growth and consumer demand and likely heightened exchange rate risks which also make overseas investment returns more unpredictable.

Exhibit 25 shows the decade of increasing investment in start-up companies in Southeast Asia from 2012. This investment includes internal Southeast Asian investment but there is a significant contribution from the US and the other countries identified in Exhibit 22.

From 2012 to 2019 there was an uninterrupted upward trend with total funding rising from only \$300 million to \$15.4 billion by 2019. After a slight drop at the onset of the Covid pandemic there was a huge jump in investment. This jump was likely associated with the global jump in the value of tech companies as the pandemic drove the demand for digital services. The pandemic created a significant jump in the demand for digital services and processes in most countries. This factor probably accounts for the large jump in start-up funding from 2020 to 2021. It was also likely that a ‘post-pandemic rebound’ was also a factor.

The most concerning development for the well-being of ASEAN’s digital start-up ecosystem is the huge fall in investment from 2021 to 2022. In a sense, the ASEAN investment environment has suffered from a financial ‘double-whammy’: higher interest rates have discouraged investment at the higher risk end of the market, including start-ups, and greater uncertainty has decreased the appetite of US investors for overseas investments. US investors are retreating from the margin to the core.

**Exhibit 25: Funding trend in Southeast Asia over the past decade**



Source: <https://www.techinasia.com/visual-story/sea-tech-funding-set-worst-year-2016>

## 6.2 Further aspects of new funding environment

Besides the immediate significance of this fall in investment levels itself, the next important consideration is the likely duration and nature of this lower level of funding. Is it likely to be a short-term aberration in the overall upward trend, or is it the beginning of a new trend of lower foreign investment levels of indefinite duration? Another way of thinking this question is to ask: is this change cyclical or

structural? Consideration of the causal factors suggests that it will be longer term and more likely to be structural.

It is unlikely that interest rates will come down quickly, “it could be several years before rates return to a level between 2 and 3 percent”<sup>14</sup>. Although inflation in the US appeared to be moderating, a resurgence is possible: “Underlying US inflation ran at a faster-than-expected monthly pace in August, leaving the door open for additional interest rate rises from the Federal Reserve. The so-called core consumer price index, which excludes food and energy costs, advanced 0.3 per cent from July, marking the first acceleration since February”<sup>15</sup>.

As inflation continues to be a risk, so does the state of global supply chains and geopolitics. To the extent that international economics and politics remain at a level of heightened uncertainty, investors will be less likely to allocate funds overseas. It is far from clear that these factors will resolve towards the kind of stability that characterised the past two decades.

While it is clear that the impact of the global VC reversal is more pronounced outside the USA, there is, nonetheless, significant reflection at this time on the implications for VC funding within the United States going forward: “many VCs have been quietly rethinking their financial game, recognising that the uniquely favourable conditions that benefited their industry over the past two decades are never going to occur again”.<sup>16</sup>

Changes in the US regulatory environment will also impact venture capital markets. Anti-trust regulation is turning against the tech giants acquiring tech start-ups. This will, to some extent, close off, or at least curtail, one of the pathways to quick cash for venture capitalists which will negatively impact their internal rate of return calculations.

If all these factors turn out to be of longer duration, the obvious implication is that ASEAN digital start-ups will face a significantly more challenging funding environment than has been experienced over the past decade. The main driver of this change will be a decline in foreign investment, primarily from the US.

The important question from the perspective of this report is what policy responses ASEAN governments should make in response to this changed environment. For example, should ASEAN nations deemphasise their efforts to attract foreign investment and focus on stimulating funding opportunities from within their borders? While improving the efficiency of national capital markets is likely always a good idea, focusing inwards for investment capital need is not a productive strategy. While Singapore and perhaps Indonesia have sufficiently large capital markets for this to be viable, some other ASEAN nations certainly do not.

Developing the kind of initiatives that are identified in the ASEAN Investment Facilitation Framework not only make ASEAN nations more attractive investment targets from outside ASEAN but also improve the efficiency of capital markets within national borders and between ASEAN nations. With capital flows from the United States and elsewhere outside ASEAN now diminished and more uncertain, adopting a regional capital strategy would deliver many benefits. With a population of over 680

---

14 New York Times, Aug 7 2023, [www.nytimes.com/2023/08/07/business/economy/interest-rates-lower-when.html](https://www.nytimes.com/2023/08/07/business/economy/interest-rates-lower-when.html)

15 Australian Financial Review, Sept 14 2023, [www.afr.com/world/north-america/another-fed-rate-rise-in-play-as-us-cpi-picks-up-20230914-p5e4ig](https://www.afr.com/world/north-america/another-fed-rate-rise-in-play-as-us-cpi-picks-up-20230914-p5e4ig)

16 The Financial Times, The VC industry needs to rip up the playbook and start again, John Thornhill, OCTOBER 20 2023, [www.ft.com/content/25dfb910-b40c-4fa0-b7cc-74c23e336768](https://www.ft.com/content/25dfb910-b40c-4fa0-b7cc-74c23e336768)

million and an aggregate nominal GDP of almost US\$4 trillion, ASEAN is a region with sufficient capacity to supply a large proportion of its own business capital requirements. This is particularly the case in the digital business space given that investment requirements are smaller than for manufacturing and mining. Expanding national capital markets across ASEAN borders to the greatest extent possible maximises the likelihood of matching company investment needs with investor preferences.

Even if the forecast of a structural decline in US investment proves to be overly pessimistic, there remain significant upsides for ASEAN improving the integration and efficiency of its regional capital markets. Such developments can only make ASEAN as a whole and ASEAN nations individually more attractive to US and other international capital should circumstances facilitate its eventual return.

As discussed in the next section, efforts to more highly integrated ASEAN digital business and funding ecosystems is entirely consistent with and will be supported by the significant efforts that have been underway for two decades within ASEAN to increase its levels of economic integration.

# 7 ASEAN DIGITAL BUSINESSES AND POLICY OVERVIEW

This Section provides an overview of digital businesses policy in ASEAN, noting current trends, policy initiatives and key digital businesses and start-ups.

## 7.1 Regional overview

### 7.1.1 Digitization, ASEAN digital policy and economic development

ASEAN Investment Facilitation Framework (AIFF) provides a high-level regional context for the various national programs and policies design to promote foreign investment and business development. AMSs have been cooperating on investment facilitation since 1998 and more recently they have been cooperating within the AIFF. According to an ASEAN survey:

*94 per cent of firms thought that investment facilitation is important or very important in supporting and attracting investment. In general, 88 per cent of firms thought that the investment facilitation measures put in place by Member States were important or useful, and 52 per cent assessed the level of investment facilitation services provided as satisfactory or exceeding expectations. However, there are differences between Member States in the level of investment facilitation services provided and the measures in place, with the least developed Member States requiring more actions. On average, 48 per cent of firms indicated that there is room for improvement in several key investment facilitation measures or services such as in coherence across ministries, complaint procedures, reduced numbers of procedures and use of digital technologies (e.g., online submission services).<sup>17</sup>*

Exhibit 26 provides a summary of the main elements of the AIFF which was adopted in 2021.

<sup>17</sup>

## Exhibit 26: Key measures of the ASEAN Investment Facilitation Framework

Category	Remarks
1. Transparency of measures and information	<ul style="list-style-type: none"> <li>• Ensure transparency</li> <li>• Provide information on laws, regulations and administrative guidelines relating to investment</li> <li>• Provide investment related information</li> </ul>
2. Streamlining and speeding up administrative procedures and requirements	<ul style="list-style-type: none"> <li>• Ensure investment procedures do not act as barriers to investment</li> <li>• Ensure effective and efficient investment procedures (including documentation requirements)</li> <li>• Provide information concerning the status of the investment application</li> <li>• Ensure administration fees are reasonable, transparent and publish in an easily accessible manner</li> <li>• Review investment procedures and measures to make investment regime more effective</li> </ul>
3. Use of digital and internet technologies	<ul style="list-style-type: none"> <li>• Promote use of digital technologies</li> <li>• Establish online platform</li> <li>• Encourage the use of electronic copies of documents</li> <li>• Promote option of using electronic payment for fees and charges for investment applications</li> </ul>
4. Single digital platform	<ul style="list-style-type: none"> <li>• Establish single digital platform for the submission of all documents</li> <li>• Publish investment facilitation measures and provide related information in the platform</li> <li>• Support payment of all fees and charges associated with investment application using the platform</li> </ul>
5. Assistance and advisory services to investors	<ul style="list-style-type: none"> <li>• Prevent dispute and assist investors resolve complaints and grievances</li> <li>• Establish mechanism to address recurrent issues affecting investors</li> </ul>
6. Independence of competent authorities	<ul style="list-style-type: none"> <li>• Ensure competency and independence of authority</li> </ul>
7. Temporary entry and stay of business persons	<ul style="list-style-type: none"> <li>• Support and assist with matters on temporary entry and stay permit (e.g., publication of information, establish contact points, expeditious processing of applications)</li> </ul>
8. Facilitation of investment supporting factors	<ul style="list-style-type: none"> <li>• Assist investors in identifying supporting factors (e.g., labour force, funding sources, domestic suppliers, business matchmaking)</li> </ul>
9. Consultative mechanism for investment policies	<ul style="list-style-type: none"> <li>• Establish consultative mechanism and dialogues (with stakeholders and investors)</li> <li>• Conduct regular evaluation and update of investment measures</li> </ul>
10. Cooperation	<ul style="list-style-type: none"> <li>• Facilitate communication and cooperation with other member States (on e.g., exchange of information, best practices, technical assistance, capacity building, measures facilitating investment)</li> </ul>

Source: [ASEAN Investment Report 2022 Pandemic Recovery and Investment Facilitation, The ASEAN Secretariat and United Nations Conference on Trade and Development](#)

The AIFF is an economy-wide program for AMS and is non-industry-specific and therefore it does not target digital businesses. Importantly however, two of the categories of initiatives, “Use of digital and internet technologies” and “use of digital platforms”, emphasize the need to develop ASEAN’s digital ecosystems. This program is part of the broader ASEAN integration agenda expressed in 2015’s ASEAN Economic Community Blueprint 2025<sup>18</sup>

The role of digitization is also very prominent in many ASEAN and AMS national statements on economic growth and development. For example, the ASEAN Digital Master Plan 2025 aim for “ASEAN as a leading digital community and economic bloc, powered by secure and transformative digital services, technologies and ecosystem”<sup>19</sup>. The ASEAN e-Payments Coalition’s objective is the “the development of an integrated and harmonised digital payment framework across ASEAN with the goal of supporting the growth of cross-border e-commerce.”<sup>20</sup> These, and other

<sup>18</sup> ASEAN ECONOMIC COMMUNITY BLUEPRINT 2025, [aseandse.org/wp-content/uploads/2021/02/AEC-Blueprint-2025-FINAL.pdf](https://aseandse.org/wp-content/uploads/2021/02/AEC-Blueprint-2025-FINAL.pdf)

<sup>19</sup> ASEAN DIGITAL MASTERPLAN 2025, [asean.org/wp-content/uploads/2021/08/ASEAN-Digital-Masterplan-2025.pdf](https://asean.org/wp-content/uploads/2021/08/ASEAN-Digital-Masterplan-2025.pdf)

<sup>20</sup> Digital ASEAN, World Economic Forum, [www.weforum.org/projects/digital-asean](https://www.weforum.org/projects/digital-asean)

initiatives, indicate the extent to which ASEAN is employing digitisation as a central plank in its economic development strategy. Widespread digitisation, by its very nature, and its enabling characteristics, will advance the integration of ASEAN economies.

The ASEAN e-Payments Coalition<sup>21</sup> sponsored by the WEF aims to establish a seamless ASEAN-wide payments/funds transfer system. As part of this initiative, ASEAN central banks formed the Working Committee on Payment and Settlement Systems (WC-PSS) which aimed to “research and provide policy recommendations to shape the future of payments in the region. This includes tackling tough issues facing the region, such as advancing real-time payment infrastructure, regional standardization, and interoperability.”<sup>22</sup> Exhibit 27 shows the policy recommendations from the ASEAN e-Payments Coalition.

### Exhibit 27: ASEAN e-Payments Coalition Policy Recommendations

- Provide open-market access so consumers and businesses can choose the most appropriate payments experience for their circumstances
- Prioritize user experience with an emphasis on increasing settlement speed while minimizing complexity and friction to drive user adoption
- Provide all citizens/permanent residents with an effective and interoperable form of digital identity/unique identifier, which financial institutions can use to perform anti-money laundering (AML), sanctions screening, countering financing of terrorism (CFT) and related KYC activity to ensure AML regulatory compliance and which can be linked to an account through which disbursement of government monies can be channelled
- Optimize existing payments rails/assets where possible, given the significant business costs of developing and participating in payment systems, or building new rails. This recommendation of maximizing reusability of existing infrastructure is equally applicable across both domestic and cross-border ecosystems
- Adopt consistent global Trust and Security standards as part of the ASEAN e-payment roadmap including regulations in KYC/AML/CFT, and ensure that public sector bodies collaborate with financial institutions and payments providers to learn optimal means to ensure the public are informed and protected against phishing and other cyber-terrorism attacks
- Enhance domestic faster payments infrastructure in the initial phase, while maintaining regional momentum to strengthen capabilities for real-time cross-border payments in ASEAN

Source: [ASEAN e-Payments Coalition e-Payments Recommendation Paper to the Working Committee on Payment & Settlement Systems \(WC-PSS\)](#)

The agenda of the ASEAN e-Payments Coalition is for a comprehensive, secure and inclusive payment system throughout ASEAN. This is a critical enabler of ASEAN digital and broader economic integration and moves the region towards a single integrated market with a population around double that of the USA and approximately 30% greater than the EU.

The development of digital businesses and of private sector digital ecosystems clearly support the role of digitisation in ASEAN economic development.

