



Reimagining ASEAN: The digital journey to 2025

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Evolving digital technologies have the potential to transform industries, enrich lives and propel global progress. For ASEAN in particular, embracing digital technology could prove the key to a more dynamic, networked and innovative region by 2025 – driving new economic activities and realising the full potential of its young demographic. So what are the opportunities – and main barriers – to a globally recognised and digitised ASEAN? And is there a chance that greater digitalisation could backfire?



The ASEAN Economic Community (AEC) is the biggest single economic policy initiative for its members in Southeast Asia. With the 2015 deadline passed, ASEAN member states have agreed a blueprint to complete the programme by 2025. Much of the new framework takes its lead from the 2015 goals – with emphasis on creating a more cohesive, competitive, and inclusive ASEAN. However, there is one key difference between the two blueprints: the 2025 AEC vision has placed significantly greater emphasis on the need for ASEAN countries to embrace evolving digital technology – aligning the initiative with ASEAN’s Information and Communication Technology Masterplan 2020 and the Master Plan on ASEAN Connectivity 2025.

With several crucial initiatives depending on the

implementation of digital channels, we must ask and answer a number of questions: how far has ASEAN come on its digital journey to date? Is digital technology becoming more readily available in the region? Is it gaining traction? And how is it contributing to the various ASEAN goals? What roadblocks stand in the way of a more-digitalised ASEAN economy – and how can they be removed? Do greater levels of digitalisation pose any risk that might need attention? The responses to these questions will help to establish our starting point on the journey to 2025. After all, as Varun Mittal, Head of Partnerships at Singapore Fintech Association, points out; “The goals for technology, including financial technology, are not visible. Nor are they time-bound or easily measurable. So how do we monitor whether we are on track?”

Embracing digital technology: Where is ASEAN now?

Digital technology (notably mobile internet, cloud technology, the Internet of Things (or IoT) blockchain and Distributed Ledger Technology (or DLT) and Big Data and its advanced analysis) is transforming industries, enriching lives, and boosting economic potential and progress across the world. ASEAN is no different.

“Digital technology offers a means by which the AEC can move closer to its overarching vision of a more integrated, prosperous and competitive ASEAN by 2025,” affirms Denis Hew, Director of APEC’s Policy Support Unit, an institution that has devoted much energy to exploring the impact of technological innovation on economic growth.

It’s indubitable that evolving digital technology could boost ASEAN to new levels of economic development. The successful implementation of a radical digital agenda is estimated to be able to add USD1 trillion to the region’s GDP over ten years, and help ASEAN leap to the forefront of global competitiveness as a world-leading digital hub.¹

¹ AT Kearney, ‘The ASEAN Digital Revolution’, p.12 - <https://www.atkearney.com/innovation/asean-innovation/asean-digital-revolution>.

The **AEC 2025 Consolidated Strategic Action Plan** (“the Plan”) includes a number of strategic measures that harmonise with the ASEAN ICT Masterplan 2020 and the ASEAN Telecommunications and IT Ministers Meetings. In particular, the Plan has a specific section on cross-border e-commerce transactions that includes measures such as establishing online dispute resolution systems, studying suitable mechanisms for the authentication of electronic signatures and trade documents, and promoting cybersecurity, regional data protection and privacy principles.

The **ASEAN ICT Masterplan 2020** (“AIM 2020”) seeks to propel ASEAN towards a digitally-enabled economy that is secure, sustainable and transformative, and to cultivate an innovative, inclusive and integrated ASEAN community. It consists of seven areas with clear action points and targeted projects, including promoting digital trade in ASEAN, addressing emerging or growing digital divides, supporting IPv6 adoption, establishing a model cloud-computing platform for use by private and public sectors, and encouraging human capital development. While AIM 2020 is for the period up to 2020, a number of action items have been extended to a 2025 deadline by the AEC Consolidated Strategic Action Plan.

