



# SPECIAL ASEAN SUMMIT ON COVID-19

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## CHAPTER 11

# ASEAN Digital Transformation

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# INTRODUCTION

Cambodia's 2022 ASEAN Chairmanship takes place during a critical period as the country and its fellow member states continue to battle the COVID-19 pandemic. Cambodia must be ready to capitalise on its position as the Chair to help drive the pandemic out of the region and the region towards recovery and prosperity. Whether 2022 will be a year of recovery or continued fighting against the pandemic is difficult to gauge as individual member states have different experiences and challenges. Nevertheless, a theme shared across the region is how digital transformation has become integral in all facets of governance and society amidst the pandemic.

Traditional avenues of business and governance are going through drastic changes as social distancing measures or lockdowns are being imposed to help combat the virus outbreaks. By using various digital indicators, such as e-commerce and internet usage, one finds that governments, companies, and people are now turning towards digital services and platforms to support their daily needs, from ordering groceries online and assembling key policymakers in online meetings to collaborating on projects using digital platforms. These new trends have resulted in an unprecedented growth of digital transformation across ASEAN.

These trends present both opportunities and challenges for the 2022 ASEAN Chair. One example is the growth of smartphones as a multifaceted tool across all the member states to help support recovery and mitigation efforts, allowing for contact tracing, managing vaccination appointments, location tracking, and periodic check-ins with those in quarantine. However, the usage of smartphones has also brought in questions of privacy and civil rights issues. This is just one of the many challenges governments face, as they are limited by cultural norms, institutional arrangements, and budgets. Moreover, reaching a common agreement on core issues, particularly on freedom of information, will be extremely difficult as each member state must balance its interests and national security. Nevertheless, collaboration should still be promoted despite the difficulty in reaching common ground.

Another opportunity lies within e-commerce where recent trends in the market have blown up and are likely to remain permanent. As a majority of the population is increasingly becoming connected to the internet, they are also increasing their participation in digital platforms, especially as the pandemic is forcing both businesses and customers to go into lockdowns or social distancing. As e-commerce is blossoming in ASEAN, challenges of consumer/company protection, network infrastructure, and the disparity in digital participation among member states will come into play.

This chapter starts with defining digital transformation, drawing from diverse sources of educational and policymaking fields. The second section provides an overview of the current state of digital transformation in ASEAN, highlighting recent trends and their impacts on digital services and adoption in the region, especially in mitigating the ramifications of the pandemic.

It is followed by a section on policy recommendations for the Cambodian Chair. These will include capitalising on the opportunity of mobile data and its usage for combatting the pandemic, using ASEAN as a platform for boosting digital literacy across the member states through education, and enacting frameworks to safeguard the very data used to help combat the pandemic and other crises.

## DEFINITION OF DIGITAL TRANSFORMATION

The definition of digital transformation is broad yet frequently used on national agendas and in public and private organisations. As described by EDUCAUSE consultants and directors, digital transformation is “a series of deep and coordinated culture, workforce, and technology shifts that enable new educational and operating models and transform an institution’s operations, strategic directions, and value proposition” (Brown et al. 2021).

For this chapter, digital transformation is but the result of a two-step process. The first step is digitisation, where analogue or physical forms are converted to digital. The second is digitalisation, where digital technologies and information are used to transform institutional operations. Therefore, it is vital to focus on digitisation and digitalisation to form a strong foundation for digital transformation (Rizvi 2019). For example, the digitisation process for a public land registry would require essential documents, such as titles, receipts, and proof of ownership, to be converted into a digital format. Then, digitalisation would involve the creation of a database where the digitised versions of the physical documents can be stored and accessed. Lastly, the digital transformation would come through the form of new, digital processes within the operational cycle, such as the development of an online platform to register or manage land or the collaboration between the land registry department and the tax department to connect their databases so that landowners can manage their land through the platform, as well as pay their taxes.

Much of the research for this chapter was gathered from primary sources, such as reports from data aggregates and consultancy/research groups. These groups include Google, Statista, Bain & Company, and We Are Social. Secondary data of analyses by authors of different backgrounds are also used to garner different perspectives on the current state of ASEAN and digital transformation. Finally, the combined analyses and data reports are used to illustrate ASEAN’s current digital landscape and provide suggestions on how Cambodia as the Chair can utilise its position to support regional digital transformation to build a prosperous and resilient region, which can mitigate the impacts of the pandemic, while recovering from it fast and robust.