## 7.1.2 Digital businesses and digital ecosystems in ASEAN

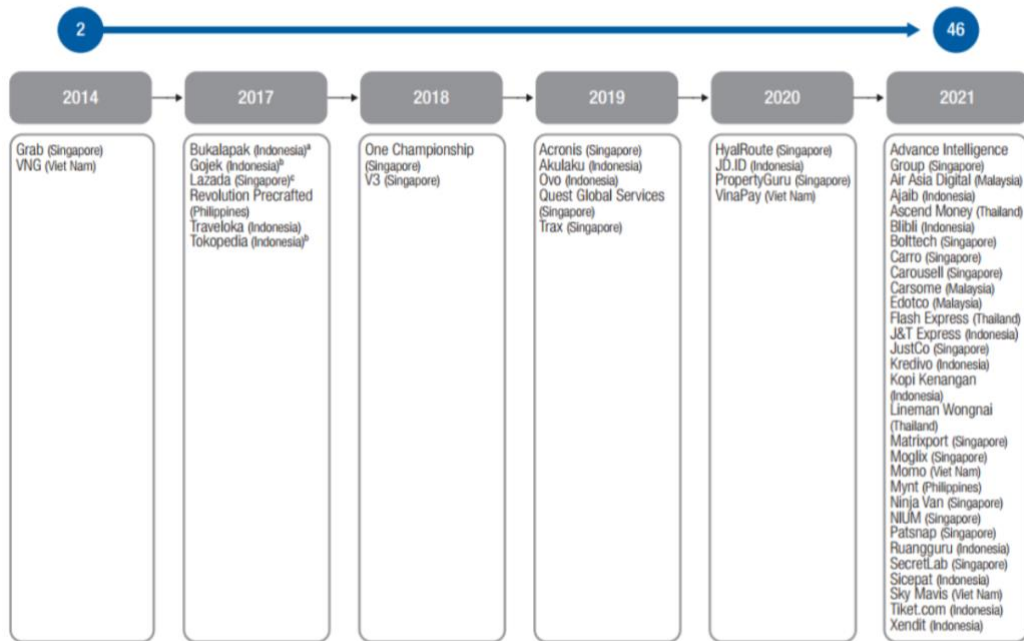
Over the past decade, an increasing number of start-ups in the Southeast Asian region have become unicorns – startups that are valued at over US\$1 billion (see Exhibit 28). This has occurred as a result of multiple factors including robust funding from private equity markets and a rising middle class marketplace equipped with rising digital skills.

<sup>21</sup> ASEAN e-Payments Coalition e-Payments Recommendation Paper to the Working Committee on Payment & Settlement Systems (WC-PSS), World Economic Forum, Digital ASEAN Initiative, September 2019, [afcpw.asean.org/wp-content/uploads/2020/06/Annex-8.1-WEF-Recommendation-Paper-on-e-Payments.pdf](http://afcpw.asean.org/wp-content/uploads/2020/06/Annex-8.1-WEF-Recommendation-Paper-on-e-Payments.pdf)

<sup>22</sup> Ibid p4



## Exhibit 28: Unicorns in ASEAN, 2017 to 2021



Source: ASEAN Investment Report 2022 research (see annex table 2.3).

Note: A unicorn is a privately owned start-up with a valuation of \$1 billion or more.

<sup>a</sup> Bukalapak went public in August 2021.

<sup>b</sup> Gojek and Tokopedia merged to become GoTo in May 2021.

<sup>c</sup> It is now part of the Alibaba Group (China).

Source: ASEAN Investment Report 2022

About a quarter of ASEAN unicorns are involved in fintech, 20% in e-commerce, 11% in logistics and 8% in diversified Internet/technology<sup>23</sup> (see Exhibit 29).

As of February 2023, ASEAN has 52 unicorns: 25 in Singapore, 16 in Indonesia, three in Thailand, two in Malaysia, two in Vietnam and two in the Philippines.<sup>24</sup> This is a stark contrast to the three unicorns (VNG, Garena (now 'Sea'), Razer) that it had in 2014. In 2021 alone, 19 startups in the ASEAN nations reached unicorn status,<sup>25</sup> and the South East Asia digital economy is projected to hit US\$300 billion by 2025.<sup>26</sup>

23 [www.straitstimes.com/business/economy/more-start-ups-in-asean-reach-unicorn-status-with-lift-from-robust-private-equity](http://www.straitstimes.com/business/economy/more-start-ups-in-asean-reach-unicorn-status-with-lift-from-robust-private-equity)

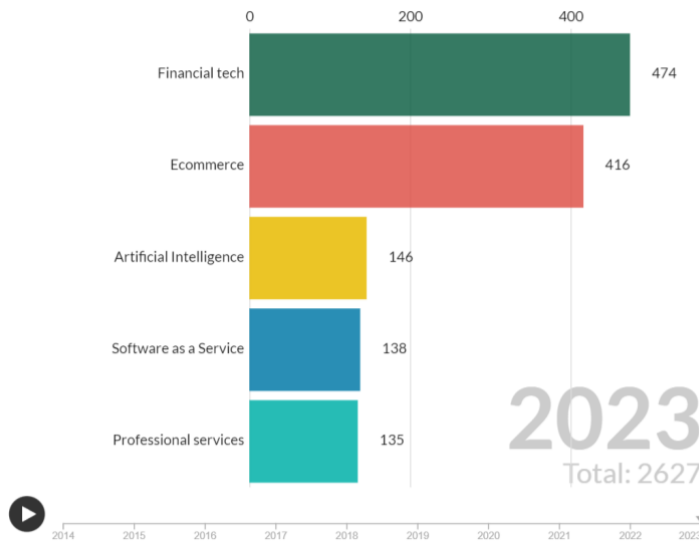
24 [www.backscoop.com/newsletter-posts/so-how-many-unicorns-are-there-in-sea](http://www.backscoop.com/newsletter-posts/so-how-many-unicorns-are-there-in-sea)

25 [www.khmertimeskh.com/501008148/cambodian-unicorns-will-arise-eventually/](http://www.khmertimeskh.com/501008148/cambodian-unicorns-will-arise-eventually/)

26 [finfan.vn/News/here-s-the-full-list-of-southeast-asia-s-23-unicorns-2461](http://finfan.vn/News/here-s-the-full-list-of-southeast-asia-s-23-unicorns-2461)



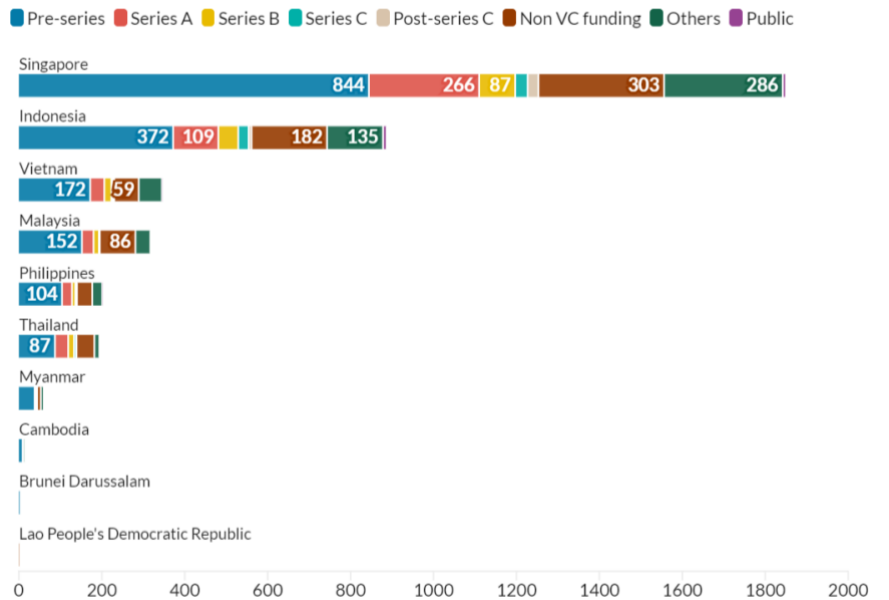
**Exhibit 29: Top 5 verticals in SEA by numbers of start-ups**



Source: Tech Asia, [www.techinasia.com/visual-story/sea-tech-ecosystem-report](http://www.techinasia.com/visual-story/sea-tech-ecosystem-report)

In terms comparisons between ASEAN nations, Singapore takes the lead in the digital business and digital investment metrics. Exhibit 30 shows that Singapore and Indonesia account for the significant majority of funding for ASEAN start-ups (which, unfortunately did not collect data for Cambodia or Lao PDR).

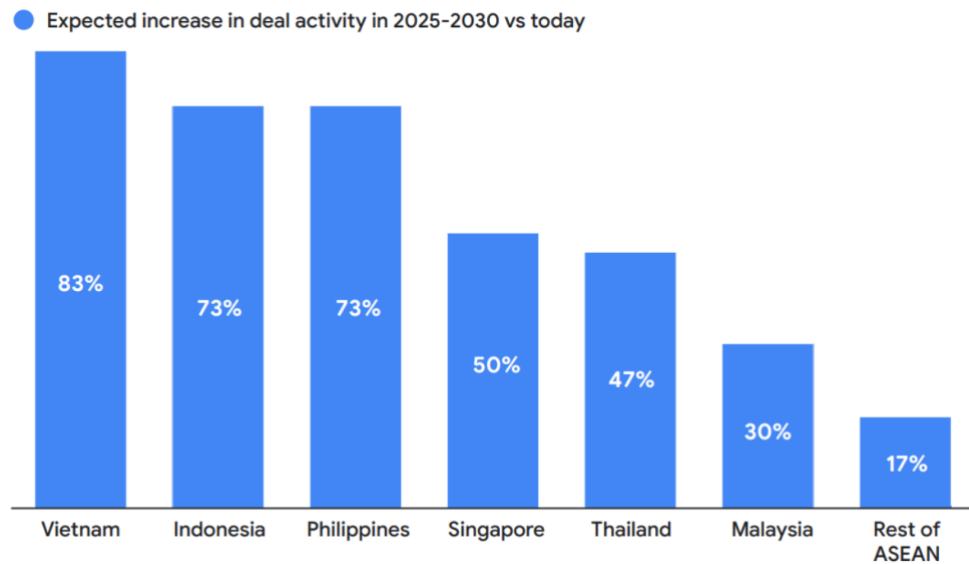
**Exhibit 30: SEA’s start-ups by funding stage**



Source: Tech Asia, [www.techinasia.com/visual-story/sea-tech-ecosystem-report](http://www.techinasia.com/visual-story/sea-tech-ecosystem-report)

This is not necessarily static. A large survey recently undertaken by Google, Temasek and Bain and Company shows that Viet Nam, Indonesia and the Philippines expect to see most rapid growth in start-up investment activity in the long-term (2025 to 2030).

### Exhibit 31: Expected change in deal activity in the long-term by country



Source: Bain, SEA Venture Capital Investors Survey, Q3 2022

Exhibit 32 shows sources of investment in ASEAN unicorns in 2021 by the origin of the investment. United States easily dominates with 69 investments from a total of 191 (36%). ASEAN itself accounts for 48 (25%) of the total number of investments with Japan 13 and China 24.

### Exhibit 32: Investors in unicorns in ASEAN, by nationality, 2021

Nationality of unicorn	Nationality of funder														Total	
	ASEAN					United States			Asia Pacific					Others		
	Indonesia	Malaysia	Philippines	Singapore	Thailand	United States	United Kingdom	European Union	China	Japan	India	Australia	Republic of Korea	Hong Kong (China)		
Indonesia	7			8		16		2	9	5	2	2	1	4	1	57
Malaysia		6		1				1		1						9
Philippines			2			6			1							9
Singapore	3			15		38	5	8	8	3	2	1	1	1	3	88
Thailand				1	4	2			4	2						13
Viet Nam				1		7	1		2	2				1	1	15
<b>Total</b>	<b>10</b>	<b>6</b>	<b>2</b>	<b>26</b>	<b>4</b>	<b>69</b>	<b>6</b>	<b>11</b>	<b>24</b>	<b>13</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>6</b>	<b>5</b>	<b>191</b>

Source: ASEAN Investment Report 2022 research (see annex table 2.3).  
 Note: Universe of investors here covers the top five funders of each unicorn.

Source: ASEAN Investment Report 2022

While these figures make clear the ongoing importance of the US as a source of investment, they also indicate that significant funding is available from within ASEAN itself for its digital businesses. In fact a relatively modest decrease in US investment and an increase in investment from ASEAN nations would see the region dominating investment in ASEAN digital businesses.

## 7.2 DIGITAL BUSINESS AND POLICY SNAPSHOT FOR EACH AMS

### 7.2.1 BRUNEI DARUSSALAM

#### 7.2.1.1 Digital policy

In an effort to shift away from its heavy reliance on its oil and gas economy, the Bruneian Government introduced Wawasan Brunei 2035, a strategy aimed at developing key sectors of the economy such as Halal, Tourism and Innovative and Creative Technologies. At the heart of this movement was the establishment of Darussalam Enterprise ('DARE') on 18th February 2016. DARE is a statutory body that was created to boost entrepreneurship culture and equip Micro, Small and Medium Enterprises ('MSMEs') with the core skills necessary for them to contribute to the country's economy, employment and export industries.<sup>27</sup> It supports local businesses by fostering enterprise growth through a pro-business ecosystem that carries the necessary infrastructure, reliable support and effective development programmes. According to Javed Ahmad, CEO of Darussalam Enterprise, 'Equipping early-stage startups with the skills to accelerate growth, stress-test their business ideas, and gain international exposure are crucial in today's globalised economy. This is an important step forward in achieving the Brunei Vision 2035's goal in raising the standards of our talent pool to develop a dynamic, diversified, and sustainable economy to compete on the world stage.'<sup>28</sup>

#### 7.2.1.2 Digital business examples

Such policies are showing clear progress, as, according to the 2018 Global Entrepreneurship Index, Brunei was ranked fifth in the region entrepreneurship environment.<sup>29</sup> In 2023, DARE was one of the sponsors of e27 for the 2023 edition of the Echelon Asia Summit in which it brought 'a slew of Brunei tech startups to network, connect with and hopefully build long-term partnerships with ecosystem stakeholders from across the region.' According to Syuaib Rafie, executive officer at DARE, DARE participated in Echelon 'to give our startups the opportunity to attend the summit and to see what opportunities they can get while networking and attending.'<sup>30</sup>

Memori is an all-inclusive legacy planning platform that has the potential to become Brunei's first unicorn. In December 2018, the company secured US\$100,000 (BND158,000) from 113 Venture Growth Fund in one of the largest seed rounds of investment for a startup in the country. As an all-in-one platform that enables the everyday person to manage 'every aspect of their legacy' including creating secure wills, insurance policies, memorial services and social media and email passwords, it was the finalist in the Echelon APAC TOP100 and Alpha Startups: Fintech Edition by 1337 Ventures, in the top ten at the Techsauce Global Summit Startup Pitch Championship where it was awarded as the crowd favourite and selected as one of the top startups in the fourth cycle of DARE's Accelerate.<sup>31</sup>

---

27 [www.dare.gov.bn/about-us](http://www.dare.gov.bn/about-us)

28 [e27.co/dare-connecting-brunei-startups-with-the-world-20230607/](https://e27.co/dare-connecting-brunei-startups-with-the-world-20230607/)

29 [sg.news.yahoo.com/meet-4-bruneian-startups-impressed-darussalam-enterprise-startup-034356736.html](https://sg.news.yahoo.com/meet-4-bruneian-startups-impressed-darussalam-enterprise-startup-034356736.html)

30 [e27.co/dare-connecting-brunei-startups-with-the-world-20230607/](https://e27.co/dare-connecting-brunei-startups-with-the-world-20230607/)

31 [www.bizbrunei.com/2019/07/legacy-planner-memori-secures-investment-from-asian-royal-family/](https://www.bizbrunei.com/2019/07/legacy-planner-memori-secures-investment-from-asian-royal-family/)

## Exhibit 33: Memori



### 7.2.2 KINGDOM OF CAMBODIA

#### 7.2.2.1 Digital policy

Despite the fact that Cambodia lacks Indonesia's 282 million potential customers or Singapore's income per capita, it has a young and growing population 'conducive for creativity and innovation, all possible with relatively lower wages compared to the region and rest of the world'<sup>32</sup> and sufficient training, such as:

- The government funded Techo Startup Center, which offers incubator, accelerator, research and development services, finds internships at startups for university students and connects entrepreneurs with investors
- Impact Hub Phnom Penh which offers training, mentoring, incubation programmes, online learning and meeting and workspaces
- The collaboration of the Cambodian and South Korean governments in aiding young entrepreneurs by funding \$8 billion into the National Incubation Center of Cambodia at the Royal University of Phnom Penh

According to an Asian Development Bank Institute ('ADB') working paper on financing of tech startups in selected Asian countries, these factors combined create a 'promising startup landscape' where many young people are interested in starting a business.