The **Master Plan on ASEAN Connectivity 2025** (“MPAC 2025”) seeks to foster an integrated ASEAN community by forging physical, institutional and peer-to-peer communication channels. In order to achieve this, it focuses on five strategic areas – including digital innovation, seamless logistics and people mobility.

The common emphasis on digitalisation, application, inclusiveness and relevance for ASEAN citizens is clear.

ASEAN is gradually moving towards a digitally-enabled economy, and there are five clear tools with which to achieve this. These are:

1. a greater sense of financial inclusiveness and literacy to prepare citizens for the future;
2. measures to realise the under-tapped potential of e-commerce;
3. initiatives to expand digital trade and regionalisation;
4. efforts to encourage fintech and ICT as new growth sectors; and
5. initiatives to enhance ASEAN’s attractiveness as a destination for ICT-related Foreign Direct Investment (FDI). Their brief snapshots are below:

1 Promoting financial inclusiveness and literacy of ASEAN citizens

Digital technology is driving inclusivity among all citizens with access to a smart device. The World Bank estimates that 73-80% of people in Indonesia, Philippines and Vietnam, and about 30% in Malaysia and Thailand, have no banking relationships at present.² Access to digital finance, especially mobile financial services and cost effective remittances, is revolutionising this – transforming the economic prospects of millions of people.

In a number of ASEAN economies, initial hurdles related to regulations on fintech remittance service providers have now been overcome. This, in turn, has allowed fintechs in these economies to serve consumers with the latest technology and, in doing so, foster greater financial inclusiveness. For example, in the Philippines, COINS.PH³ is a central-bank-regulated fintech that allows peer-to-peer blockchain-based remittances using mobile smart devices. In Vietnam, meanwhile, the Bitcoin Vietnam Foundation – a private sector initiative – is gaining positive visibility with authorities in its bid to promote greater awareness of bitcoin as another viable peer-to-peer payment system.

² Deloitte, ‘The Digital Economy’; <https://www2.deloitte.com/content/dam/Deloitte/sg/Documents/about-deloitte/sea-about-aec-digital-economy-free-flow-of-data-2016.pdf>

³ <https://coins.ph/about>

2 Delivering on the under-tapped potential of global e-commerce

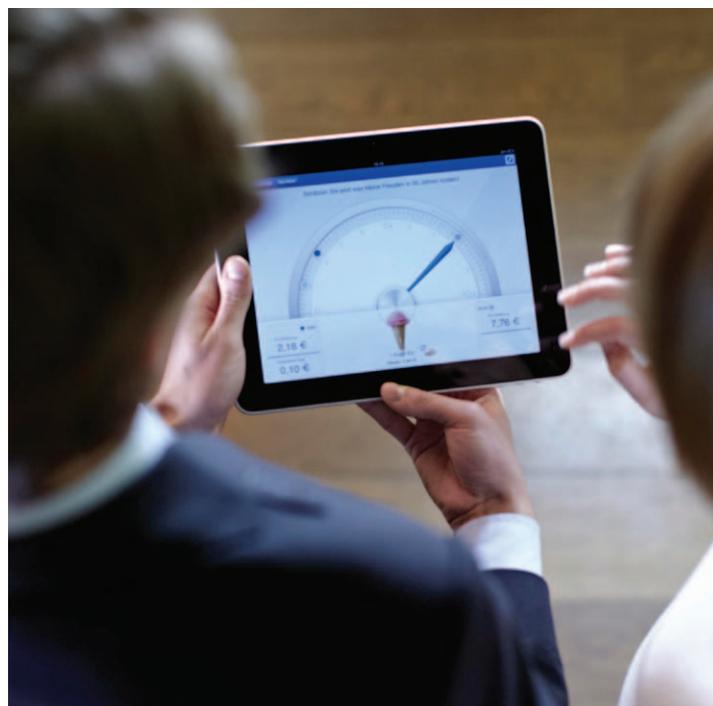
As the AEC noted in its 2025 blueprint, e-commerce plays a key role in facilitating both cross-border trade and foreign investment.⁴ With the right digital infrastructure in place, a far greater proportion of ASEAN's 630 million people will be able to engage in commerce across the region – and the wider world – at the click of a button. The rise of e-commerce will also facilitate growth in allied industries, such as infrastructure, logistics, financing and payments.