# ASEAN E-COMMERCE LANDSCAPE

Today, the pandemic has jumpstarted the digitisation and digitalisation processes for many ASEAN Member States, exposing many to the online processes of registering for a vaccine appointment, using GPS-based mapping applications on their smartphones to find out which areas of a city are under which level of lockdown, or the influx of customers and businesses who are using delivery-apps to supplement their daily needs and operations. According to a 2020 report by Google, which covers the internet economies of Vietnam, Thailand, the Philippines, Malaysia, Singapore, and Indonesia, the total number of internet users has risen dramatically in recent years, compared to the pre-COVID growth. For example, from 2019 to 2020, the total number of new users increased by 40 million, compared to 100 million over four years from 2015 to 2019. Currently, it is reported that 70% of the region's population is connected (Google et al. 2020, 12).

Smartphones have continued to be the most accessible and affordable digital device for the region, streamlining digitisation and digitalisation processes in online platforms and allowing consumers to use digital services. A 2021 report on the global digital landscape found South East Asia to be one of the most mobile-connected regions in the world, with a staggering 132% of mobile connections compared to the total population (DataReportal 2021, 192). With such a large user base, it is no surprise that e-commerce, specifically mobile e-commerce, is growing in the region. According to economist Melissa Ho, "E-commerce has become an effective channel for companies, including Hong Kong SMEs and exporters, to reach local consumers or grow their existing footprint in ASEAN markets" (Ho 2021).

This trend is also present in the region's statistics of e-commerce, with one in three new users becoming digital consumers due to distancing and lockdown regulations (Google et al. 2020, 15). A survey conducted by Kantar found that 9 out of 10 of these new consumers were also planning to continue using digital services in the future, reflecting a mindset change among those who had not used digital services before, despite it being available in the past (Google et al. 2020, 18).

In terms of wealth, despite the negative impacts of the pandemic, the e-commerce industry is blossoming as the "value of ASEAN's e-commerce has expanded almost six times in just four [years], increasing from US\$9.5 billion in 2016 to US\$54.2 billion in 2020. Spurred by the rise of digital consumers, the sector is set to grow at an annualised rate of 22% and reach US\$146 billion by 2025" (Ho 2021). However, despite this strong growth, there is still more opportunity to capitalise on for the region to grow further.

# EDUCATIONAL TRANSFORMATION IN ASEAN

These trends signify a movement towards digital platforms and services to meet everyday needs and a growth spurt in digital transformation, as institutions go digital to stay in operation. One area that has been greatly impacted and has seen drastic transformation is education, especially within the ASEAN region. Schools with potentially hundreds to thousands of students can serve as dangerous hotspots for COVID-19 infections, prompting many to shut down altogether. Yet, the shutdowns have provided an opportunity for ASEAN Member States' education systems to jumpstart or develop their digital platforms, enabling many to strengthen and reform their educational systems.

An example can be seen in Cambodia itself, where the Ministry of Education, Youth, and Sports (MoEYS) established the Centre for Digital and Distance Learning in 2020 (Kanika 2020). With the public-private partnership, the government has cooperated with the private sector and other international organisations such as the Japanese International Cooperation Agency (JICA) to develop and enhance distance learning. As described by Kimkong Heng:

*It has produced hundreds, if not thousands, of video lessons that are being broadcast on TV and social media platforms such as Facebook and Telegram. Furthermore, in collaboration with the Union of Youth Federations of Cambodia, MoEYS recently launched an e-learning app called MoEYS E-Learning, to support online learning during the pandemic. Heng 2021)*

Digital transformation occurs within the educational system as distance learning encourages schools to adopt new educational and operating models.

Despite these examples of digital transformation within the educational system, the digital divide remains an ever-present issue as poorer or rural students face difficulty in receiving the same education through distance learning. While mobile connections are on the rise, many are still new to the concept of using digital platforms and online resources as tools for learning. Additionally, there is still a major lack of infrastructure and resources for students to gain digital literacy, defined as the process of a person to understand, utilise, and benefit from new digital technologies. A survey conducted by Marc Voelker for UNICEF asked over 8,000 students across the ASEAN region various questions, including what challenges they faced in gaining digital literacy. The number one challenge was access to digital devices, with 32% of the respondents citing it as an issue. Second, around 25% of the respondents cited a lack of quality and quantity of digital training provided by their schools. Lastly, 14.6% noted that they were not connected online (Voelker 2021, 18). In summary, the students requested for “strengthening their digital literacy at school. [T]hey want more time to practice their digital skills at all grades, better access to technological devices and ICT infrastructure, more qualified teachers, and higher awareness of this issue among parents, teachers, and students” (Voelker 2021, 21).

Furthermore, the 2020 Global Risks Perception Survey (GRPS) found that respondents have “rated ‘digital inequality’ both as a critical threat to the world over the next two years and the seventh most likely long-term risk” (WEF 2021, 30). Thus, tackling the digital divide gives beneficial returns that encompass all aspects of digital transformation, such as improving the user base and participation, building digital services accessible and beneficial, and most importantly, narrowing the economic and social inequality gap.

