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ASEAN-REPUBLIC OF KOREA DIGITAL PARTNERSHIP: THE IMPERATIVES OF TRANS-REGIONAL COOPERATION IN CONTROLLING COVID-19

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ABSTRACT

As the raging COVID-19 pandemic continues to spread and bring the world to its knees, governments around the world are still struggling to find effective solutions to prevent the further spread of the disease and its tremendous impact on human life. However, the Republic of South Korea (ROK) has successfully responded to this problem with its advanced technology. Conversely, ASEAN countries are still grappling to manage enormous COVID-19 impacts due to the lack of equal technological access. Hence, this study was aimed at exploring and outlining the possible adoptions of ASEAN-Korea Digital Partnership in addressing contemporary and post COVID-19 challenges. As an effort to meet the purpose of this study, the pragmatism of a qualitative

methodology was deemed suitable to assess and compare the current conditions and challenges faced by ASEAN and the ROK. After being amalgamated in extensive and strategic relations for more than 30 years, ASEAN and ROK have accomplished outstanding achievements and a blossoming joint development, specifically in technological cooperation. Thus, the ASEAN-Korea Digital Partnership is more than feasible in its goal of supporting the technological advancements of ASEAN and open an ideal market for the ROK's technological production. Considering the economic, technological, and political challenges and incompatibilities, it can be reasonably assumed that the possible digital partnerships are 5G interconnectivity, surveillance system, e-commerce, and cybersecurity cooperation. It is hoped that the present study can serve as a new alternative perspective for a post COVID-19 ASEAN-Korea Digital Partnership trans-regional cooperation.

Keywords: ASEAN-Korea, COVID-19, trans-regional cooperation, digitalization, technology.

INTRODUCTION

The Significance of Digitalization in the Modern Era

Digital technologies have evolved substantially over the past few decades, triggering huge alterations in humanity's history of development. Digitalization with the broad usage of the internet in all aspects undeniably has brought positive advancement that helped reshape not only people's daily life, but also nation states and the international environment. Governments are promoting digitalization to create smart nations and smart cities for the betterment of their country in the digital era. Outstandingly, several developed countries have closely reached Society 5.0 since they have become the pioneers of advanced and innovative digital society movement (Getzoff, 2020). This progress has positively supported those countries in dealing with the rapid alteration in this decade, facing the unpredictable evolution of threats and disasters.

As the coronavirus continues to spread across borders, governments have imposed restrictions on people's mobility, reduced the number of available social services, and enforced strict rules on physical distancing. Within these restricted situations, technology has become a necessary tool to monitor, anticipate, and curb the spread of the disease so as to ensure the accessibility of daily services for the citizens' well-being (UCLG, 2020). The Republic of South Korea (ROK) was one of the earliest nations to become a victim of the pandemic. However, it has also prevailed to become one of the most successful nations in handling COVID-19. Its world class technological capability has successfully supported the government's contact tracing effort and lessen the economic contraction through e-commerce. Conversely, most Southeast Asian countries have limited access to sophisticated technology that could have helped ease the uncontrollable upsurge of infected cases and the high mortality rate. These crises have put immense pressure on governments all over the world, and every government found themselves in a dilemma, whether to give priority to the economy or the health sector when it came to deploying the necessary technologies.

Since 1989, the ROK and ASEAN have become strategic partners and successfully achieved joint declarations along with several Plans of Action to promote multifaceted cooperation (ASEAN-Korea Centre, 2017). Technological cooperation is the heart of the ROK and ASEAN cooperation. This has assisted ASEAN members to gain and develop advanced technology while simultaneously helping the ROK in gaining markets. In a lengthy tug of war with COVID-19, the ROK has been able to demonstrate its technological ability in utilizing appropriate public health measures to control the pandemic, and timely transformation of its economy by using e-commerce to mitigate the country's economic downturn. Meanwhile, as for ASEAN, the member nations faced many challenges to try to control and bring down the number of infections in their populations, and at the same time to help restore their economies after being seriously affected by the COVID-19 pandemic. In this regard, the establishment of the ASEAN-Korea Digital Partnership is a perfect opportunity for both the partners to further enhance their strategic relations by collaborating in technological collaboration, especially in digitalizing the economy so as to better respond to the complexity of issues

and challenges arising from such a medical crisis as the COVID-19 pandemic. The present research was aimed at exploring the possible adoption of the ASEAN-Korea Digital Partnership model during and post COVID-19 era and using the research findings as a guide for the conduct of future studies on trans-regional cooperation.