The power of this evolving industry should not be underestimated. Research undertaken by the University of Southern California (covering a number of economies, including those in the ASEAN 6) highlighted that between 60-80% of exporters utilising e-commerce survive their first year in business, compared to their digitally-reluctant counterparts which have just a 30-50% chance.⁵

This is a message that looks to be sinking in across the ASEAN region, as evidenced by the rise of regional e-commerce platforms such as Lazada⁶ and Alibaba's trade platform⁷ across Malaysia, Thailand and Indonesia, which can enable ASEAN to deliver on the potential of regional and global e-commerce.

3 Delivering on increased digital trade and regionalisation

Thirdly, technology is facilitating the development of ever-more digitally connected supply chains in ASEAN – working towards its goal to promote digital trade and increase business competitiveness. For example, around the start of 2018, Singapore is expected to launch its National Trade Platform (NTP) – a digital trade platform that will connect shippers to customs, logistics, warehouses, manufacturers and financial services with



digital documents and big-data analytics. The benefits can be further amplified via complementary legal reforms – to provide clarity and support for using electronic trade documents like e-bills of lading – and by connecting NTP to other economies in the future. The economic benefits are clear.

4 Encourage fintechs and ICT as new growth sectors

Greater digitalisation, together with financial- and technological-literacy, is also enabling service-sector entrepreneurship across ASEAN, as exemplified by companies such as *Gojek* in Indonesia or crowdfunding fintechs like *Crowdo* in Malaysia. Large and active communities of bitcoin, blockchain and fintech participants are exchanging ideas and information on new growth potentials, while ASEAN regulators like those in Singapore and Malaysia have launched “regulatory sandboxes” for fintechs to better prepare themselves. With ICT development strategies

⁴ ASEAN Economic Community Blueprint 2025 p.24. - http://www.asean.org/storage/2016/03/AECBP_2025r_FINAL.pdf.

⁵ University of Southern California; 'Cross Border E-commerce is the next Big Thing for MSME's' Article material\Digitisation\USC Marshall-ABAC 2015 - MSMEs in Cross-Border E-Commerce in APEC (003).pdf,

⁶ <http://asia.nikkei.com/Business/Companies/Lazada-Indonesia-aligns-business-model-with-Alibaba>

⁷ Examples include: <http://www.scmp.com/business/companies/article/2081154/alibaba-launches-malaysian-hub-electronic-world-trade-platform>;

<http://www.businesswire.com/news/home/20161208005584/en/Thailand-Alibaba-Group-Sign-Agreement-Thai-SMEs>;

http://www.chinadaily.com.cn/business/2017-04/13/content_28904125.htm;

<http://asia.nikkei.com/Business/AC/Alipay-operator-Ant-Financial-enters-Indonesian-market>

being pursued in various ASEAN countries, one eventual pay-off could be fintech training and education; software, cloud and IoT computing; hardware and infrastructure becoming sectors that propel ASEAN's next wave of prosperity.

5 Enhance ASEAN's attractiveness

Finally, by investing in digitisation, ASEAN can make itself a more attractive destination for foreign investment, including in the field of ICT. In a poll of investors across 15 countries including Indonesia, Thailand, and Vietnam, 65% favoured locations where governments have invested, or enabled investment, in internet and mobile infrastructure.⁸

ASEAN's trajectory

Indeed, ASEAN, blessed with a young, dynamic population (around 40% of its citizens are under 30), is making rapid digital progress over the past decade.⁹

If ASEAN were a single economy, it would rank third globally in terms of the number of mobile users (behind China and India), and fourth globally in terms of the number of internet users (behind China, India and the US).¹⁰

In addition to country-level progress, ASEAN's members are also making early headway globally – Singapore's digitalisation trajectory puts it at the top of the World Economic Forum's 2016 Network Readiness Index (which assesses the factors, policies and institutions that enable a country to fully leverage ICT for increased competitiveness and well-being). In particular, Singapore was commended for its Smart Nation Programme and "strong government commitment to the digital agenda".¹¹ However, it is not alone. Other ASEAN nations are also actively taking concrete steps to progress in their digitalisation efforts (see sidebar on page 6). In 2017, Vietnam reaffirmed its vision – which will be backed by government policy and

infrastructure – to become a cashless economy and to significantly improve electronic payment methods by 2020.