However, Cambodia has yet to give birth to its first unicorn because it currently lacks:

- The global vision it takes to make a unicorn;<sup>33</sup>
- Sufficient access to funding; and
- Fundamental infrastructure and support services, including a conducive startup ecosystem.

According to Aun Pornmoniroth, Minister of Economy and Finance ('MEF'), it is more likely for Cambodia's startups to grow and scale to become full-fledged commercial companies, rather than unicorns, over the next few years. However, this could potentially create a ripple effect model among the next wave of companies which could in turn give rise to unicorns.<sup>34</sup> In fact, some experts have surmised that 'for

---

<sup>32</sup> Siriwat William Chhem (Director of the Centre for Inclusive Digital Economy at Asian Vision Institute

<sup>33</sup> Angkor 500's Markova

<sup>34</sup> National Consultation Workshop on Digital Economy Policy and Direction

Cambodia to produce its first Unicorn, there is no secret recipe, it is only a matter of time.<sup>35</sup>

### 7.2.2.2 Digital business examples

There are a number of noteworthy start-ups in Cambodia such as:<sup>36</sup>

- Morakot: a platform for microfinance institutions banks;
- Realestate.com: Cambodia's first property classifieds website; and
- Okra Solar: one of the companies on 2021's Forbes Magazine '100 to Watch in Asia' list.

#### Exhibit 34: Morakot, Realestate.com, Okra Solar



Established in 2014, Morakot is a software company that focuses on financial systems. It specialises in cloud-based core banking platforms and other solutions for microfinance institutions and banks. As of 2023, Morakot has almost 50 clients, 250,000 end-customers and US\$270 million in total loan disbursement. It operates in Cambodia, Myanmar and Singapore, with further plans to expand across the region, and its customers include banks, microfinance institutions, lease companies and pawnshops.<sup>37</sup>

## 7.2.3 INDONESIA

### 7.2.3.1 Digital policy

Indonesia's digital economy is expected to be worth US\$124 billion by 2025 as the wider SEA online market triples in value to more than US\$309 billion.<sup>38</sup> According to Florian Hoppe, a partner at Bain & Company, 'Indonesia remains hugely exciting because of the population in Southeast Asia, huge economic growth forecasts for the next 10 years or thereabouts, (and) really turning onto a consumption-based economy.' However, in order to expand more effectively, Indonesian businesses will need to target their services at the 120 million Indonesians who live outside urban areas across the more than 17,000 island archipelago and integrate them into the active digital economy.<sup>39</sup>

The ASEAN Australia Strategic Youth Partnership points out that:

---

35 [kiripost.com/stories/cambodia-centaur-startups-unicorns-investment](https://kiripost.com/stories/cambodia-centaur-startups-unicorns-investment)  
36 [www.khmertimeskh.com/501008148/cambodian-unicorns-will-arise-eventually/](https://www.khmertimeskh.com/501008148/cambodian-unicorns-will-arise-eventually/)  
37 [fintechnews.sg/71354/cambodia/cambodias-top-7-fintech-companies-in-2023/](https://fintechnews.sg/71354/cambodia/cambodias-top-7-fintech-companies-in-2023/)  
38 [www.bain.com/globalassets/noindex/2020/e\\_economy\\_sea\\_2020\\_report.pdf](https://www.bain.com/globalassets/noindex/2020/e_economy_sea_2020_report.pdf)  
39 [www.cnn.com/2021/06/09/goto-how-gojek-and-tokopedia-teamed-up-in-indonesias-biggest-merger.html](https://www.cnn.com/2021/06/09/goto-how-gojek-and-tokopedia-teamed-up-in-indonesias-biggest-merger.html)

Currently, Indonesia has a total of more than 2,000 startups, 2 decacorns, and more than 7 unicorns. Start-ups with the highest growth were in the on-demand services, financial technology, and e-commerce sectors. Indonesia's rapidly growing digital economy grew by 52 per cent in 2021 with a total of 53 billion US dollars and is projected to exceed 124 billion by the end of 2025. The rapidly growing digital consumer is supported by increasing internet penetration and exponential growth in e-commerce. Factors such as a population of 278 million, a growing middle class, and mass smartphone use have underpinned the digital economy.<sup>40</sup>

### 7.2.3.2 Digital business examples

Launched in 2013, eFishery is an aquatech startup that has been transforming the Indonesia aquaculture industry by providing software and financing to fish farmers.<sup>41</sup> In 2023, it raised US\$108 million in Series D funding, increasing its post-money valuation to US\$1.3 billion and reaching the status of a unicorn.<sup>42</sup> Currently, it has a customer base of approximately 60,000 farmers, reaching about 280,000 ponds. Although eFishery began by providing an innovative IoT-based automatic fish-feeding system that enabled real-time monitoring and scheduling through smartphones, it has now expanded to provide end-to-end ecommerce platform.

#### Exhibit 35: eFishery



Through this expansion, eFishery provides a fair and sustainable supply chain for fish farmers and fishing enthusiasts by facilitating the purchase of niche products and gear for fishers and connecting farmers with financial institutions that offer specialised loans for aquaculture.<sup>43</sup>

#### Exhibit 36: Gojek



According to the US market intelligence firm CB Insights, the ride-hailing super-app Gojek became Indonesia's first decacorn in 2019 after it reached a valuation of US\$10 billion. Gojek received capital from numerous companies, including Google, Tencent Holdings, Temasek Holdings, Astra International and Meituan Dianping, which enabled it to expand into multiple countries in the SEA region and optimise its digital payment feature Go-Pay.<sup>44</sup> In May 2021, Gojek merged with ecommerce unicorn

40 The Digital Economy Landscape in Indonesia, ASEAN Australia Strategic Youth Partnership, [aasyp.org/2023/06/10/the-digital-economy-landscape-in-indonesia/](https://aasyp.org/2023/06/10/the-digital-economy-landscape-in-indonesia/)

41 [agfundernews.com/aquatech-startup-efishery-raises-108m-series-d-to-reach-unicorn-status](https://agfundernews.com/aquatech-startup-efishery-raises-108m-series-d-to-reach-unicorn-status)

42 [www.seafoodsource.com/news/business-finance/indonesia-s-efishery-raises-another-usd-108-million-valuation-surpasses-usd-1-billion](https://www.seafoodsource.com/news/business-finance/indonesia-s-efishery-raises-another-usd-108-million-valuation-surpasses-usd-1-billion)

43 [www.techloy.com/efishery-series-d-funding/](https://www.techloy.com/efishery-series-d-funding/)

44 [www.thejakartapost.com/news/2019/04/05/go-jek-becomes-indonesias-first-decacorn.html](https://www.thejakartapost.com/news/2019/04/05/go-jek-becomes-indonesias-first-decacorn.html)

Tokopedia in an \$18 billion deal to form GoTo Group, which became Indonesia's most valuable tech company.<sup>45</sup> Combined, GoTo contributes more than 2% to the country's US\$1 trillion GDP and possesses over 100 million monthly active users, more than 11 million merchants and over two million drivers.<sup>46</sup> However, GoTo's shares have slumped following its listing on the Indonesia Stock Exchange in April 2022.<sup>47</sup> Hopes are up for an invigoration following the appointment of a new CEO this year, which is pending shareholder approval on June 30th 2023.<sup>48</sup>

## 7.2.4 LAO PDR

### 7.2.4.1 Digital policy

Lao PDR possesses one of the world's fastest growing economies with a GDP that is showing a growth of 7% annually. However, because its economic activity focuses primarily on mining and hydropower, diversification is critical.<sup>49</sup> Additionally, Lao PDR's start-ups are facing challenges in helping to strengthen the national economy, given a lack of good definition of startups among the general public, and a lack of the infrastructure necessary to support a start-up ecosystem.<sup>50</sup>

The Lao PDR Government, however, is actively working to enrich its legislative framework and enhance government support to bolster the burgeoning start-up ecosystem

The Government of Lao PDR in association with The World Bank runs a program to provide early-stage funding for all types of new business. Grants of up to US\$200,000 are provided in the form of technical expertise and operational support and assistance with marketing within Lao and internationally.

As of April 4, 2023, Lao has been working together with Vietnam to build a startup innovation ecosystem called the Tech-Innovation Vietnam-Laos 2023 forum. The forum, jointly held by the Vietnamese Ministry of Science and Technology ('MoST') and the Lao PDR Ministry of Technology and Communications, aims to connect Vietnam's technology researchers, developers and science and technology management agencies with Lao PDR's government agencies and businesses. According to Tran Van Tung, the Deputy Minister of MoST, the forum is intended to promote the 'commercialisation, application and investment in technologies in key areas...such as farm produce processing and preservation, renewable energy, environmental treatment, IT and digital transformation.' In addition, the forum will also assist in strengthening the connection between the two ministries as well as contribute to enhancing exchanges and coordination between researchers and enterprises in the two countries.<sup>51</sup>

The Government of Lao PDR, in partnership with the United Nations Development Programme (UNDP), launched the Digital Government Transformation project on 7 July 2021. This initiative is aimed at building digital capacities and strengthening digital cooperation in cross sectors to deliver better, more inclusive, and unified public services. The project is designed to contribute to the development of a Digital Government Master Plan in Lao PDR. It also focuses on assessing the digital maturity

45 [techcrunch.com/2021/05/16/gojek-and-tokopedia-merge-to-form-goto-group/?guccounter=1&guce\\_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce\\_referrer\\_sig=AQAAAI-WJApNzzLcv8auDjfwZ2lZ1R9SV4dBNP9RgfdJ4zEgSbOxj8anlaKnQx-Cn4AK4tMIAOEBP2EEHcjZqaP\\_pJTbq6XLA6dV2lgOK0jKyLcvw1J\\_CkdCeZdNO45vHSqwywg90Ng0rFB1vSiubP7JPK8LVI5WaEvOChZ6\\_GZufFH](https://techcrunch.com/2021/05/16/gojek-and-tokopedia-merge-to-form-goto-group/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAI-WJApNzzLcv8auDjfwZ2lZ1R9SV4dBNP9RgfdJ4zEgSbOxj8anlaKnQx-Cn4AK4tMIAOEBP2EEHcjZqaP_pJTbq6XLA6dV2lgOK0jKyLcvw1J_CkdCeZdNO45vHSqwywg90Ng0rFB1vSiubP7JPK8LVI5WaEvOChZ6_GZufFH)

46 [www.cnbc.com/2021/06/09/goto-how-gojek-and-tokopedia-teamed-up-in-indonesias-biggest-merger.html](https://www.cnbc.com/2021/06/09/goto-how-gojek-and-tokopedia-teamed-up-in-indonesias-biggest-merger.html)

47 [www.ft.com/content/98315d97-7981-4d99-aba7-bf758db0b470](https://www.ft.com/content/98315d97-7981-4d99-aba7-bf758db0b470)

48 [kr-asia.com/goto-stresses-profit-in-ceo-choice-as-rivals-prospects-brighten](https://kr-asia.com/goto-stresses-profit-in-ceo-choice-as-rivals-prospects-brighten)

49 [mekongbiz.org/lao-pdr/](https://mekongbiz.org/lao-pdr/)

50 [www.phnompenhpost.com/opinion/lao-start-ups-face-challenges-need-support](https://www.phnompenhpost.com/opinion/lao-start-ups-face-challenges-need-support)

51 [en.vietnamplus.vn/vietnam-laos-work-together-in-building-startup-innovation-ecosystem/251003.vnp](https://en.vietnamplus.vn/vietnam-laos-work-together-in-building-startup-innovation-ecosystem/251003.vnp)

of government entities, considering digital divide, identifying opportunities and weaknesses, which will be integrated into a comprehensive Digital Government Master Plan.

In January 2024, the Ministry of Technology and Communications will officially launch Lao Digital Week. Lao PDR will host the ASEAN Summit in October 2024 and, as part of the mid-term review of the ASEAN Digital Masterplan the key priorities for 2024 include AI, 5G, Data Protection and Digital Inward Investment.

#### 7.2.4.2 Digital business examples

In 2019, fintech LTS Ventures developed a microfinance platform to help Lao PDR's more than 6,000 village banks, 122 microfinance institutions ('MFIs'), domestic savings and credit unions combat risk and reduce fraud. This shared platform works both online and offline, using blockchain-like technology to automatically synchronise records between central servers and laptops that are operated on the move by staff members, ultimately giving more than 225,000 villagers better access to finance.<sup>52</sup>

#### Exhibit 37: LTS Ventures and Loca



LOCA was founded in 2018 to solve the problem of city transportation in Laos and specifically in Vientiane Capital. LOCA entirely solved the issues of currently ripped-off service by introducing safe, reliable, and transparent pricing options via its mobile application and is available 24 hours and completely insured by insurance.

LOCA was able to raise a seed investment in 2020, and now expand its service to the 3 major cities of Laos. LOCA was recognized by many awards such as ASEAN BUSINESS AWARD, 1st runner-up award Mekong Innovation Startup in Tourism in 2019 and was listed on Forbes Asia 100 company to watch in 2021. LOCA pivot into more service such as building EV charging network where he advocates the EV

---

52 [www.euromoney.com/article/2azfgogkxwpyiniwcjyxa8/fintech/laos-fintech-gives-village-banks-financial-inclusion-a-timely-boost](https://www.euromoney.com/article/2azfgogkxwpyiniwcjyxa8/fintech/laos-fintech-gives-village-banks-financial-inclusion-a-timely-boost)



promotion in Laos. LOCA is now the first company to launch the fast DC charging network and installed around the country.