RESEARCH METHODOLOGY AND ANALYTICAL FRAMEWORK

A qualitative research methodology was deployed in carrying out the present research. The qualitative research methodology can be comprehended as an interpretive approach that is applied by the researchers to explore, understand, and gain insights into complex realities by rendering the complexity of the phenomenon in accordance with the social and cultural contexts within which it is situated (Palmer & Bolderston, 2006). The comprehensive analysis proposed for the present research meant the need for an extensive exploration of diverse sources of information from various books, journals, recent and peer reviewed articles, and to have access to the relevant governmental sources such as from the ROK, ASEAN, ASEAN member countries, and the World Bank.

Due to the wide variety of sources of documents that were required to be assessed, the data were mostly collected through the internet and other electronic sources. Since this study was mainly focused on exploring and presenting the empirical evidence in support of the feasible adoption of the ASEAN-ROK Digital Cooperation, the researchers have applied pragmatism as the lens to assess the current conditions, situations, developments, and challenges prevalent in the areas of concern (Patton, 1990). With the aim of providing a valid argument for the adoption of the model of cooperation, the researchers have employed the grounded theory to approach the study. This was done by comparing the distinct characteristics, features, and capabilities of ASEAN and Korea which were used to overcome their unique challenges during the COVID-19 pandemic (Creswell, 2014).

The concept of national security has long been regarded as a traditional security issue. National security refers to the protection of a state's

sovereignty, territorial integrity, and its interests both domestically and abroad. However, the emergence of the COVID-19 global pandemic that has significantly disrupted all areas of life; more specifically, it has drawn a clear nexus between health security and national security (Oshewolo & Nwozor, 2020). The swiftly expanding concept of national security in the current era is no longer merely focused on the protection of the aforementioned territorial concerns, but also has come to embrace other non-traditional security issues, such as climate change and the threat of lethal and contagious diseases that might put a country's economic security and people's health in peril (National Academies Press, 2017, p. 43). Hence, national security could be defined as the measurable state's ability to overcome the multi-dimensional threats which have been extended by the varieties of global challenges that can undermine the state's well-being, survival, and dignity at any given time (Paleri, 2008, pp. 52-54). In line with the definition provided by the WHO, this paper will adopt the view that global health security refers to *'the activities required, both proactive and reactive, to minimize the danger and impact of acute public health events that endanger people's health across geographical regions and international boundaries'* (WHO, n.d.).

The devastating global consequences of the COVID-19 pandemic thus far had seriously threatened many nations' well-being, survival, and dignity. It is through the approach of multilateralism, that is, by connecting and cooperating with each other, that individual states can then begin to collectively strengthen each other's capacity in countering the pandemic. Multilateralism refers to coordinating relations among three or more states in line with the following features: (1) generalized principles of conduct, (2) indivisibility, and (3) diffuse reciprocity (Fukushima, 1999). The emergence of complex global problems and threats in the 21st century has led to dynamic developments in the practice of multilateralism which espoused that through cooperation, lots of mutual benefits could be gained (Lazarou et al., 2010). It was in this spirit of multiculturalism that the ROK and ASEAN has long been a strategic partner. They have established good relations and collaborated well under the common cause of defeating the global COVID-19 pandemic tapping into the full potential of modern digital technology. This collaborative effort has become an important trans-national strategy for both ASEAN and Korea.