"While it's a hugely ambitious aim given the current cash habits, it's a clear sign of Vietnam's dedication to improving electronic payment methods and drive e-commerce adoption," says Jens Ruebbert at Deutsche Bank in Vietnam. "We are already seeing increased numbers of bank accounts, card payments and ATMs in Vietnam. This move will aid increased financial inclusion and, at the same time, drive costs down and increase efficiency for businesses."

Like elsewhere in ASEAN, Singapore and Malaysia have established a number of programmes to ensure that new technology is applied effectively: specifically to help local technology businesses turn their innovative ideas into reality – including government-aided equity financing, cash grants, business incubators, debt financing, and tax incentives.

Yet while much is being done to further the digital agenda, there are still significant gaps to be addressed and ASEAN can do much more as a region to create a new environment in which home-grown innovation can flourish and regionalise. For example, Indonesia and Vietnam – two of ASEAN's most populous economies with young demographics – still lack effective regulations to protect intellectual property and support digital entrepreneurs.

Despite the progress and steps in the right direction, ASEAN as a whole still has a way to go before it can be considered an "advanced digital region". In the WEF index, Malaysia was the only other ASEAN country besides Singapore to be placed in the top 40 (see figure on page 6). Clearly, there remains significant disparity between ASEAN countries in terms of the maturity of their digital frameworks.¹²

⁸ Deloitte, 'The Digital Economy'; <https://www2.deloitte.com/content/dam/Deloitte/sg/Documents/about-deloitte/sea-about-aec-digital-economy-free-flow-of-data-2016.pdf>.

⁹ AT Kearney, 'The ASEAN Digital Revolution', p.6; <https://www.atkearney.com/innovation/asean-innovation/asean-digital-revolution>.

¹⁰ Deloitte, the Digital Economy; <https://www2.deloitte.com/content/dam/Deloitte/sg/Documents/about-deloitte/sea-about-aec-digital-economy-free-flow-of-data-2016.pdf>

¹¹ <http://reports.weforum.org/global-information-technology-report-2016/economies/#economy=SGP>.

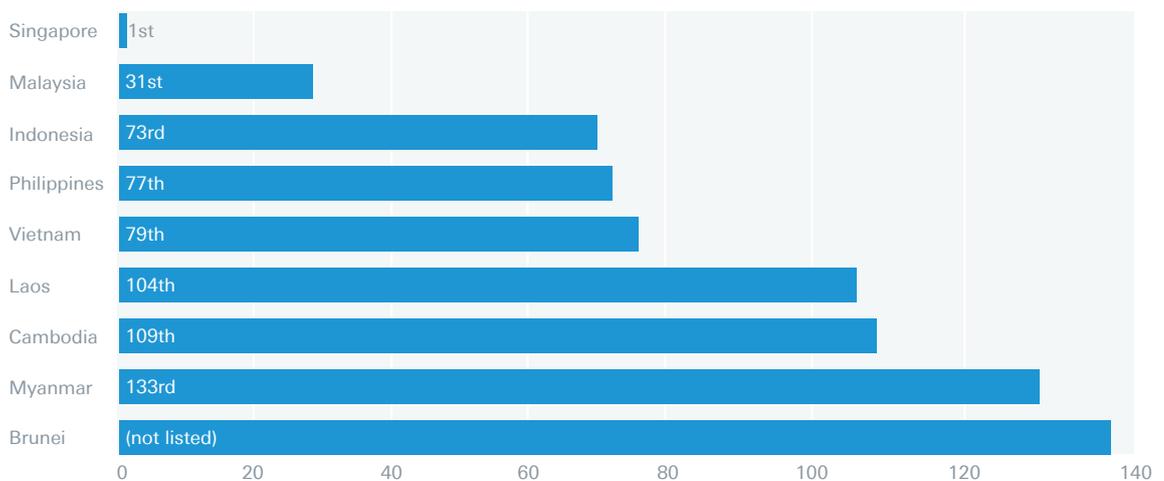
¹² World Economic Forum, "Global Information Technology Report 2016 – Innovating in the Digital Economy"; <http://reports.weforum.org/global-information-technology-report-2016/>