## **DIGITAL TRANSFORMATION DURING RECOVERY AND MITIGATION EFFORTS**

To combat the pandemic and prevent drastic outbreaks, control strategies such as lockdowns and social restrictions have been implemented to reduce the disease’s spreading through social contacts. However, they must be balanced to account for social and economic loss. Digital transformation plays an integral role in this process, providing a way for many to continue their lives without the risk of spreading the disease. The main driver of digital transformation in this context is smartphone and mobile connectivity, enabling people to stay connected and use services and entertainment and helping policymakers and researchers combat the pandemic by providing valuable data. The prominence of mobile connectivity further amplifies its significance in the ASEAN region and how human movement is directly related to the spread of infectious diseases. In 2016, a journal article hypothesised that mobile phone data had the potential to “quantify human travel and directly relate these population dynamics to understand infectious diseases” (Wesolowski et al. 2016, S419). Today, the COVID-19 pandemic, among other disease outbreaks, has seen this hypothesis come true as a team of epidemiologists has “previously used aggregated and anonymised geolocation information from passively collected mobile phone data to successfully inform and model the spatial and temporal dynamics of endemic and emerging infectious diseases, including malaria, cholera, measles, dengue, and Ebola” (Grantz et al. 2020, 2).

For the current pandemic, aggregated mobile data is used to help provide data towards key policy decisions in control strategies, specifically when and where to implement them. Data collected and methods include using call data, GPS location, Bluetooth, and Opt-in application data. These datasets are used to assess population mobility, cluster behaviour (where multiple cases follow the same route and location), do contact tracing (whether a smartphone user has been in close contact with an infected person), and predict the spread of an outbreak by projecting disease risk (Grantz et al. 2020, 6). Within the ASEAN region, a shared practice among member states is using applications designed to facilitate contact tracing, vaccine registration, and other related processes. For example, Cambodia has the KhmerVacc system, used to help manage the registration process for vaccines (Ngo 2021); Laos has LaoKYC (“Lao PDR” 2020); Vietnam has Bluezone (Kim 2020); and Thailand has Mor Chana (Hicks 2020). The applications are used for contact tracing purposes, utilising a mix of QR code scans and Bluetooth detection. However, each application has come under similar criticism for privacy issues.

This is also a significant issue for ASEAN, as not all member states are well equipped to deal with the security and privacy challenges while the digital transformation has been advancing so rapidly. The privacy issue, in this context, originates from the sheer amount of personal data that a smartphone can provide:

*Various forms of identifiable personal information are generated when using mobile phones, including names, identification numbers, fine spatial and temporal data on where the device was used, other users' identification numbers whose Bluetooth may have detected, and personal details that might be entered into an app. (Grantz et al. 2020, 4)*

These same issues are also problematic for those behind the digital divide. Lack of understanding about the data they input into their phones or release to digital platforms may have serious ramifications in the forms of data leaks and exploitation. Those behind them are also sometimes reluctant to participate in these applications in the first place, hindering the effectiveness of contact tracing apps. Additionally, data from phones are susceptible to bias as “children and the elderly are frequently under-represented in mobile phone data, and inferences derived from mobile phone users may not be [generalisable] to these populations” (Ibid.).

## **POLICY SUGGESTIONS FOR CAMBODIA'S CHAIRMANSHIP: SUPPORTING DIGITAL TRANSFORMATION**

Capitalising on the growth of digital transformation across the region also requires tackling a plethora of challenges. These challenges include the digital divide within the country and between countries in the region, legislation that can keep up with the breakneck speeds at which digital transformation is growing, and data governance. These issues will no doubt prove to be difficult if the pandemic continues into the coming years.

### **Fighting the Digital Divide**

Though the ASEAN Digital Masterplan 2025 (ADM2025) states that measures to tackle digital inclusion and the digital divide should be “tailored to the national situation, and are—in our view—best designed and applied by national governments and in-country organisations” (ASEAN 2021, 120), ASEAN can still play a role in supporting member states against the digital divide. Digital literacy amongst students is paramount to ensure a solid base for digital transformation to grow sustainably. By partnering with national organisations, ASEAN can set up exchange programmes with teachers or a centralised ICT resource centre/database that can provide teachers, students, and parents with basic digital literacy.

It would be especially helpful for students, who wish to pursue digital literacy but are unable to reach the resources needed, as Heng stated in his recommendations for Cambodia to pursue digital literacy further: “Making video lessons available online or on television offers students the opportunity to engage in self-study and self-directed learning. This is essential for [promoting] learner autonomy and independent learning, especially in the Cambodian context where students remain heavily dependent on their teachers” (Heng 2021).