## 7.2.5 MALAYSIA

### 7.2.5.1 Digital policy

According to Vishal Harnal, global managing partner of 500 Global, Malaysia is SEA's 'unsung hero',<sup>53</sup> which is, together with the Philippines, an emerging hot spot for investors who are seeking solid returns from young and rising tech companies. Although they do not have a population as large as that of Indonesia, Malaysia and Indonesia are both particularly noteworthy when viewed from a government-enabling and private funding perspective.

The National Technology and Innovation Sandbox is a programme that provides funding and support for startups in the technology and innovation sectors. The funding covers research and development as well as mentorship and coaching services for startups and entrepreneurs. The Ministry of Science, Technology and Innovation ('MOSTI') launched the programme as part of the National Economic Recovery Plan ('PENJANA'), the post-COVID revitalisation initiative. A central element of this is the investment fund Penjana Kapital, which played a central role in the US\$200 million investment round of the automotive services company, Carsome.<sup>54</sup>

### 7.2.5.2 Digital business examples

Carsome, founded in 2015, attained unicorn status on 13 July 2021, and is now the region's biggest online used car marketplace. It has expanded beyond Malaysia to Indonesia, Thailand and Singapore, creating a more transparent consumer buying and selling process by disrupting the traditionally used car market.<sup>55</sup>

#### Exhibit 38: Carsome



Arguably, Malaysia's most notable start-up is Grab, which is undoubtedly one of the largest tech companies in the region. Grab was founded in Malaysia in 2012 as a ride-hailing platform before it relocated its headquarters to Singapore,<sup>56</sup> becoming a unicorn in May 2015 and later SEA's first decacorn. Now, Grab's reach has widened enough to cover financial services, deliveries and vehicle rentals. It is used in nearly every SEA nation with the exception of Lao PDR, Brunei and East Timor.<sup>57</sup>

---

53 [asia.nikkei.com/Business/Startups/Philippines-Malaysia-emerge-as-startup-hot-spots-says-investor](https://asia.nikkei.com/Business/Startups/Philippines-Malaysia-emerge-as-startup-hot-spots-says-investor)  
54 [techcollectivesea.com/2023/04/26/malaysia-philippines-tech-startups/](https://techcollectivesea.com/2023/04/26/malaysia-philippines-tech-startups/)  
55 [techcollectivesea.com/2023/04/26/malaysia-philippines-tech-startups/](https://techcollectivesea.com/2023/04/26/malaysia-philippines-tech-startups/)  
56 [asia.nikkei.com/Business/Startups/Philippines-Malaysia-emerge-as-startup-hot-spots-says-investor](https://asia.nikkei.com/Business/Startups/Philippines-Malaysia-emerge-as-startup-hot-spots-says-investor)  
57 [techcollectivesea.com/2023/04/26/malaysia-philippines-tech-startups/](https://techcollectivesea.com/2023/04/26/malaysia-philippines-tech-startups/)

## Exhibit 39: Grab



### 7.2.6 MYANMAR

#### 7.2.6.1 Digital policy

Since opening its doors in 2013, Myanmar experienced slow and steady growth up until around 2019. Post COVID and as of 2023, its GDP is around 10% lower than in 2019 and the nation faces significant economic challenges. Myanmar has a very young population where 55% of the 55 million population is under the age of 30.<sup>58</sup>

Myanmar's start-up landscape, like most of its economy, is primarily funded by foreign donors, development programmes and venture capital. The key start-up city is Yangon, Mandalay, connected country ecosystems are Singapore and Japan and focus industries are edtech, fintech and healthtech.

#### 7.2.6.1 Digital business examples

There have been a number of high-profile investments such as CDC UK's \$30 million investment into local ISP startup Frontiir and Ant Financial's purchase of the local fintech startup Wave Money for over US\$70 million.<sup>59</sup> In April 2019, the Netherlands-based NGO ICCO Cooperation and DaNa Facility, a UK Department for International Development-funded program, announced a \$US1 million grant in Phandeeyar Tech Accelerator.<sup>60</sup>

## Exhibit 40: Phandeeyar Tech Accelerator



Ecosystem developers, such as the Phandeeyar Tech Accelerator, are fundamental to Myanmar's startup ecosystem. Arguably, Myanmar's startup ecosystem will only increase in size as the nation's middle class develops, payment technology improves, young company founders gain experience and professionals return from abroad with funds with know-how that contributes to the country's local growth.<sup>61</sup>

In Myanmar, there is limited interest from local investors which may be a result of local investors' proclivity towards brick-and-mortar businesses such as jewellery, food, beverage and retail. The changes in the telecommunications sector which has seen the departure of major foreign investors like Telenor and Ooredoo<sup>62</sup> has also negative impact on the appetite of foreign investors. Another reason may be the lack

58 [startupuniversal.com/country/myanmar/](http://startupuniversal.com/country/myanmar/)

59 [startupuniversal.com/country/myanmar/](http://startupuniversal.com/country/myanmar/)

60 [www.researchinmyanmar.com/insight/the-growth-of-startups-in-myanmar](http://www.researchinmyanmar.com/insight/the-growth-of-startups-in-myanmar)

61 [www.researchinmyanmar.com/insight/the-growth-of-startups-in-myanmar](http://www.researchinmyanmar.com/insight/the-growth-of-startups-in-myanmar)

62 See [en.wikipedia.org/wiki/Ooredoo\\_Myanmar](http://en.wikipedia.org/wiki/Ooredoo_Myanmar)

of proven investor returns and salary inflation. Furthermore, Yangon, Mandalay, Myanmar's key start-up city, is extremely limited.

#### Exhibit 41: Wave Money



Although the country is yet to produce its first unicorn, Wave Money, established in 2016 through a joint venture between Telenor, a Norwegian telco, and Yoma Bank, one of Myanmar's leading banks, is a potential candidate. On November 22 2022, Yoma bought Telenor's stake in Wave money for US\$40 million, which was down from an initial offering US\$53 million.<sup>63</sup> At first, Wave Money was launched for the purpose of resolving the problem of domestic remittance but it has now grown to such a scale as to affect the larger financial inclusion problem in Myanmar. Through the WavePay app, Wave Money offers bill services, air-time top-ups and p2p transfers. In 2020, Ant Financial Group became the second largest shareholder.<sup>64</sup>

## 7.2.7

### PHILIPPINES

#### 7.2.7.1

##### Digital policy

According to Vishal Harnal, global managing partner of 500 Global, the Philippines, like Malaysia, is 'at an inflection point' for growth.<sup>65</sup> MSMEs make up 99.5% of all businesses in the Philippines, forming the backbone of the nation's economy through services and business solutions such as RUSH, m360 and DeepSea.<sup>66</sup> One of the challenges that the Philippines faces, however, is the fact that it is a diverse country with multiple regions and numerous dialects. This means that a one-size-fits-all approach may not always work and understanding local customs and preferences are likely to be critical for local start-ups that are looking to expand into the region. To overcome this hurdle, many companies have partnered with local governments to continue the growth of the ecosystem and further digitalisation and financial inclusion. For instance, 917Ventures partnered with the local government of Kidapawan City in Mindanao to make the services of one of its portfolio companies, KonsultaMD, available and improve access to medical services for employees and residents.<sup>67</sup>

Implemented in 2019, the Innovative Startup Act provides grants and business development support to rising start-ups. It aims to devise a healthy ecosystem where emerging businesses will have opportunities to grow and develop. It also allows the government entities to provide funding through two departments: the Department of Science and Technology ('DOST') and Department of Information and Communications Technology ('DICT'). There are a number of startups that have benefitted from these initiatives, such as Cropital and Avion School (through a Y Combinator investment of US\$125,000) and Manila Angel Investors Network ('MAIN'). The Department of Trade and Industry also has its Shared Facilities

63 [www.dealstreetasia.com/stories/yoma-telenor-wave-money-deal-317672](http://www.dealstreetasia.com/stories/yoma-telenor-wave-money-deal-317672)

64 [www.dealstreetasia.com/stories/yoma-strategic-wave-money-2-195897](http://www.dealstreetasia.com/stories/yoma-strategic-wave-money-2-195897)

65 [asia.nikkei.com/Business/Startups/Philippines-Malaysia-emerge-as-startup-hot-spots-says-investor](http://asia.nikkei.com/Business/Startups/Philippines-Malaysia-emerge-as-startup-hot-spots-says-investor)

66 [techcollectivesea.com/2023/05/30/startups-the-philippines-917ventures/](http://techcollectivesea.com/2023/05/30/startups-the-philippines-917ventures/)

67 [techcollectivesea.com/2023/05/30/startups-the-philippines-917ventures/](http://techcollectivesea.com/2023/05/30/startups-the-philippines-917ventures/)

Program, which is an initiative that enables early-stage startups to access shared facilities.<sup>68</sup>

### 7.2.7.2 Digital business examples

Philippines tech startups benefit from high-value investments, innovative talent and strong government support. According to the Department of Trade and Industry ('DTI'), the Philippines is currently committed to maintaining the earnings it made in recent years by overcoming the COVID-19 pandemic's damage to the economy and embracing the new normal.<sup>69</sup>

#### Exhibit 42: Kumu, PayMongo, GCash



- Kumu is a platform that connects users, content creators and influencers in real-time. Focusing on live streams where users and brands can sell their items online, it has over 25,000 live stream broadcasts per day and three million registered users with an average screen time of an hour per day. In April 2020, the platform raised approximately US\$5 million in a Series A round, and as of early 2023, it received US\$95.2 million in funding.<sup>70</sup>
- PayMongo is a fintech startup that offers businesses a payment processing platform. It secured Series B funding from Silicon Valley giant Peter Thiel from which it amassed almost US\$46 million.<sup>71</sup>
- Fintech super-app GCash is the only double unicorn in the Philippines and is backed by 917Ventures.<sup>72</sup>

## 7.2.8 SINGAPORE

### 7.2.8.1 Digital policy

Singapore is a leading startup and venture capital hub.<sup>73</sup> According to the Global Startup Ecosystem Report 2023 and the latest global startup by Startup Genome, a US based research company, in 2023, Singapore entered the top 10 for the first time alongside Silicon Valley, New York City and London and now ranks 8th after climbing 10 places ahead from last year.<sup>74</sup> In Asia, Singapore is ranked second behind Beijing, which fell two places to seventh place over the same period.<sup>75</sup> The nation's startup boom is unsurprising given the startup culture it has built over the last few years. Not only is there generous funding and business-friendly policies, but also an abundance

68 [techcollectivesea.com/2023/04/26/malaysia-philippines-tech-startups/](https://techcollectivesea.com/2023/04/26/malaysia-philippines-tech-startups/)

69 [techcollectivesea.com/2022/12/14/philippines-tech-startups/](https://techcollectivesea.com/2022/12/14/philippines-tech-startups/)

70 [techcollectivesea.com/2023/04/26/malaysia-philippines-tech-startups/](https://techcollectivesea.com/2023/04/26/malaysia-philippines-tech-startups/)

71 [techcollectivesea.com/2023/04/26/malaysia-philippines-tech-startups/](https://techcollectivesea.com/2023/04/26/malaysia-philippines-tech-startups/)

72 [techcollectivesea.com/2023/05/30/startups-the-philippines-917ventures/](https://techcollectivesea.com/2023/05/30/startups-the-philippines-917ventures/)

73 [www.dealstreetasia.com/stories/singapore-startup-ecosystem-348995](https://www.dealstreetasia.com/stories/singapore-startup-ecosystem-348995)

74 [currentaffairs.adda247.com/global-startup-ecosystem-report-2023-bengaluru-startup-ecosystem-ranks-20th/](https://currentaffairs.adda247.com/global-startup-ecosystem-report-2023-bengaluru-startup-ecosystem-ranks-20th/)

75 [asia.nikkei.com/Business/Startups/Singapore-startup-ecosystem-outranks-Shanghai-Seoul-Tokyo](https://asia.nikkei.com/Business/Startups/Singapore-startup-ecosystem-outranks-Shanghai-Seoul-Tokyo)

of incubators, accelerators, hackathons and pitch competitions. Consequently, Singapore is now home to more than 4,000 tech-enabled startups.<sup>76</sup>

Singapore's startup ecosystem is entering an important era in which far-reaching issues that could affect the nation's sustenance and wellbeing are becoming crucial. Food security has been a long-term goal of the government given the country's heavy dependence on food imports. This has instigated the government to push for the creation of foodtech startups that could help access sufficient, safe and nutritious food, especially in developing more sustainable meat production methods. The government's goal is to locally produce one third of Singapore's food needs by 2030.<sup>77</sup>

### 7.2.8.2 Digital business examples

Grab, Ninja Van and Love, Bonito are local startups that have become regional household names by offering innovative solutions that are catered to the needs of local markets.<sup>78</sup>

#### Exhibit 43: Sea Limited



Sea Limited, established in 2009 and formerly known as Garena, is an e-commerce and gaming technology internet platform provider that reached unicorn status in 2016.<sup>79</sup> It is the first-ever ASEAN startup to IPO in the United States, raising US\$884 million with its listing on the New York Stock Exchange ('NYSE') in 2017.<sup>80</sup> It also runs the e-commerce platform Shopee, and in March 2023, reported its first quarterly profit since going public five years ago. This is likely the result of its recent restructuring efforts, which include cutting thousands of jobs and freezing salaries.<sup>81</sup>

## 7.2.9 THAILAND

### 7.2.9.1 Digital policy

Although Thailand's startup ecosystem has still yet to develop fully, it carries immense potential for growth and development given its affordability of living, low costs for operating businesses, active online communities, a socially active population and a balanced mix of expats and locals. Consequently, local corporate venture capital firms, Chinese conglomerates and the Thai government have collectively begun to pour fresh capital into investments focusing on innovation. The government has also implemented new regulations, particularly in fintech, and grants in sectors that play a critical role in the local economy: agritech, smart city development, tourism and foodtech.<sup>82</sup>

76 [vulcanpost.com/812320/why-arent-more-singapore-startups-making-waves-globally/](https://vulcanpost.com/812320/why-arent-more-singapore-startups-making-waves-globally/)  
77 [www.business-times.com.sg/startups-tech/startups/singapore-startups-increasingly-tapped-tackle-national-issues](https://www.business-times.com.sg/startups-tech/startups/singapore-startups-increasingly-tapped-tackle-national-issues)