Select Digitalisation initiatives across ASEAN

- **Singapore’s Smart Nation Initiative:** Launched at the end of 2014, this initiative - intended to “use technology to improve lives, create economic opportunity, and build societal connectedness on top of digital connectivity” - involves a national agency and dedicated platform for coordinating efforts; a government commitment to spend 1% of its GDP on technological research and development; and “living laboratory” spaces for developing prototypes and pilot new solutions.
- **Thailand Digital Policy:** Thailand’s vision is to “maximise the use of digital technologies in all socio-economic fields; develop infrastructure, innovation, data and human capital; and drive the country towards wealth, stability, and sustainability.” This will be achieved through specific 1.5-20 year goals, from fostering start-ups to building Smart Cities.
- **Philippines’ ICT initiatives and National Broadband Plan:** The Philippines is currently finalising a plan to provide “open; pervasive; inclusive; affordable; and trusted” internet access for all within the next decade.
- **Malaysian Industry-Government Group for High Technology:** MIGHT serves as a “key interlocutor” between hi-tech organisations, addresses the effects of globalisation and trade liberalisation, and nurtures hi-tech industries with “catalytic intervention programmes”.
- **FinTech Association of Indonesia:** Started in 2015, this policy research institute aims to promote financial technology both within Indonesia and by connecting to other international institutions. It partners with the central bank and other government agencies and holds various events and festivals to stimulate the national fintech ecosystem.
- **State Bank of Vietnam Steering Committee on FinTech:** Implemented in 2017, the Steering Committee brings together the State Bank, representatives from departments within the central bank, and the National Payment Corporation of Vietnam to encourage the development of fintechs.

World Economic Forum’s 2016 Network Readiness Index Rankings

ASEAN Country Ranking in the World Economic Forum’s 2016 ‘Network Readiness Index’



Material from: <http://reports.weforum.org/global-information-technology-report-2016/>

So, what is the future for ASEAN's digitalisation and ICT activities?

There is no doubt that ASEAN's digitalisation efforts have had a vigorous start across various sectors and member economies. What does the future hold – will these efforts be flashes in the pan, or can they be sustained to yield tangible measurable outcomes?

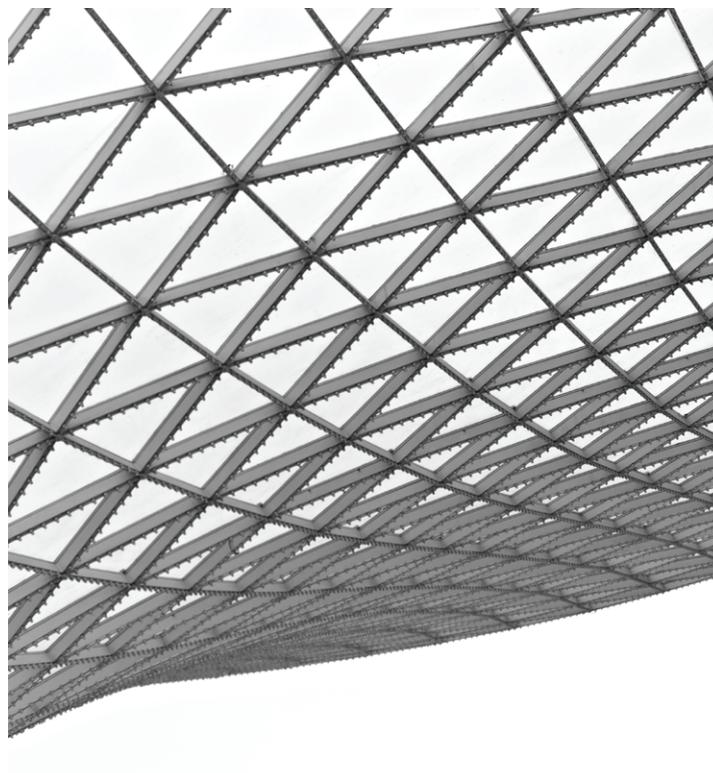
To paraphrase Dr JC Parrenas, Coordinator of APEC's Asia Pacific Financial Forum (APFF) in his introduction of the ABAC-APFF-ADB Financial Technology Workshop to be held in July 2017, the rapid evolution of technology and new business models is presenting policymakers, regulators and the private sector with critical challenges.