The idea of regionalism has been associated with the formal policy and effort to foster institution-building (Badie et al., 2011). ASEAN member states have throughout the years since the formation of the regional grouping, stood together and overcome numerous issues and challenges; a strong testimony to its united front as a source of strength and collective capacity to address whatever problems that might confront the grouping. Since the onset the COVID-19 pandemic and as the virus and its variants continue to ravage all and sundry, the idea of regionalism has once again gained prominence as the strategy to support member countries by igniting the collective power of, for example, the ASEAN member states to cooperate and assist one another. However, it is to be acknowledged that some countries have limited resources and there is unequal distribution of capability. Therefore, as a regional grouping, ASEAN need to take advantage of its strategic relations with other countries such as the ROK to find a comprehensive solution for all its member states. By relying on the ASEAN pillar, with its international prestige as one of the biggest formal and stable regional organizations in the world, member countries can have recourse to various avenues of support. In this regard, the ASEAN member states need access to the advanced technologies of the ROK.

ANALYSIS

The Remarkable Success of Korea in Combating COVID-19

The remarkable success of the ROK in responding to the breakout of the novel COVID-19 pandemic has caught the attention of the rest of the world. The first case of COVID-19 infection in the ROK was identified on January 20, 2020 and the virus transmission reached its peak on February 29, 2020. This meant that the ROK was the second most infected country after China (Cha & Kim, 2020). However, currently, the ROK's COVID-19 mortality rate is one of the lowest among East Asian countries. The mortality rate only reached 1.7 percent in comparison with that in China (5.2), Hong Kong (2.1), Japan (1.9), and Taiwan (1.4) (Hopkins, n.d.). The epidemic curve was quickly flattened in the ROK because of the self-discipline and vigilance of its people. However, it was also the result of the ROK's

sophisticated and superior digital technology, this has enabled the ROK to carry out testing to detect infections and contain the spread of the virus (UN News, 2020; Sonn & Lee, 2020).

There are three essential technologies that are being utilized by the ROK government to combat the pandemic. In 2016, it was recorded that 96.4 percent of every transaction that was carried out in the ROK has already been on the digital platform, or cashless (MOETI, 2016). Moreover, the ROK has given top priority to internet connectivity for its people, with 96 percent of its citizens having internet access and 95 percent of adult citizens owning at least one smartphone (Akamai Technologies, 2017; Fendos, 2020). Since 2014, the ROK has already installed 9.5 million CCTV in various locations around the country, and this has provided the government with the ability to track its citizens 83.1 times per day and every nine seconds when they are on the move making trips (Statistics Korea, 2014; National Human Rights Commission of Korea, 2010).

The above surveillance data provided has highlighted the following two crucial points. First, the technologies deployed by the ROK has enabled the government to implement an efficient contact tracing system, and this has helped its public health authorities to better address the COVID-19 situation in the country. Simultaneously, it shows the inescapable government strict surveillance on individuals because everyone's life has intertwined in the complex digital technology that obviously eases government contact-tracing effort. Second, the ROK was not only able to tackle the transmission of COVID-19, but it was also able to mitigate the economic repercussions that the global pandemic entailed. Unlike the other OECD countries that suffered a significant economic contraction ranging from 6 - 8 percent, the ROK has successfully managed to thrive by only suffering a 1.2 - 2.5 percent contraction of its total GDP. Similarly, the ROK unemployment rate rose by 1.5 percent, which outperformed both Canada and the United States as the unemployment rate in these two countries was recorded at a high 15 percent (MFTA, 2020). Furthermore, the ROK is currently pursuing the New Digital Deal that will be focused on synergizing the government and business sector through a digital technology partnership in Artificial Intelligence (AI), Big Data management, and 5G internet network. The deal is expected to become one of the

ROK's ultimate 'weapons' to revive its economy, because it envisions 890,000 new jobs created by 2022 and 1.9 million by 2025 (Ji-ae, 2020). In short, it is thus worth noting that in the context of the ROK, digital technologies have played critical roles in flattening 'the curve', mitigating and minimizing economic contraction, and revitalizing the economy post COVID-19.