78 [vulcanpost.com/812320/why-arent-more-singapore-startups-making-waves-globally/](https://vulcanpost.com/812320/why-arent-more-singapore-startups-making-waves-globally/)  
79 [www.entrepreneur.com/en-au/news-and-trends/these-three-singapore-startups-have-won-the-race-to-billion/322438](https://www.entrepreneur.com/en-au/news-and-trends/these-three-singapore-startups-have-won-the-race-to-billion/322438)

80 [themalaysianreserve.com/2023/02/08/unicorns-in-south-east-asia/](https://themalaysianreserve.com/2023/02/08/unicorns-in-south-east-asia/)

81 [kr-asia.com/goto-stresses-profit-in-ceo-choice-as-rivals-prospects-brighten](https://kr-asia.com/goto-stresses-profit-in-ceo-choice-as-rivals-prospects-brighten)

82 [kr-asia.com/country-guide-thailand](https://kr-asia.com/country-guide-thailand)

Following Singapore's initiatives, Thailand has aimed to invigorate its startup industry by offering tax-free capital gains to investors in certain sectors. The government has also launched its innovative SMART Visa programme and infrastructure investments in an effort to attract foreign entrepreneurs and investors. However, despite these efforts, Thailand is still faced with multiple challenges such as restrictive government regulations for some sectors, a lack of foreign investment and experienced talent, oligopolies, a shortage of investors and a complicated bureaucracy.<sup>83</sup>

Nonetheless, Thailand is attempting to navigate its digital development journey, working to streamline government regulations and attract foreign investment and skilled talent to enhance its promising startup ecosystem

According to StartupBlink's Global Startup Ecosystem Index 2023, despite dropping three places in 2022, Thailand has risen positively in 2023, moving one spot ahead to reach 52<sup>nd</sup> globally. The country is now ranked 11<sup>th</sup> best ecosystem in the Asia-Pacific and fourth best in the SEA region. Over the last 40 years, Thailand has progressed to become a more economically advanced country through numerous reforms and social innovations. Furthermore, the COVID-19 pandemic has caused the public sector to prioritise startup ecosystem development as an important step in securing future economic growth. Although these efforts are not yet as focused as those in Singapore and Malaysia, they symbolise positive movement towards ensuring that the Thai ecosystem can fulfil its potential. In 2022, the value of funding and the number of venture capital deals was over \$1.25 billion. This is a significant jump compared to 2021 (over \$548 million) and 2020 (over \$427 million).

#### 7.2.9.2 Digital business examples

Thailand has been home to several unicorns in the last several years, such as:

- Line Man Wongnai
- Flash Express
- Ascend Money

Given its stable economy, the country is likely to produce more unicorns in the following years. According to Pun-Arj Chiratana, executive director of the National Innovation Agency, Thailand is ASEAN's second-largest economy as well as the friendliest business location and where startup development has been a significant strategic policy for economic reform in since 2016. Although the main focus is currently on Bangkok, there are other innovation districts across the nation, such as Chiang Mai, which could make attractive markets for startup investors and innovative entrepreneurs.<sup>84</sup>

---

83 [www.thailand-business-news.com/startups/98792-thailand-ranks-52nd-on-the-startup-ecosystem-scale](http://www.thailand-business-news.com/startups/98792-thailand-ranks-52nd-on-the-startup-ecosystem-scale)  
84 [www.bangkokpost.com/tech/2595329/thailand-rises-in-startup-ecosystem-index](http://www.bangkokpost.com/tech/2595329/thailand-rises-in-startup-ecosystem-index)

## Exhibit 44: Line Man Wongnai, Flash Express, Ascend Money



### 7.2.10 VIET NAM

#### 7.2.10.1 Digital policy

In 2022, Vietnam was named the ‘third pillar of the golden triangle’ of SEA’s startup ecosystem, which also includes Singapore and Indonesia. Unlike Singapore, which has financial and human capital and Indonesia, which has a flourishing domestic market, Vietnam has top tech talent, ‘a Vietnamese culture of culture of entrepreneurship’ and ‘a fast-growing domestic market’.<sup>85</sup> In 2019, the Vietnamese startup ecosystem was seen as one of the most notable in ASEAN with \$731 million having been invested throughout the first half. This meant that Vietnam had surpassed Malaysia, Thailand and the Philippines.<sup>86</sup>

Vietnam possesses a promising market because the majority of its 69 million internet users already shop online.<sup>87</sup> It also has a high smartphone penetration rate, a cheap and vast workforce and a rising population that is set to become more and more tech oriented.

#### 7.2.10.2 Digital business examples

Vietnam is home to many leading ecommerce platforms such as Shopee, Lazada, Tiki and Sendo, and receives large amounts of investment capital from Japan, Korea, the United States and Singapore in similar or verticalised ecommerce platforms and enablers. Yet, Vietnam is faced with the problem of having a market potential that is not evenly distributed across the nation as Ho Chi Minh City and Hanoi, its two largest cities, take away approximately 70% of ecommerce sales.<sup>88</sup>

The Vietnamese food delivery industry, in particular, has been thriving. According to Statista, Vietnamese online food delivery totalled US\$274 million in 2020, and is expected to reach \$505 million by 2024. Companies such as GrabFood, Now, Go-Viet’s GoFood, Lala and Foodpanda are strong players.

---

85 Vinnie Lauria, Golden Gate ventures (founding partner)  
86 [jdi.group/vietnam-startup-ecosystem-why-you-should-be-excited-2/](https://jdi.group/vietnam-startup-ecosystem-why-you-should-be-excited-2/)  
87 [www.statista.com/topics/6231/internet-usage-in-vietnam/#topicOverview](https://www.statista.com/topics/6231/internet-usage-in-vietnam/#topicOverview)  
88 [jdi.group/vietnam-startup-ecosystem-why-you-should-be-excited-2/](https://jdi.group/vietnam-startup-ecosystem-why-you-should-be-excited-2/)

**Exhibit 45: VNG**



VNG is Vietnam’s first tech unicorn, which is planning a potential IPO later this year.<sup>89</sup> It was included in the 10 Asian companies to watch in 2023 list by Japan’s Nikkei Asia web. VNG was founded in 2004 by Le Hong Minh, starting out as an online game publisher and developer called Vinagame. Now, VNG’s cash cow business has expanded across other Asian markets, competing with rivals such as Singapore’s Sea. Recently, the tech company has expanded in other areas such as messaging through its messenger app, Zalo, and is looking to expand internationally.<sup>90</sup>

---

89 [www.dealstreetasia.com/stories/vietnam-vng-nasdaq-debut-300451](https://www.dealstreetasia.com/stories/vietnam-vng-nasdaq-debut-300451)

90 [en.vietnamplus.vn/vietnamese-unicorn-included-in-10-asian-companies-to-watch-in-2023-list/246635.vnp#:~:text=Tokyo%20\(VNA\)%20%E2%80%93%20VNG%20%2D,initial%20public%20offering%20in%202023.](https://en.vietnamplus.vn/vietnamese-unicorn-included-in-10-asian-companies-to-watch-in-2023-list/246635.vnp#:~:text=Tokyo%20(VNA)%20%E2%80%93%20VNG%20%2D,initial%20public%20offering%20in%202023.)



# 8 STAKEHOLDER INPUTS

There were two forms of stakeholder consultation for this project: interviews and an online survey. Interviews are in the form of a online meeting between half an hour and an hours duration. Most of the interviewees preferred to remain anonymous, however, one requested to have his comments attributed (see below).

## 8.1 Stakeholder interviews

The founder of a Lao PDR-based start-up raised seed funding locally and is now seeking growth investment from within or outside ASEAN. Lao PDR is a challenging environment with small market size and relatively low incomes making growth challenging for start-ups. Payment systems and financial services are relatively underdeveloped, and this creates limitations but also opportunities for local start-ups who can provide payment solutions.

According to this entrepreneur, the Lao PDR government has issued certain decrees and made resolutions but changes to laws can take five years to pass and, in general, government policies are restrictive for business development. Because the Lao PDR economy is so small, some form of assistance would be very helpful getting start-ups through very early-stage development. Once a start-up gets going, there are opportunities to expand into other territories within ASEAN.

A Vietnamese start-up founder has an ambitious plan to take an enterprise software solution global. He is very conscious of the general decline in VC opportunities but he believes that companies with good solutions will still attract funding and succeed. He states that the funding environment in Singapore is better than in Viet Nam but that in Thailand and Malaysia it is weaker.

He thinks that the Government wants to help but that there is a disconnect between “what is provided and what is needed” and that currently it is “not solving the problems or providing value”.

The manger of Lao PDR Government program designed to assist businesses with early funding said that assistance was provided on a “matching grant” basis up to a value of \$200,000. The program is co-funded by the World Bank as well as by contributions from Australia and Ireland and has provided around 500 grants. Assistance is in the form of “expertise” – consultants are provided to advise on management, marketing and other issues related to business development. Companies from any industry can apply.

David Gowdey is a Managing Partner of Singapore-based VC, Jungle Ventures. Jungle Ventures has over US\$1 billion in assets under management and is currently investing

out of their fourth fund in early stage (Seed to Series B stage) technology start-ups in Southeast Asia and India.

Over the past 6 to 9 months, there has been a reduction in capital flows, particularly from overseas investors, and this led to a focus on business continuity for Jungle Ventures' existing portfolio companies, with many raising additional capital from existing investors to strengthen their balance sheets. More recently, since Aug/Sept 2023, funding of companies by new external investors is rising again, particularly early-stage start-ups that are raising less than \$ 20 million dollars. There is less capital available in the ASEAN region for companies seeking greater than \$20 million dollars. Overseas investors, who would typically fund this level of capital, are primarily focused on value opportunities in the United States, which has seen larger price corrections.

Mr Gowdey is relatively optimistic regarding the future for the ASEAN's tech sector, including the prospects for higher value capital raising. He sees Southeast Asia and India increasingly becoming focal points for investment, reflecting a diversification of investment sources. He believes that while the United States will remain a significant investor in the region, it will be less significant than in the last decade. He attributes the attractiveness of the United States for investment, in part, to the expedited processes for IPOs or buyouts, which can lead to higher internal rates of return for investors.

It is in this sense that the US itself is the biggest competitor with the rest of the world for US investment funds.

Singapore is becoming even stronger as a regional and global finance centre. Capital is moving from Hong Kong to Singapore and many of the associated service businesses such as law firms and fund administrators are moving as well. Singapore's capital gains tax regime and newly created variable capital company (VCC) structure is very attractive for family offices, who are increasingly shifting to be domiciled out of Singapore. With such high capital inflows occurring now, it is inevitable that VC and other types of investment in the ASEAN region will increasingly come from there.

Mr Gowdey believes that governments can make the greatest contribution to ASEAN start-ups through policies which create more favourable regulatory and taxation environments. In particular, adverse capital gains tax regimes significantly reduce the returns to all investors and reductions in general rates or the creation of tech company carve-outs would deliver substantial growth benefits. He believes the next few years will see a generational change in ASEAN governments that will lead to more pro-market policies across the region, particularly in Vietnam.

Mr Gowdey argues that a transformational initiative for Southeast Asia would be the creation of a new regional stock exchange focused on technology companies along the lines of US's NASDAQ. He argues that existing domestic stock exchanges across ASEAN are geared toward slow-growing companies that attract investors via dividends, versus higher growth tech companies. This environment has not sufficiently evolved to suit the rapid growth tech company dynamics that deliver investor returns through valuation growth. There is a relatively high bar for NASDAQ listings of around a US\$5 billion valuation. For a tech company in Southeast Asia valued at between US\$1 to 5 billion dollars, there is really no appropriate exchange on which to list.

Given Singapore's ongoing growth as a capital centre, Southeast Asia's rapidly growing middle class and the significant opportunities for tech start-ups in the region,

Mr Gowdey believes that such a development could ignite a revolution in the regional tech sector (this concept is further discussed in Section 9.2.5).

Another start-up founder was approached for an interview was not available but provided the following in writing via email.

---

The development of a robust digital ecosystem requires a multi-faceted approach from the government. In the context of ASEAN countries, which have diverse economies, cultures, and levels of technological advancement, certain tailored strategies can help propel the development of digital ecosystems. Here are several government policies that can aid in this development:

**1. Infrastructure Development**

- Digital Infrastructure: Invest in high-speed internet, data centers, and broadband connectivity, especially in rural areas.
- Physical Infrastructure: Develop transportation and logistics networks to support e-commerce and other online businesses.

**2. Digital Education and Skill Development**

- Promote digital literacy at all levels of education.
- Set up training programs to upskill the workforce in digital technologies, data analytics, cybersecurity, etc.

**3. Regulatory Frameworks**

- Implement data protection and privacy laws to instill trust in digital services.
- Simplify licensing and registration processes for digital businesses.
- Harmonize regulations across ASEAN nations to promote cross-border digital trade and services.

**4. Financial Support and Incentives**

- Offer tax breaks, grants, or subsidies to startups and SMEs venturing into the digital space.
- Encourage investments in digital sectors through incentives for both local and foreign investors.

**5. Cybersecurity Measures**

- Establish strong cybersecurity laws and infrastructure to protect businesses and consumers.
- Develop national cybersecurity strategies and promote public-private partnerships in this domain.

**6. Digital Payment Systems**

- Encourage the development and adoption of digital payment solutions.
- Ensure interoperability of payment systems across the region.

**7. E-Government Services**

- Transition to digital platforms for public services, which can act as a model for other sectors.
- Promote transparency and efficiency through digital systems, thereby fostering trust in the digital ecosystem.

**8. Promotion of Research and Development**

- Fund and incentivize R&D in emerging technologies such as Artificial Intelligence, Blockchain, and the Internet of Things (IoT).
- Establish tech parks, innovation hubs, and incubators.

**9. Cross-border Collaboration**

- Collaborate on regional digital projects and initiatives.
- Harmonize digital policies across the ASEAN region to create a unified digital market.

**10. Public Awareness and Engagement**

- Launch campaigns to raise awareness about the benefits of the digital economy.
- Engage stakeholders from various sectors, including the private sector, academia, and civil society, in the formulation of digital strategies.

**11. Sustainable Development Goals Integration**

- Align digital strategies with the UN's Sustainable Development Goals (SDGs) to ensure inclusivity and sustainability.

**12. Digital Inclusion**

- Promote the use of digital technologies in underserved areas and among marginalized communities.
- Ensure affordable access to digital tools and services for all.