These challenges include ensuring equitable access to the benefits of ICT, appropriate legal and regulatory frameworks for areas such as customs, digital trade and e-commerce, cross-border data flow, intellectual property, privacy and cybersecurity, and many others.

Dr Parrenas observed that the development and application of technology in Asia is uneven and concentrated in certain fields such as payments and peer-to-peer lending. He also noted that emerging markets hoping to leapfrog their way to modernisation will benefit from these innovations, but must adequately address new risks and concerns.

The evolution, growth and adoption of ICT in ASEAN will continue. To ensure sustainable, robust and resilient growth, ASEAN's journey towards comprehensive digitalisation in 2025 will need to include some of the following milestones:

- 1 Delivering on the business case for investing in internet and broadband infrastructure**
Southeast Asia may be the world's fastest growing internet region, but there is still a long



way to go before internet access becomes universally accessible, fast and affordable. In fact, 67% of the ASEAN population still live without access to basic internet services, and connection speed lags behind global averages (with the exception only of Singapore and Thailand).¹³ So, as ASEAN economies speed towards greater digitisation, they must be wary of the risks of a growing digital divide.

To mitigate this risk, ASEAN governments – and the private sector – need to improve the business case for investing in internet and broadband infrastructure, including skills and knowledge. Communicating how each member's ICT and digitalisation initiatives fit into the ASEAN ICT and Connectivity masterplans – broadband deployment to ASEAN priority locations and the developments of IPv6 for example – would facilitate clearer views of overall progress amidst reports of

¹³ AT Kearney, The ASEAN Digital Revolution, p.30. <https://www.atkearney.com/innovation/asean-innovation/asean-digital-revolution>.

licensing delays, ambiguous rules, and sub-optimal allocation of limited spectrum by national governments in the region (typically 20-30% lower than in developed economies).¹⁴

2 Addressing the lack of trust that can hinder the uptake of digital services

There remains much apprehension in ASEAN when it comes to cyber risks around online transactions. A survey conducted by GSMA Intelligence revealed that 89% of Malaysians and 79% of Indonesians have concerns about sharing personal information on the Internet or via mobile devices which can be required for e-commerce transactions.¹⁵

In the private sector, concerns centre on consumer data breaches and effectiveness of cross-border enforcement of cybercrimes; including cyber financial crime, market manipulation, business disruption and the theft of intellectual property. Concerns can also emerge on the use of Big Data to perpetuate un-equitable competitive practices and the lack of effective oversight of uses of data.

One obvious means by which to allay such apprehension is by ensuring that effective and clear regulations and co-operations are in place to protect data privacy and to tackle both domestic and cross-border cybercrimes. In this regard, significant progress has already been made: for example, Malaysia, the Philippines and Singapore all now have a strong regulatory framework in place to enhance data security and protect data privacy. 2-Factor Authentication as part of financial industry's cybersecurity standard is practiced across ASEAN, albeit in different ways that can be further optimised. Data localisation measures, requiring companies to store and process data on servers physically located within national borders, have also been advocated in some ASEAN economies as a means of helping to

keep data safe and protect personal privacy. However, while these measures may enhance data sovereignty, the effectiveness of such localisation safeguards are as yet unproven and could still introduce new and significant issues. Data flows with the right privacy safeguards in place are needed to support cross-border economic activities, for example to share credit information to support the regionalisation of businesses, or for entrepreneurs to harness data from IoT devices to facilitate new service creation.