ASEAN's Struggle in Combating COVID-19

The outbreak of COVID-19 has immensely disrupted every country in the world, including the ASEAN member states. As of September 25, 2020, the total number of confirmed cases of virus infections in ASEAN had been reported to reach 648.105, with 15.826 total deaths. This indicated a 2.4 percent mortality rate. These numbers were considered to be better compared to the other regions around the world, such as the USA, EU/ EEA including the UK, and Latin America and the Caribbean. The statistics are as shown in Table 1.

Table 1

Record of COVID-19 cases and death per region as of 25th September, 2020

REGIONS	CONFIRMED CASES	TOTAL DEATHS	MORTALITY RATE
USA	6.980.104	202.827	2.9
EU/EEA includes UK	3.067.987	187.876	6.1
Latin America and Caribbean	9.035.438	332.802	3.7

Note. Sources include the "Southeast Asia Covid-19 Tracker," by the Center for Strategic and International Studies [CSIS], 2020. <https://www.csis.org/programs/southeast-asia-program/southeast-asia-covid-19-tracker-0>. Copyright 2020 by CSIS, "COVID-19 pandemic" by the European Centre for Disease Prevention and Control [ECDC], 2020. <https://www.ecdc.europa.eu/en/covid-19-pandemic>. Copyright 2020 by ECDC, "COVID-19 map" by the Center for Systems Science and Engineering [CSCE], 2020. <https://coronavirus.jhu.edu/map.html>. Copyright 2020 by CSCE.

However, each ASEAN member state has experienced the COVID-19 pandemic differently, in terms of the different timing of its onset, degree of repercussions, and country specific responses in dealing with the virus (Daly et al., 2020). For example, some of the countries like Singapore and Vietnam have been applauded for their success in confronting the pandemic, while some countries such as Indonesia and the Philippines were among the hardest-hit countries (UN, 2020). Though the success factors that affect battle against the pandemic differ from country to country, digital technology has become one of the key features. In the case of Singapore, it has benefitted from its small geographical size with a quasi-authoritarian system. The country also had a more advanced or developed digital and technological system in place. The city-state has 99 percent internet coverage, which makes the national corona-tracing apps, i.e. SafeEntry and TraceTogether, run without any hitches (Gill, 2020). Moreover, robots and automated temperature screening have been deployed in numerous public places such as in parks, hospitals, and airports, and these have reduced the occurrence of person-to-person contact and was even able to monitor the people when they were involved in activities (Ramanathan, 2020).

Similarly, Vietnam has also been able to successfully fight the pandemic. However, the underlying factors were different from those found in Singapore. Despite the absence of sophisticated and advanced technologies, Hanoi could overcome the pandemic through the workings of its robust political system (Abuza, 2020). Meanwhile, Indonesia as the most populated country among the other ASEAN members is still grappling with the virus. The slow and late response that the Indonesian government had made, coupled with its modest technological advancement have worsened the pandemic situation in the country. Though many Indonesian universities have made much progress in terms of its output of inventions, e-commerce and e-delivery applications, and telemedicine services, the widespread occurrences of indiscipline in its people, something that is embedded in the national culture have put the country in peril (The Jakarta Post, 2020; Preuss, 2020). Subsequently, although ASEAN has been one of the world's fastest-growing economies, with a steady increase of five percent per year in its GDP pre-pandemic, the current forecast the OECD (2020) has not been good, as it is expected to suffer a substantial economic downturn be clearly seen in Table 2.

Table 2

Real GDP growth of ASEAN, 2019-2021

Countries	2019	2020	2021
Brunie	3.9	1.4	3.3
Cambodia	7.1	-1.0	5.8
Indonesia	5.0	-2.8	5.2
Laos	4.8	1.0	5.0
Malaysia	4.3	-3.9	5.9
Myanmar	6.8	2.0	7.3
Philippines	6.0	-3.2	7.0
Singapore	0.7	-4.4	3.5
Thailand	2.4	-6.7	4.9
Vietnam	0.7	-4.4	3.5

Note. From “Economic outlook for Southeast Asia, China and India 2020 – Update meeting on the challenges of COVID-19: Meeting the challenges of COVID-19,” by the Organization for Economic Co-operation and Development [OECD], 2020. http://www.oecd.org/dev/asia-pacific/SAEO2020_update_complete_ebook.pdf. Copyright 2020 by OECD.