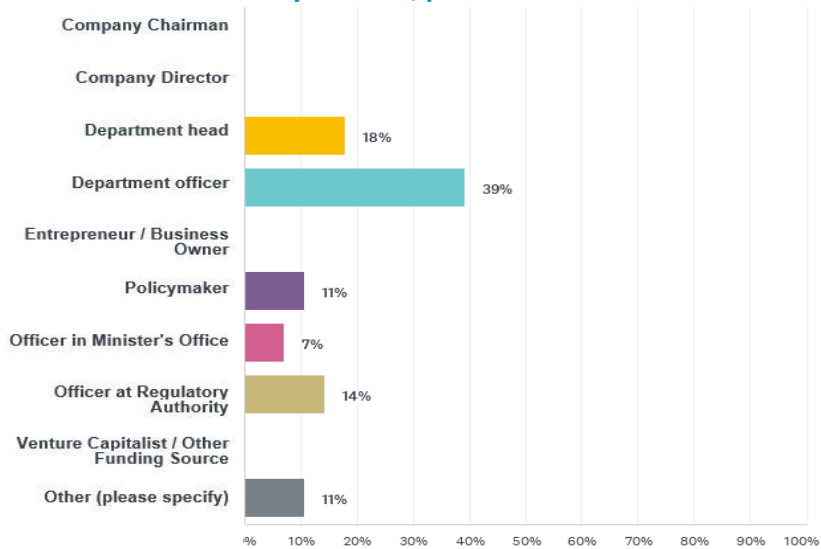
By implementing these policies, ASEAN countries can pave the way for a comprehensive and inclusive digital ecosystem that can drive economic growth, innovation, and improved quality of life for its citizens.

---

## 8.2 Stakeholder online survey

An online survey was conducted during October and November 2023. As Exhibit 46 and Exhibit 47 show, respondents were primarily from government organizations concerned with policy mostly Ministry offices or Regulators.

**Exhibit 46: What is your role/position?**



**Exhibit 47: For what kind of organisation do you work?**

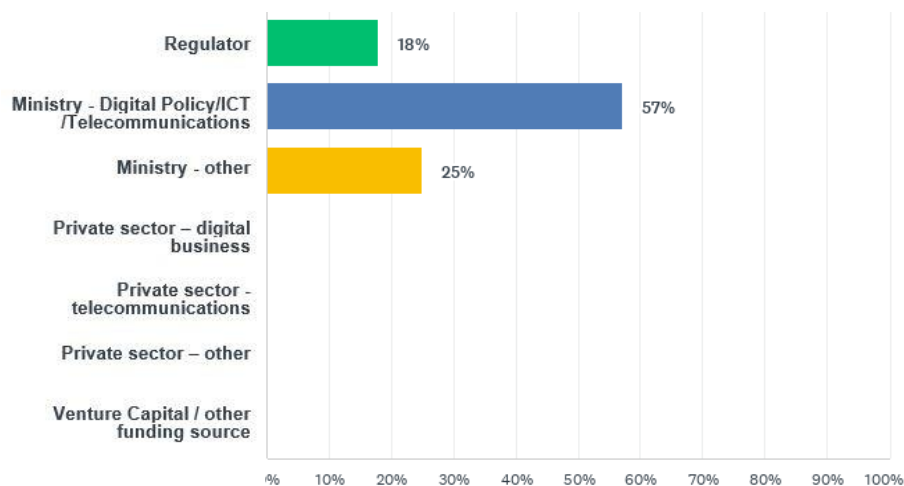


Exhibit 48 shows the countries that respondents primarily work in.

**Exhibit 48: In what country do you work?**

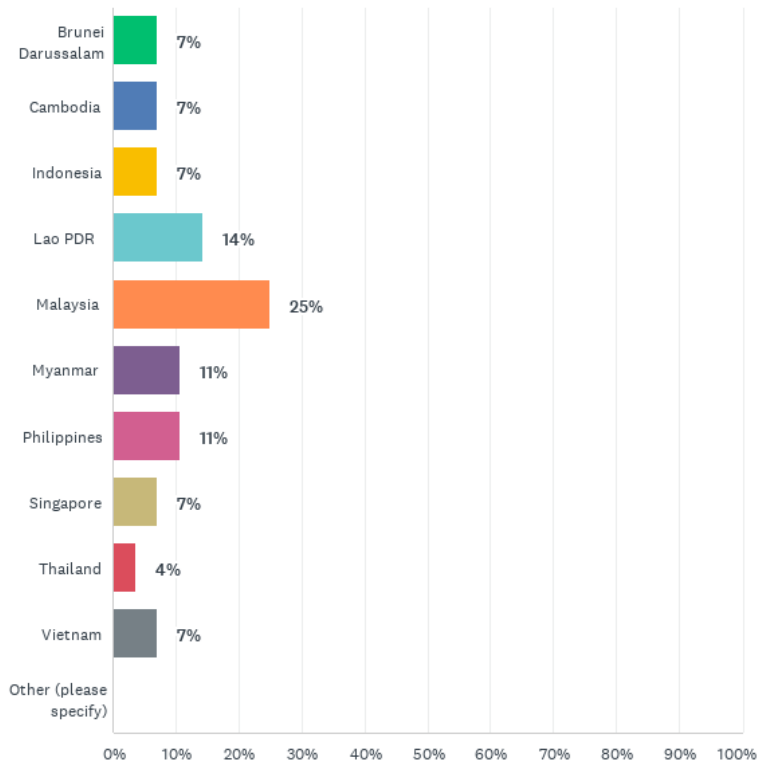
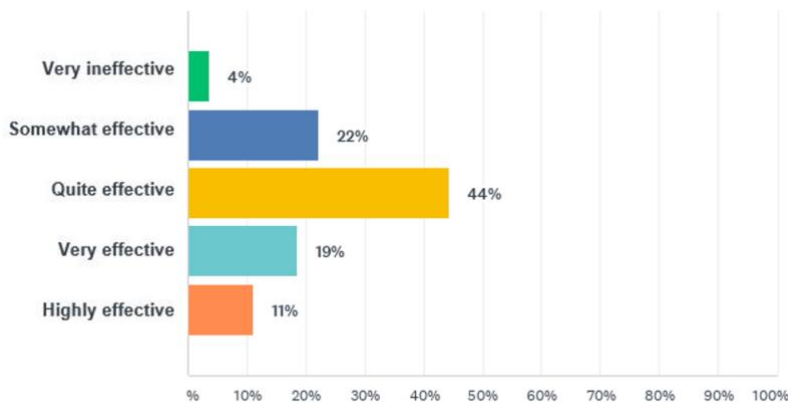


Exhibit 49 shows responses to a question regarding perceived effectiveness of government policies.

**Exhibit 49: From your perspective, how effective are your Government’s policies that are designed to assist digital start-ups and more mature digital businesses?**



Respondents were also asked for comments in this question regarding other policies or approaches they thought were effective. The following comments were offered.

- Government has established the 1000 startups program that designed for society who wants to create technological solutions to solve various problems by building digital startups. This program also include online seminar to facilitates and provides insights from relevant such as startup industry and regulators. During 2020-2022, the program has generates 1160 startups
- The most effective policies are related to income tax, personal tax, start-up license

- Government collaborative efforts show great results in the development of overall Philippine economic and digital growth
- The government, as a policy maker, develops policies, regulates with the private sector, and collaborates Business policies are used as a guideline for federal or state regulatory requirements, legal issues, and other situations that can lead to severe consequences for startups and other businesses. Currently, Cambodia has implemented the Cambodia Digital Economy and Society Policy Framework, which is massively effective.
- Malaysia Digital Economy Corporation (MDEC) believes that policies such as: 1. Malaysia Digital Economy Blueprint (MyDigital), which aims to transform Malaysia into a digitally driven, high income nation and regional leader in digital economy; and 2. Malaysian Startup Ecosystem Roadmap (SUPER) that aims to create a robust ecosystem for startups to flourish and ultimately result in shared prosperity, are effective policies that were designed to support digital start-ups and enhance the digital businesses within the nation. With the implementation of the blueprint and roadmap, Malaysia's Digital Economy is now contributing 23% (as at 2022) to the nation's GDP and in a good trajectory to achieve 25.5% target by 2025 and in the midst of achieving 5 unicorns by 2025
- Myanmar DEDC roadmap enables relevant government agencies to cooperate for digital transformation and digital development of digital start-ups and digital trade. DEDC has prioritized SMEs and start-ups in its priority sectors
- Malaysia Startup Ecosystem Roadmap (SUPER), Malaysia Digital Economy Blueprint (MyDigital), and National 4IR Policy
- There are elaborate schemes and efforts available to help digital start-ups and more mature businesses in the industry with specialist agencies in place to drive digital economy as a whole.
- It is quite effective in general, due to the limited dissemination of information, which prevents it from reaching the majority of citizens.

Exhibit 50 shows responses to a question regarding the perceived importance of investment from four different sources: local, overseas investors inside ASEAN, overseas investors outside ASEAN and US investors. An important conclusion from this question is that respondents regard local investment and investment from inside ASEAN to be more important than investment from outside ASEAN. In fact, 7% of respondents believe that investment from United States is unnecessary or irrelevant.

**Exhibit 50: How would you rate the importance of investment from the four sources below?**

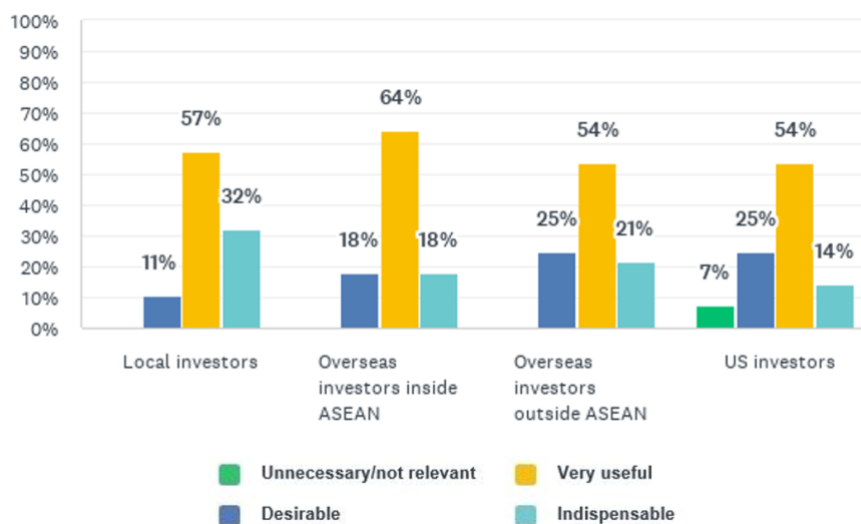
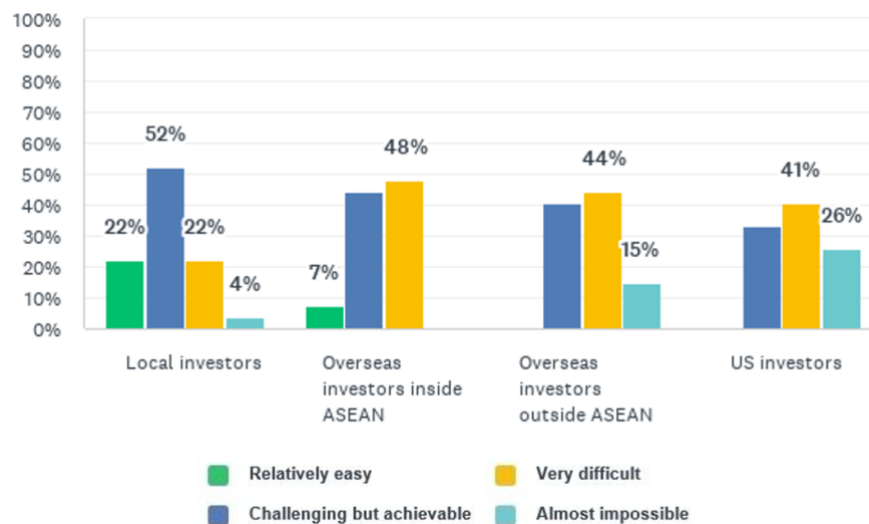


Exhibit 51 shows the distribution of responses to a question about the difficulty of securing funding from the sources in the previous question. An important observation from this set of responses is that it suggests that attracting funding from investors inside ASEAN while difficult is not regarded by any view respondents as ‘almost impossible’.

It is also noteworthy that 26% of respondents to the question believe that attracting investment from United States is ‘almost impossible’.

**Exhibit 51: How would you rate the ease or difficulty of accessing funding from the sources below of investment from the four sources below?**



In another question, respondents were asked: *Do have any comments, ideas or suggestions regarding policies that governments could adopt to effectively encourage digital start-up and business growth?* Responses included the following.

- Startup ease of doing business, including licensing 2. digital sandbox 3. access to funding/incentive
- Fund accessibility and guidance
- Set up digital incubator center and create favorable digital start up system through policies on tax, funding, technology.
- Benchmarking opportunities where one city can adopt or replicate another city's best practices.
- Government support to startups such as funding, incubation, etc.
- Four policies Suggestions that should have an impact on entrepreneurship include tax policy, regulation, start-up costs and access to capital markets, and legal protection and property rights.
- MDEC is in the opinion that periodic assessments of policies and its progress would help to identify its relevancy to current economic conditions and trends. With end-to-end approach and facilitation through single platform from ideation to matured stage, it will effectively encourage digital start-up and business growth.
- The Lao Telecommunication Regulatory Authority has proposed several policy ideas to promote digital startup and business growth in Laos. These include efficient spectrum allocation, regulatory clarity, digital inclusion, transparent spectrum auctions, consumer protection, promotion of local content, collaboration with startups, cybersecurity



framework, capacity building, research and development, international standards adherence, 5G deployment, e-government integration, regulatory impact assessment, and stakeholder engagement. These suggestions aim to create an environment that supports digital innovation and business growth while ensuring responsible development of the telecommunications and digital sectors. The authority also emphasizes the importance of bridging the digital divide, promoting local content development, and aligning regulatory standards with international best practices.

- use email only, do not accept hard copy application. hope that government will process in the timely manner. evident on the email that applicants refused because of what reasons.
- Streamline and simplify regulations to reduce bureaucratic barriers for startups. Implement policies that make it easier and faster to start a business, obtain licenses, and comply with regulations, particularly in digital sectors where technology evolves rapidly.
- having a one-stop information center
- As small as the country's market, collective collaboration or cooperatives startups may help to show case a success startup boosting more engagements in the industry.
- No fee is charged for 2 years.
- The government should adopt a Digital Economy Policy
- Governments should place a high emphasis on investing in a resilient digital infrastructure, encompassing elements such as high-speed internet access and data centers. A dependable infrastructure forms the cornerstone of the digital economy. Additionally, they have the opportunity to create and financially support incubators and accelerators, offering startups valuable mentorship, resources, and workspace. These initiatives can expedite the growth of startups and assist them in overcoming their initial hurdles. Furthermore, governments can simplify interactions between businesses and government agencies, as well as the process of obtaining essential permits and licenses, by transitioning to digital transformation in their service delivery.
- 1) Promote tie-ups with international start-ups as a means to grow regionally/globally 2) Allow angel investors to have tax benefits in return for investing and offering mentorship

# 9 POLICY CONSIDERATIONS AND RECOMMENDATION

This Section provides a discussion of considerations that inform policy recommendations and a set of policy recommendations categorized by AMS digital maturity.