The APEC Cross-Border Privacy Rules (CBPR) system is one framework that ASEAN can look to as a positive template that could be replicated. This system requires participating businesses to develop and implement data privacy policies consistent with the APEC Privacy Framework. Policies and practises must be assessed as compliant with the minimum program requirements of the APEC framework, and are enforceable by law.

Mittal of the Singapore Fintech Association had cautioned that "the systemic risks need to be better understood, and new risks – like data leaks – better prepared for" in an environment of greater digitalisation – especially when it comes to financial services.

Indeed, Ambassador Michael Michalak, Senior Vice President of the US-ASEAN Business Council and a proponent of digitalisation in the region, has warned that without more considerations, such measures could "result in a slowing of technological innovation".

3 Forging facilitative cross-border e-commerce procedures and rules, digital trade and new payment players

When considering the growth of regional e-commerce, it is not just data privacy concerns that hamper growth and expansion –

¹⁴ AT Kearney, The ASEAN Digital Revolution, p.23. <https://www.atkearney.com/innovation/asean-innovation/asean-digital-revolution>.

¹⁵ AT Kearney, The ASEAN Digital Revolution, p.26. <https://www.atkearney.com/innovation/asean-innovation/asean-digital-revolution>.

paper-based customs procedures can be equally limiting.

E-commerce, and its close cousin mobile commerce, have given consumers the ability to make a purchase with a “single click”. From a fulfilment angle, this changes the previous practice of aggregating orders and (infrequently) shipping large volumes of goods in numerous small orders.

The Asia Trade Centre reports that many e-commerce companies are shipping in small and frequent quantities (responsive fulfilment), but the customs paperwork and processing requirements for each shipment can be dauntingly similar to those for a 24-foot container – despite being multiplied many times over. Large shipments of goods with slow moving paperwork are easier to track to comply with illicit goods and trade-based money laundering requirements; in contrast, the velocity with which small, frequent orders are moved will need digital ways to effectively fulfil such compliance monitoring.

National Single Windows – like Singapore’s NTP and the eventual build-out of ASEAN Single Window – will be essential to forging an environment conducive to digital trade and e-commerce. In this regard, Dr Locknie Hsu, Professor of Law, Singapore Management University, has proposed a “Whole of Trade Approach”¹⁶ to address legal and regulatory priority gaps in the intersection between trade, finance and technology, in order to provide legal clarity and facilitate adoption.

4 Ensuring holistic responses to payments and financial services

The success of digital trade and e-commerce ultimately rely on payments. As observed by Dr Parrenas later in his ABAC-APFF-ADB Financial Technology Workshop introduction,

the development of financial technology in the payments sector has caused a major shake-up across Asian markets, with non-banks now increasingly taking advantage of the considerable demand by offering innovative financial services far superior to previous payment technologies. Blockchain, distributed ledger technology, digital wallets, bitcoin, and tokens are all relatively new additions to payment methods.

As a result, regulators are revisiting “fundamental questions – including whether to move away from regulating types of institutions towards regulating types of activities; and what regulatory approach can best encourage innovation while enabling adequate risk management.”