The ASEAN economy is characterized by its high dependency on trade and tourism. Trade is the heart of the ASEAN economy, since the ASEAN trade GDP ratio is 100 percent—in contrast with Latin America and South Saharan Africa trade GDP ratios that accounted for 47 percent and 54 percent respectively (Plummer, 2020). Furthermore, many ASEAN countries, especially Thailand which has relied heavily on sectors dealing with inbound travel and tourism would also be facing significant economic decline due to the local community lockdowns, stay-at-home policy, and travel restrictions (UN, 2020). Following the global trend, ASEAN countries nowadays endeavor to engage in greater digital cooperation, both between and beyond ASEAN member states in order to control the transmission rate. and if possible stamped out the COVID-19 scourge and restore the economic performance of the respective member states (ASEAN, 2020).

Previous and Current ASEAN-ROK Digital Technological Cooperation

Previously, the ASEAN-ROK partnership had reached an agreement on a Plan of Action to implement the Joint Declaration on Strategic Partnership for Peace and Prosperity (2016-2020), in which ICT cooperation was agreed to be one of the most important sectors that has to be pursued. Based on the grand plan, ASEAN and the ROK have actively conducted several dialogues and meetings on specific joint programs to help develop IT infrastructure, expand ICT knowledge, and enhance ICT human resource development, improve information security, develop e-government, and promote digital convergence (ASEAN, 2016).

ASEAN has been persistent in addressing its ambitions to achieve the status of a Digital ASEAN and this effort has found expression in the following declarations: AEC Blueprint 2025, Master Plan on ASEAN Connectivity 2025, and the e-ASEAN Framework Agreement (WEF, 2020). Understanding the demand and the potential of its strategic partners in ASEAN, the ROK has provided opportunities to invest in ASEAN and support its technological improvement. Recently, the ASEAN-Korea Centre and the Korea International Trade Association co-hosted the ‘2018 ASEAN Digital Commerce Forum’. In the forum, both parties exchanged their e-commerce development plans, potential markets, and opportunities for business and networking among company representatives in the e-commerce sector (ASEAN-Korea Centre, 2018). Moreover, the ASEAN Smart Cities Network (ASCN) that was established in 2018 with the purpose of managing urbanization challenges in the era of industry 4.0 has provided a network to attract external partnership, specifically from the ROK.

In the ASEAN-ROK Commemorative Summit 2019 in Busan, President Moon Jae-in of the ROK and Prime Minister Lee Hsien Loong of Singapore had agreed on expanding collaboration in the creation of smart cities and ICT in general (Martinus, 2020). This presented an excellent opportunity for ASEAN members to innovatively modernize and digitize their cities using the newly developed technology from the ROK. Furthermore, since the COVID-19 pandemic has weakened the economy, ASEAN has quickly recognized the need to acquire

digital skills to revive the economic sectors. As a result, the “Go Digital ASEAN” project, based on the ASEAN Digital Integration Framework Action Plan (2019-2025), was adopted to respond to the negative impacts of the pandemic. It addressed the urgent need to equip the workforce in the ASEAN member states with the necessary critical ICT skills to leverage the digital economy (ASEAN, 2020).

Singapore and the ROK has therefore promptly launched negotiations on a new Korea-Singapore Digital Partnership Agreement (KSDPA) via video conference in June, 2020. The agreement was aimed at strengthening the bilateral cooperation in new emerging digital areas like digital identities, AI governance, and cross-border data flows. The KSDPA was only one of the many digital economy agreements that Singapore has embarked upon, it had previous similar agreements entered into with Chile and New Zealand (MTI, 2020). This was a trans-national opportunity for the top and largest technological industries in Asia to enhance each other’s capability and develop greater cooperation in the digital economy. Henceforward, learning from the previous pacts between the ROK and ASEAN, the establishment of the ASEAN-Korea Digital Partnership can be consolidated to take their strategic relationship into another level, especially during and post pandemic.