## 9.1 Policy considerations for responding to the new funding environment

### No longer business as usual

This report has considered the factors that drive foreign investment in ASEAN digital businesses. It has emphasized the differences between the drivers of investment in digital businesses and the quite different drivers of international investment flows.

The fact that ASEAN finds itself in a highly dynamic period of international investment has also been emphasised. The last two decades has seen the remarkable achievement of ASEAN's new digital business sector being integrated into global venture capital markets. This was due partly to the economic development of the region and expanding opportunities for investors. But it was also due to the enormous volume of investment capital made available in response to an extended period of low interest rates globally. Another important development over this period has been the substantial increase in ASEAN's ability to make large contributions to its own business funding requirements.

The era during which these changes and achievements occurred has now ended. It is highly unlikely that a low interest rate environment will return within the next 5 to 6 years. Intertwined and interrelated with these economic changes are powerful geostrategic upheavals which mean that the next two decades will be very unlike the past two decades.

Given these considerations, the key question is how ASEAN can maximise the growth of its digital business sector over the next 5 to 10 years on the assumption that overseas investment inflows will be lower than the trend established over the last two decades.

A new environment requires new thinking, new ideas and new policies – a 'business as usual' approach is unlikely to be productive. Prior to working through the implications of this changed environment, however, it is useful to quickly review the existing policy environment, which has been discussed above.

## Current investment drivers and policy settings

Current policy settings designed to stimulate the development of ASEAN's digital economies and digital business ecosystems are responses to the drivers of international investment at the business and national levels.

As discussed in Section 4.3, the drivers of investment in digital businesses include:

- Market opportunity
- Business scalability
- Potential for market power
- Low barriers to entry
- Valuable intellectual property
- Leaders, teams and talent
- Early market traction
- General positive investor sentiment for technology investments
- Attractiveness of alternative investment opportunities.

Section 5.2 described the drivers of overseas investment in ASEAN, including:

- Quality of institutions, rule of law, IP protection
- Equity markets: size and activity
- Taxation and regulation
- Economy and market size and growth potential
- Digital infrastructure and services
- Digital skills
- Government support for digital businesses.

A typical list of policy initiatives to stimulate digital business (and business more generally) includes (see Section 8 for more detail):

1. Infrastructure Development and Spectrum Management
2. Digital Education and Skill Development
3. Regulatory Frameworks and Practice
4. Financial Support and Incentives, Incubators/Accelerators
5. Cybersecurity Measures
6. Digital Payment Systems
7. E-Government Services
8. Promotion of Research and Development
9. Cross-border Collaboration and Policy/Systems Alignment
10. Taxation Policy.

Many, if not, all of these drivers and policy responses are still relevant and useful. Additional responses that take account of the changes investment environment and discussed below.

## Responding to new circumstances

This year, The Economist published its 23 September 2022 edition under the heading *Investing in the neighbourhood: Asia's new model of regional integration*. The lead article in this edition was titled, *How Asia is reinventing its economic model: The continent's future will involve less Western influence*.

If The Economist has identified and articulated a substantive trend towards deepening Asian economic integration, then this represents fortuitous timing in relation to the investment trends described in this report – greater Asian economic integration can help offset declines in inbound capital flows.

Exhibit 52 shows the growing economic integration of Asia through the lens of trade. Between 1990 and 2021, inter-regional trade as a proportion of total trade increased from less than 45% to almost 60%. Exhibit 52 also shows the growth in investment from within Asia by country.

### Exhibit 52: Economic change in Asia



Source: Bain, SEA Venture Capital Investors Survey, Q3 2022

As the scale and integration of Asia's and ASEAN's national economies continues to grow, the region will be increasingly able to meet its own need for capital for business growth. *This suggests that a significant part of the solution to the decline of overseas investment from outside ASEAN is overseas investment from within ASEAN.*

What do these developments imply for policy in ASEAN that is designed to stimulate the growth of digital businesses and ASEAN's digital economy?

One early and obvious conclusion about the direction of policy development is that it should support ongoing and deepening integration of ASEAN national economies because this will benefit ASEAN digital start-ups in several ways. While such integration is clearly a trend, it should not be assumed that deeper integration is inevitable – there may be obstacles and holdups along the way that require policy

intervention. But before moving to specific policy recommendations, it is appropriate to layout some additional consideration.

### Additional policy considerations

In addition to all factors that have been discussed above there are further considerations that will be useful in forming specific policy recommendations.

#### Specific and systemic policy

Policies to support the development of digital businesses can be specific or systemic. A specific policy would be, for example, funding an incubator/accelerator for digital start-ups. A systemic policy would be lowering the level of capital gains tax which would benefit digital businesses but would also be an economy-wide intervention. Obviously, systemic interventions have wide impacts well beyond digital businesses and the digital economy and therefore they are harder to get agreement for and have effects on the economy that need to be carefully considered.

Whether it is better to lean towards specific or systemic policy will depend on multiple factors, including how mature are a country's capital markets. The larger and more developed a country's capital markets, the less likely it is that specific policy interventions will be necessary or useful – a mature capital market will tend to direct investment to wear it is most productively deployed.

#### Mature and less mature capital markets

Singapore is one of the most mature and sophisticated capital markets in the world whereas Cambodia and Lao PDR have much less well-developed markets with far lower supply of investable funds. Therefore, a policy intervention that works in Singapore may be all but useless in Cambodia or Lao PDR and vice versa. The other ASEAN nations are somewhere in between. In general, in countries with more developed capital markets, specific policy interventions will be less useful because well-developed capital markets can be relied on to seek out and fund promising opportunities.

#### Early stage and later stage funding

As has been discussed throughout this document, the funding needs of digital businesses are quite different at different development stages. Very early-stage investment which typically comes from categories of investors such as 'families and friends' or 'angel investors', is far more likely to be available in relatively economically advanced countries where these groups have substantially more investable capital assets than in less well-developed countries. In less well-developed economies, early-stage investment may be practically non-existent. Early-stage investment tends to be much more local than later stage investment. This suggests that, while government intervention for early-stage investment may be unnecessary in relatively developed countries, it may be very useful in less-developed nations.

Later stage funding tends to be much more transnational than early stage funding. Therefore, if a start-up can achieve initial growth in a less-developed country, it is likely to be able to attract funding from overseas investors once it has reached this stage.

#### Consumer and employee digital skills and externalities

Training, education and skills development have a particular place in economic literature. The fundamental proposition is that skills and education not only benefit individuals but also the broader society because they enhance productivity and income per capita. In economic jargon, this means that education and skill

development create positive ‘externalities’. The implication is that, without government intervention to increase levels of education and skills development, there will overall be insufficient investment in these.

These arguments strongly support a role for government in general education and in assisting the general population to accumulate the digital skills necessary to participate effectively in the digital economy. A more digitally literate population is a positive for ASEAN digital businesses because it increases the effective market size for their products and services.

The case for government intervention for the development of on-the-job skills is less clear-cut. Digital businesses need a workforce with good digital skills. But businesses also have a very clear incentive to invest in making their employees more skillful. Therefore, it is arguable that governments do not need to subsidise the development of job-specific digital skills. Even so, digital businesses may underinvest in training because they know that employees may leave for other employers and it may be cheaper for them to poach employees from other businesses. Again, it may be useful to distinguish between more and less mature economies in more advanced economies, businesses are more likely to be able to invest in the required digital skills whereas in less-developed economies they may not.

Overall, governments should support the development of digital skills among groups where they are lacking and should consider supporting job specific digital skills in less-developed economies.

#### Timing matters

If the past two decades of low interest rates increased the supply of investable funds, the same period was also one of high demand for investment. The combination of the growth of Internet adoption to near universal levels in advanced economies and the smart phone revolution massively increased the size and sophistication of markets for digital products and services.

The new technologies that are pushing up through the hype cycle such as AI, VR/AR, IoT, and IR 4.0, may not generate the growth in the digital economy that their proponents expect.

In Asia, however, the Internet/smart phone boom still has room for significant growth in the medium, and even longer, term. As multiple ASEAN unicorns have shown, there is significant scope for growth of tech companies that build products and services customized for their own markets.

Thus, while in the US the demand for and supply of funds for digital companies may be waning relative to trend, in ASEAN demand is likely to remain strong while supply is newly constrained by the changes global financial environment.

## 9.2 Recommendations

One of the objectives of this report is to provide recommendations that are customized on the basis of the digital maturity of AMS. In Section 3, AMS were categorised into one of three levels of digital maturity: emerging, intermediate and advanced with Cambodia and Lao PDR being in the first category, Singapore and Brunei being in the third and the other AMS being in the second category.

For the purpose of this recommendation section, one additional category is used: ‘common/collaborative’ in addition to emerging, intermediate and advanced. The

additional category includes policies that are intended to encourage ASEAN-wide digital business and funding ecosystem integration. In addition, each of the policy recommendations are also categorised under the headings ‘systemic policies’ and ‘specific policies (see discussion above for the definition of systemic and specific policies).

It is important to point out that these policy recommendations are focused on encouraging the growth and development of digital businesses in ASEAN. This is a distinct objective from policies design to stimulate the growth of the digital economy more broadly. For more information on general ASEAN digital economy policies see an earlier ASEAN publication *ASEAN Post-COVID Digital Policy Priorities*.<sup>91</sup>

## 9.2.1 Policy Recommendations: Emerging Digital Maturity

### Systemic Policies

The four ‘systemic policy’ recommendations below aim to improve the market for digital businesses in Myanmar and Lao PDR.

#### Improve Infrastructure and Spectrum Management

Infrastructure development remains a high priority for AMSs with an emerging level of digital maturity. Cambodia’s 4G coverage is good but Lao PDR in particular needs significantly more investment in mobile infrastructure/coverage. Both countries need to significantly improve spectrum allocations and ongoing spectrum management (see Section 3.1). Levels of smart phone ownership are low in both countries and mobile voice and data packages are still high in both countries relative to per capita incomes.

#### Increase Digital Education and Skill Development/Digital Inclusion.

Both countries have relatively low levels of digital literacy. The use of digital services, in particular online banking services, remains very low and significantly behind AMS that are at an intermediate level of digital maturity. Along with improving access to communications services, digital literacy is essential for improving digital inclusion.

#### E-Government Services

Improving access to services and digital literacy are required before any meaningful uptake of e-government services can be achieved. At the same time e-government services can play an important role in encouraging internet adoption and improving in digital skills.

#### Regulatory Frameworks and Practice

In AMS emerging digital maturity, there is considerable scope for improving regulatory processes and skill sets in order to achieve more competitive and efficient outcomes in telecommunications markets. In addition, regulators in various areas which are relevant to the digital economy such as, cyber security and identity issues, digital payment systems and communications regulation, need to collaborate effectively with the objective of implementing policies that enable the growth of the digital economy.

It is noteworthy that both the ASEAN Digital Masterplan, ADM2025 and the Regional Comprehensive Economic Partnership have called for regulatory harmonization on

---

<sup>91</sup> ASEAN Post-COVID Digital Policy Priorities: How do COVID-19 and emerging economic drivers change ASEAN digital policy priorities? ASEAN 2022. [asean.org/wp-content/uploads/2023/04/Completion-Report-ASEAN\\_Post-Covid\\_Digital\\_priorities.pdf](https://asean.org/wp-content/uploads/2023/04/Completion-Report-ASEAN_Post-Covid_Digital_priorities.pdf)



matters such as electronic commerce and cyber security. These requirements will put pressure on countries in the emerging digital maturity category to accelerate their regulatory outcomes.

## Specific Policies

### Financial Support and Incentives, Incubators/Accelerators

As described above, it is much more difficult to attract early-stage digital business funding in emerging economies than it is in more developed ones. This means that early-stage funding may be an absolute barrier to e-business development in Lao PDR and Cambodia. On this basis, providing early-stage assistance may be critical in enabling digital entrepreneurs to start new businesses with the potential for growth. Financial assistance will necessarily be modest, and governments need to be mindful that most early-stage businesses will fail. The objective of such policy should be to bring businesses to a stage where they can attract additional capital either from the domestic market or from neighboring AMSs.

## 9.2.2 Policy Recommendations: Lower Intermediate Digital Maturity

In the case of AMS with lower intermediate levels of digital maturity – Philippines and Cambodia – digital inclusion issues such as infrastructure development, digital literacy and government digital services are all important. These factors are constraining opportunities for digital company development in these countries.

## Systemic Policies

The systemic policy priority recommendations for AMS with intermediate digital maturity emphasise a set of infrastructure, skills and inclusion policies. In addition, regulatory and institutional innovation designed to make secure digital transactions easier and more widespread are necessary. Such measures are central to enabling all forms of digital commerce supporting the growth of digital businesses in ASEAN.

### Improve Infrastructure, Spectrum Management and Telecommunications Regulation

Infrastructure development remains a high priority for AMSs with an emerging level of digital maturity. Both countries need to significantly improve spectrum allocations and ongoing spectrum management (see Section 3.1). Levels of smart phone ownership are low in both countries and mobile voice and data packages are still high in both countries relative to per capita incomes.

### Increase Digital Education and Skill Development/Digital Inclusion

Both countries have relatively low levels of digital literacy. The use of digital services, in particular online banking services, remains very low and significantly behind AMSs that are at a higher intermediate level of digital maturity. Along with improving access to communications services, digital literacy is essential for improving digital inclusion and growing the size of markets for digital businesses.

### E-Government Services

Improving access to services and digital literacy are required before any meaningful uptake of e-government services can be achieved. At the same time e-government services can play an important role in encouraging internet adoption and improving in digital skills.

## Cybersecurity/Digital Identity Measures/Digital Payment Systems

Cybersecurity and digital identity measures and trusted digital payment systems are essential for increasing the efficiency and lowering the risks of all forms of digital transactions. Such measures will encourage end users to participate more fully in the digital economy and therefore they represent a way that effective market size available to digital businesses can be increased. Several countries have made enormous progress by committing to digital identity systems. For example, India, has hugely accelerated its digital economy and its e-government services by rolling out a comprehensive digital identity system.

The ASEAN Cybersecurity Cooperation Strategy (2021 – 2025)<sup>92</sup> lays out an agenda for the region with its emphasis on: (1) Advancing Cyber Readiness Cooperation; (2) Strengthening Regional Cyber Policy Coordination; (3) Enhancing Trust in Cyberspace; (4) Regional Capacity Building; and (5) International Cooperation.