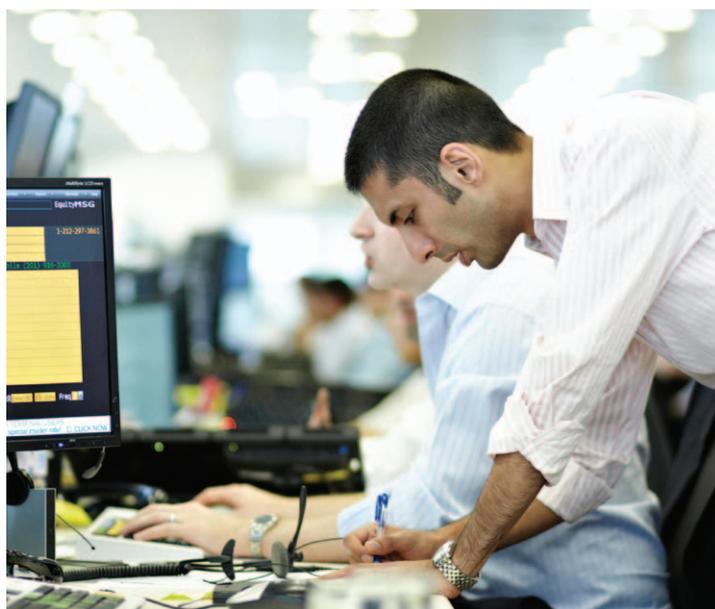
While a complete harmonisation of regulations across the ASEAN region is unnecessary – and according to Mittal, “challenging to achieve at a significant scale in the short term” – a regulatory map and consistent framework that allows a regulated fintech platform in one ASEAN jurisdiction to understand additional requirement needed to operate effectively in another, will be a great step forward.

Alexandra LeCompte, Director, Regional Sales for Cash Management and Lead for GTB’s Asia Pacific Digital Council at Deutsche Bank, says: “Digitalisation is already resulting in our corporate clients reaching out to buyers and suppliers in increasingly remote locations – and we are adapting accordingly to help facilitate this. We are also working very closely with the region’s fintechs. In particular, we are looking at the potential of innovative solutions such as distributed ledger technology to improve financial services in the region – especially cross-border. And at how big data and payments/collections analytics can help companies make better decisions.”

¹⁶ “The impacts of technology on the legal, financial services and global trade environment, and a framework to assess these cross-cutting issues”, ABAC-APFF 2017 workshop Singapore; Professor Locknie Hsu, School of Law, Singapore Management University

So what does the future hold?

Digitalisation is already taking hold in ASEAN, and it has comprehensive digitalisation masterplans in place to realise the potential of technology and to foster inclusive growth, investment, and innovation across the region in the run up to 2025.



As Ambassador Michael Michalak puts it, “the digital economy is the future”. It doesn’t matter if you are selling papers in the street, testing your soil acidity, or trying to pay 5,000 staff – if harnessed effectively, digital technology provides benefits for all.”

However, if this opportunity is to be realised, digitalisation must be positioned as a pillar central to the AEC vision of a single economic market. It can bring a huge number of opportunities but, in an environment where everyone is trying to seize them, it can also be seen as a competitive threat and lead to divisive outcomes.

To ensure that the benefits of digitalisation can be recognised as a catalyst for inclusiveness, equality, and a sustainable momentum that goes well

beyond 2025, clarity around how each ASEAN nation’s digitalisation strategies link into AEC 2025, AIM 2020 and MPAC 2025, and around progress, is crucial.

Covering all the key matters in ICT and digitalisation in one feature would result in a weighty tome. Instead, we leave a number of questions on the table for further deliberation and dialogue.

How does the industry envisage ASEAN digitalisation by 2025? Can digitalisation equip ASEAN economies to leapfrog some economic developmental steps, and how? Or, is digitalisation likely to result in more protectionist policies? What could be ASEAN’s set of globally competitive advantages in digital trade, e-commerce, payments, innovation and people? How can large inhibitors like cybersecurity, data and privacy concerns, intellectual property and cross-border enforcement be effectively addressed by 2025? How achievable is it for ASEAN fintech platforms and regional Cloud platforms to start operating across ASEAN by 2025? What are the legal and regulatory reforms that will be needed to ensure legal clarity and sustainability for this huge undertaking? And most importantly, how should we measure the success of all these efforts in 2025?

We hope to address as many of these questions as possible in the series of ASEAN special reports in the rest of 2017. Watch this space!

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