Studies may also be commissioned to tackle the challenges that ASEAN students and teachers have faced, such as the lack of digital learning and infrastructure training. Any such initiative or study can be done in collaboration with UNICEF, which has agreed to renew its Framework Agreement of Cooperation (FAC) and “agreed in principle to a joint statement which expresses their agreement of working towards the stronger development of digital literacy skills among their youth populations” (Voelker 2021).

## Legislation

Legislations and regulations centred around digital transformation are also a key area to focus on. ASEAN Member States have recently formulated and are now enforcing laws centred around areas of consumer protection, such as Cambodia’s ‘Law on Electronic Commerce and Law on Consumer Protection’. With a basic framework of key legislation, the member states should take the opportunity to expand and share best practices and ideas using ASEAN as a platform. Privacy is an increasingly important topic as concerns have been raised about the alleged intrusive nature of contact tracing applications. Privacy regulations, such as the European Union’s General Data Protection Regulation (GDPR), may serve as an example to find a balance between privacy and the need to use data to combat the pandemic, as it:

*offers exceptions for the use of non-anonymous data that may be needed for other response efforts. For example, opt-in applications for contact tracing may seek [the] consent of the data subject to collect and analyse identifiable data, though the ability to scale opt-in approaches to a wide enough population and to maintain user compliance and participation remains unclear. (Grantz et al. 2020, 4)*

## Data governance

Lastly, supporting the fight against the digital divide also requires good data. It provides evidence and back hypotheses for policymaking and agreements, especially for the ASEAN Chair. Data homogenisation and collection would benefit all ASEAN states, enabling more streamlined, in-depth analysis to be conducted. However, a major challenge for the ASEAN region is the consolidation and gathering of data. For example, the sources of data used in this chapter are from private companies and research consultancies. The reason is that their methodology is the same throughout all analyses of ASEAN countries, using the same indicators throughout the years and, for Google, which is one of the largest digital conglomerates in the globe, accessing data that countries themselves may not have.



To address this issue, private-public partnerships are encouraged throughout ASEAN to create effective policies and agreements backed by solid data that is locally sourced. Collaborations in meetings and commissioning studies for ASEAN Member States, top digital conglomerates, and other dialogue partners, such as Korea and Japan, will greatly benefit the homogenisation of data and receive special attention from policymakers. Change in data gathering practices for ASEAN and its member states can include more individual surveys and social media monitoring and analyses. Data such as these can be gathered from various local sources, such as popular Facebook pages and their demographic statistics, or whether users have connected on their mobiles or desktops. It is also vitally important that those left behind from the digital divide are properly represented in these same dialogues. Just as how the UNDP “supported a multi-stakeholder dialogue on the national digital transformation agenda that brought together representatives from the national government, local innovation hubs and private sector partners” (Frankenhauser 2021). ASEAN can provide and support a platform for the region to do the same.

Data must be protected just as much as it needs to be regulated. Data leaks and security threats are becoming more of an issue as digital transformation continues to grow worldwide. The ASEAN region has already encountered high-profile cybersecurity breaches, from the data theft of thousands of HIV-positive patients in Singapore, personal detail leakages of over a million university students and alumni in Malaysia, and the unauthorised access of the data of over 900,000 clients of a Philippine financial service provider (Thomas 2021). With personal security in mind and utilising pre-existing frameworks such as the ASEAN Framework on Personal Data Protection and the Framework on Digital Data Governance, the data acquired by contact tracing can be anonymised as well as processed through organisations that ASEAN and its member states can collaborate with, such as the COVID-19 Mobility Network, a network of “infectious disease epidemiologists at universities around the world working with technology companies to use aggregated mobility data to support the COVID-19 response” (COVID-19 Mobility Data Network 2021). This aggregated data, while avoiding tracking individual movements and behaviour, still holds significant value. Providing a map that “examines the impact of social distancing messaging or policies on population mobility patterns, for example, will help county officials understand what kinds of messaging or policies are most effective” (Buckee et al. 2020, 145).

In conclusion, to ensure a successful Chairmanship that fosters recovery and resilience during the global pandemic requires Cambodia to adopt a multidirectional approach, beginning with laying the foundation for ASEAN to capitalise on the opportunities given by the upward trends of digital transformation, such as growing mobile users and engagement in digital platforms. Next, cooperation with key partners and between member states will be vital in establishing solid digital legislation that protects consumers and companies alike, developing infrastructures such as ICT centres and resources to boost digital literacy among students, and streamlining data collection processes and methodologies to support effective pandemic response strategies and frameworks. Going forward, challenges will also have to be addressed, as privacy issues and cybersecurity threats become more relevant as digital transformation grows.

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