## Specific Policies

### Financial Support and Incentives, Incubators/Accelerators

As is the case with countries in the emerging digital maturity category, countries in the lower intermediate category are relatively difficult environments in which to form digital businesses.

Both Cambodia and, to a lesser extent, Philippines do not have significant amounts of domestic capital to invest in new digital businesses. Providing early-stage assistance may, again in this category, be critical in enabling digital entrepreneurs to start new businesses with the potential for growth. Some form of government assistance in the form of modest early-stage financial support, support with expertise and support for incubator/accelerator platforms may be of assistance in getting these countries' digital ecosystems growing more strongly.

## 9.2.3 Policy Recommendations: Higher Intermediate Digital Maturity

The largest group of AMSs – Viet Nam, Malaysia, Thailand, Brunei Darussalam and Indonesia – are assigned to this category. In these countries, digital inclusion issues such as infrastructure development, digital literacy and government digital services all remain important. Nonetheless, these countries are at a stage of digital development where *such factors are not likely to significantly inhibit the development and growth of digital business ecosystems*, so these policies are not recommended in the context of policies designed to stimulate the digital sector. All of these policies still remain relevant and important in the context of growing the value of AMS digital economies.

AMSs that are at the higher intermediate level of digital maturity can make significant contributions to the integration and growth of ASEAN's regional digital business ecosystem by participating in the measures that are discussed below under 'common/collaborative' policy recommendations (see Section 9.2.5).

## Systemic Policies

The systemic policy priority recommendations for AMSs with higher intermediate digital maturity emphasise a set of regulatory and institutional developments designed to enable secure digital transactions along with increasingly sophisticated

92 [asean.org/wp-content/uploads/2022/02/01-ASEAN-Cybersecurity-Cooperation-Paper-2021-2025\\_final-23-0122.pdf](https://asean.org/wp-content/uploads/2022/02/01-ASEAN-Cybersecurity-Cooperation-Paper-2021-2025_final-23-0122.pdf)

cyber security measures. Such measures are central to enabling all forms of digital commerce which strongly support the growth of digital businesses in ASEAN.

#### Cybersecurity/Digital Identity Measures/Digital Payment Systems

Cybersecurity and digital identity measures and trusted digital payment systems are essential for increasing the efficiency and lowering the risks of all forms of digital transactions. Such measures will encourage end users to participate more fully in the digital economy and therefore they represent a way that effective market size available to digital businesses can be increased. Several countries have made enormous progress by committing to digital identity systems. For example, India, has hugely accelerated its digital economy and its e-government services by rolling out a comprehensive digital identity system.

Again, The ASEAN Cybersecurity Cooperation Strategy (2021 – 2025) defines the regional policy agenda in these areas.

#### Regulatory Frameworks and Practices including Spectrum Management

As was the case in the lower intermediate category of digital maturity, regulatory frameworks and practices are also critical for intermediate digital maturity AMSs. The rapidly evolving digital economy requires constant reassessment of regulatory settings and practice in order to maintain and strengthen communications market competition and end user focus. As discussed above, of particular importance is spectrum management especially in countries with relatively underdeveloped fixed infrastructure.

### Specific Policies

#### Supporting Regional Digital Integration and Collaboration

Given the relatively good performance in digital maturity indicators for Viet Nam, Malaysia, Thailand, Brunei Darussalam and Indonesia and/or given they are relatively large national markets, direct interventions in the form of financial support or subsidization of incubator/accelerator organisations may be of some use but more likely to accelerate the growth of digital business ecosystems would be increasing the level of ASEAN-wide ecosystem integration. AMSs in the higher intermediate digital maturity category have a central role to play in the emergence of ASEAN as a global digital business leader (see Section 9.2.5 below).

### 9.2.4 Policy Recommendations: Advanced Digital Maturity

#### Leading Regional Digital Integration and Collaboration of Digital Business and Funding Ecosystems

Singapore has world leading digital infrastructure, regulation and digital policies. It is one of the leading territories for digital business and funding ecosystems in Asia and globally. On every digital metric, Singapore leads ASEAN, and it can play a role in advancing the integration of ASEAN digital business and funding ecosystems. Given this positioning, recommendations for the advanced digital maturity category appear in the ‘common/collaborative’ category because it is in this role that Singapore could greatly contribute to the ASEAN digital business ecosystem.

### 9.2.5 Policy Recommendations: Common/Collaborative

The emphasis for the policy recommendations in the category ‘common/collaborative’ is to increase the level of regional integration of digital business and funding ecosystems within ASEAN. This is consistent with the ASEAN Secretariat’s focus on higher levels of trade, economic and financial integration.

In the context of a potential significant and long-term decline of inbound funding to the region, the fact that ASEAN has a significant and growing ability to self-fund the development of its digital business sector is of great importance and is a capability that should be nurtured. This capacity for regional self-funding needs to be maximized if the growth of the digital sector is to be maintained and even accelerated in the new and still unfolding global economic and geostrategic context. Furthermore, it is important to emphasise that, if at some point conditions change in such a way that investment from outside ASEAN has the potential to return to previous levels, an enhanced regional integration will make ASEAN even more attractive to external investors.

## Systemic Policies

### Align Regional Capital Movement Policies and Payment Systems

ASEAN governments should continue with current efforts to create seamless payment systems across all AMS, aiming to implement the recommendations of the ASEAN e-Payments Coalition e-Payments Recommendation Paper. Given the rate of innovation in the digital payment space, this will necessarily be an ongoing effort.

### Align Regional Taxation Systems, Particularly Capital Gains Taxes and Taxation Treatment of Equity-Based Compensation

Capital gains taxes and the taxation treatment of equity-based compensation are important factors that affect the ability of start-up companies to attract capital and pay early-stage employees. To the extent that such policies are not aligned across ASEAN, the integration of funding ecosystems will be inhibited within the region.

### Cybersecurity/Digital Identity Measures/Regulatory Frameworks

Policies, laws and institutions in the areas of cyber security, digital identity and other regulatory frameworks need to be aligned and consistent across ASEAN. Again, without such alignment, the integration of digital businesses and funding ecosystems will be limited.

## Specific Policies

### Develop an ASEAN Technology Stock Market based on the US NASDAQ Model

The US NASDAQ stock exchange was established in 1971 in New York and has become the preferred stock market for technology companies in the United States and much of the rest of the world.

With a population of over 680 million and an aggregate nominal GDP of almost US\$4 trillion and a rapidly growing technology sector, ASEAN has the scale to support a new stock market that is explicitly designed to support technology companies at the regional level.

An ASEAN stock exchange would create many benefits for the region's technology sector. It would focus regional and international attention on the industry, creating a global brand for the sector. This would raise the profile of ASEAN tech companies to international investors. It would increase the attractiveness of the sector by increasing the probability of, and decreasing the timeline to, IPO which would raise investors' internal rate of return. The new tech exchange would send a positive message to ASEAN would-be entrepreneurs, and it would further validate the sector in the minds of ASEAN policy makers and politicians, making them more inclined to adopt facilitating policies. The discipline of a tech-focused exchange would improve

the quality of financial and business information and lead to higher standards, further improving the confidence of investors about the region and the sector.

A new tech exchange would have powerful symbolic value for the region. It would be an indicator of economic and financial maturity, in effect stating that the region is now operating on a similar basis to the US.

This concept was suggested by David Cowdery of Jungle Venture during stakeholder consultations.

### Establish an Annual ASEAN Digital Business Funding Conference and Start-up Showcase

Establishing a high profile and well-funded ASEAN-wide tech conference and start-up showcase would generate a set of benefits similar to those likely to flow from a new tech exchange. The event would be explicitly for investors as well as companies and the emphasis would also be explicitly on connecting start-ups and investors.

The inclusion of the regional tech media, government, relevant ministries and more mature tech companies would be essential for the concept's success. Also important would be the involvement of high-profile US tech companies. Critical success factors would include: overall scale, widespread commercial involvement and support and support from all ASEAN governments.

## 9.3 Conclusion

Exhibit 53 provides a summary of the recommendations from the previous section.

Many of the recommendations are similar to those typically promoted for improving national digital economies, for example, improving digital skills, deploying more e-government services, improving telecommunication services, and improving regulatory frameworks and practices. This to be expected because stronger digital economies and good for digital businesses – they create higher levels of digital skills, better digital infrastructure and bigger markets for digital entrepreneurs.

The recommendations that are specific to digital businesses are also relatively common in digital economy policy statements, and these include cybersecurity/digital identity measures/digital payment systems initiatives, development accelerator/incubators and various types of support policies for early-stage start-ups.

The most significant proposals in this report, however, relate to higher levels of digital policy and digital economy integration within ASEAN including: aligning payment systems, taxation treatments, and, again, cybersecurity/digital identity measures/digital payment systems.

This set of policy actions will make ASEAN more attractive to investors from outside the region. But it will also make investment in digital businesses in the digital economy more attractive to ASEAN investors. Furthermore, it will encourage digital trade and expand opportunities for digital start-ups.

In terms of population, economics, and finance, ASEAN now has the scale to provide much of the finance it needs to sustain growth and innovation. To get the benefits of the scale it will need to focus on policies and institutional developments that reduce the frictions to trade and investment within the region. It is not paradoxical that, in

taking such measures, ASEAN will also make the region more attractive to investors from the US, Europe and elsewhere.

**Exhibit 53: Recommendations summary table**

DIGITAL MATURITY CATEGORY/AMSS	SYSTEMIC POLICIES	SPECIFIC POLICIES
<b>Emerging Digital Maturity</b>  <b>LAO PDR</b> <b>MYANMAR</b>	<ol style="list-style-type: none"> <li>1. Improve Infrastructure and Spectrum Management</li> <li>2. Increase Digital Education and Skill Development/Digital Inclusion.</li> <li>3. E-Government Services</li> <li>4. Regulatory Frameworks and Practice</li> </ol>	<ol style="list-style-type: none"> <li>1. Financial Support and Incentives, Incubators/Accelerators</li> </ol>
<b>Lower Intermediate Digital Maturity</b>  <b>CAMBODIA</b> <b>PHILIPPINES</b>	<ol style="list-style-type: none"> <li>1. Improve Infrastructure, Spectrum Management and Telecommunications Regulation</li> <li>2. Increase Digital Education and Skill Development/Digital Inclusion</li> <li>3. E-Government Services</li> <li>4. Cybersecurity/Digital Identity Measures/Digital Payment Systems</li> </ol>	<ol style="list-style-type: none"> <li>1. Financial Support and Incentives, Incubators/Accelerators</li> </ol>
<b>Higher Intermediate Digital Maturity</b>  <b>INDONESIA</b> <b>MALAYSIA</b> <b>VIETNAM THAILAND</b> <b>BRUNEI DARUSSALAM</b>	<ol style="list-style-type: none"> <li>1. Cybersecurity/Digital Identity Measures/Digital Payment Systems</li> <li>2. Regulatory Frameworks and Practices including Spectrum Management</li> </ol>	<ol style="list-style-type: none"> <li>1. Supporting Regional Digital Integration and Collaboration</li> </ol>
<b>Advanced Digital Maturity</b>  <b>SINGAPORE</b>	<ol style="list-style-type: none"> <li>1. Leading Regional Digital Integration and Collaboration of Digital Business and Funding Ecosystems</li> </ol>	
<b>Common/Collaborative</b>	<ol style="list-style-type: none"> <li>1. Align Regional Capital Movement Policies and Payment Systems</li> <li>2. Align Regional Taxation Systems, Particularly Capital Gains Taxes</li> </ol>	<ol style="list-style-type: none"> <li>1. Develop an ASEAN Technology Stock Market based on the US NASDAQ Model</li> </ol>

	and Taxation Treatment of Equity-Based Compensation 3. Cybersecurity/Digital Identity Measures/Regulatory Frameworks	2. Establish an Annual ASEAN Digital Business Funding Conference and Start-up Showcase
--	---	--

Source: Windsor Place Consulting 2023



Windsor Place Consulting Pty Ltd (WPC) is internationally recognised as an outstanding provider of advice to the information industries. The firm, established in 2000, works extensively in telecommunications, media, and information technology, both in the development of commercial strategies for the private sector and the formulation of national policy and legislative settings for public sector clients. WPC’s team members have a long association with these industries, having been actively involved through various stages of market liberalisation, from the introduction of competition in Australia in the 1990’s to the drafting and implementation of modern convergence legislation in a range of countries especially in Asia, Africa and the Pacific.

WPC has undertaken projects in each and every ASEAN Member States more than 20 years including engagements for Governments, regulators, licensed operators, investors and international organisations such as the International Telecommunications Union (ITU), the World Bank, ASEAN, Asia-Pacific Telecommunity (APT) on range of issues including legislation, spectrum, broadband policy, interconnection, tariff regulation and training.

This report was prepared by Mr Simon Molloy with significant inputs from Mr Scott Minehane and was supported by research by WPC’s researchers including Ms Shelley Shim.

WPC sincerely appreciates the collective efforts and contributions that have shaped this truly ASEAN report on 'Assessing the Relationship Between ICT Infrastructure and Digital Skills and the Inflow of Foreign Investment to the ASEAN ICT Sector'. Special thanks to:

- H.E. Academician Prof. Boviengkham VONGDARA, Minister of Technology and Communications, Deputy Minister H.E. Dr. Santisouk SIMMALAVONG and Deputy Minister H.E. Keovisouk Solaphom, for their inspiring leadership.
- The Ministry of Technology and Communications of Lao PDR team, led by Mr. Phoukhong CHITHOUBLOK, ADGSOM Chair, with the valuable efforts of Ms.



Phavanhna DOUANGBOUPHA, Ms. Malouny THIPPHAVONG, Ms. Pauline PHENGPROM, Ms. Daloun INTHARATH, Ms. Souphatsone SOUPHANTHONE, Ms. Chansavanh LADSAMYSYSHOUPHAN and the ASEAN Division of the International Cooperation team.

- Various companies and organizations, and their representatives, who provided critical insights and expertise including: David Gowdey, Managing Partner, Jungle Ventures; Stephen Nguyen, CEO, Opla CRM (Viet Nam); Souliyo Vongdala, Co-founder & CEO, LOCA (Laos), Ms. Vilaichit Senemangthong and Ms. Thouni Seneyakone (BAF or Business Assistance Facility, Laos). Other stakeholders provided inputs on a confidential basis.
- The ASEAN Member States (AMS), ADGSOM, and the ASEAN Secretariat for their significant roles in developing this report.
- The ASEAN Member States (AMS), ADGSOM, and the ASEAN Secretariat for their significant roles in developing this report.

Your combined inputs have been instrumental in creating a comprehensive and insightful document, reflecting the rich tapestry of ASEAN's ICT landscape.