ASEAN’s Challenges in Applying the ROK’s Model

The ROK’s exceptional fight against the COVID-19 pandemic without imposing a strict stay-at-home regulation and requiring many businesses to be shut down, has become one of the most appealing strategies to be applied during the outbreak of the pandemic (Exemplars, 2020). As a region that is still struggling with the snowballing number of COVID-19 cases and severe economic contractions, ASEAN is obviously attracted to the ROK’s unique model. However, implementing the ROK’s ways entirely would be impossible due to the distinct background and current capabilities among ASEAN countries.

The first stark difference that may pose some challenges is ASEAN’s economy and its technological capability. The ROK has been able to develop world-class technologies which are readily and evenly

available across the whole country. Its mobile internet speed has been ranked first in the world, its fixed broadband internet has also been positioned as the eightieth, and its internet connectivity has reached 96 percent of the total population (see Table 3). In contrast, ASEAN is still undergoing an uneven technological growth, ranging from Singapore as the country placed in first place in its fixed broadband internet speed, Myanmar being in twelfth place for mobile internet speed and 117th for fixed broadband internet speed, and the Philippines was positioned 120th for mobile internet speed (We Are Social & Hootsuite, 2020; SpeedTest, 2020).

Singapore, a country that has no rural areas has certainly made noteworthy progress as it has 100 percent electricity coverage. In contrast, Cambodia and Myanmar which still have rural areas face the challenges of minimum electricity access that only covers 36.5 and 39.8 per cent of the total population respectively. Hence, in light of such a dire infrastructure situation, one cannot be faulted for concluding that the full adoption of the ROK's strategy was simply impossible to be carried out in some ASEAN member states, see Table 3 for an overview of the facts on the ground (World Bank, 2020a; World Bank, 2020b).

Table 3*A Comparison of the Internet and economic infrastructures of ASEAN and South Korea (2020)*

Countries	MOBILE PHONE	INTERNET PENETRATION	MOBILE INTERNET	Fixed Broad- band Internet	Electricity Access	GDP (PPP) In 2019 by World Bank		
	CONNECTIONS BY JANUARY 2020*	BY JANUARY 2020*	DOWNLOAD SPEED MBPS/ GLOBAL RANKED BY AUGUST 2020**	Download Speed Mbps/ global ranked by August 2020**	Urban (% of ur- ban population) ^a	Rural (% of rural popula- tion) ^b	Millions of USD ^c	Per capita USD ^d
South Korea	118%	96%	113.01 / 1	159.98 / 8	100.0	0.0	2,224,985	43,029
Brunei	130%	95%	-	-	100.0	100.0	31,087	64,673
Cambodia	128%	58%	18.54 / 108	23.63 / 108	100.0	36.5	75,355	4,570
Indonesia	124%	64%	17.03 / 115	22.53 / 110	100.0	94.8	3,329,169	12,302
Laos	79%	43%	26.68 / 79	31.53 / 90	97.4	80.3	58,436	8,150
Malaysia	127%	83%	24.69 / 84	87.90 / 41	100.0	100.0	943,336	29,526
Myanmar	126%	41%	25.86 / 80	20.87 / 117	89.5	39.8	289,428	5,355
Philippines	159%	67%	16.44 / 120	25.34 / 106	96.9	86.3	1,003,038	9,277
Singapore	147%	88%	58.44 / 12	218.07 / 1	100.0	0.0	578,204	101,376
Thailand	134%	75%	34.08 / 57	173.41 / 4	99.9	100.0	1,338,781	19,228
Vietnam	150%	70%	33.61 / 60	55.20 / 60	100.0	100.0	807,817	8,374

Note. From “Digital 2020: Countries,” by We Are Social & Hootsuite, 2020. <https://datareportal.com/search?q=>. Copyright 2020 by Data Reportal. From “Access to electricity, rural (% of rural population).” by the World Bank, 2020. <https://data.worldbank.org/indicator/EG.ELC.ACCS.RU.ZS>. Copyright 2020 by the World Bank. From “Gross domestic product 2019, PPP,” by the World Bank, 2020. https://databank.worldbank.org/data/download/GDP_PPP.pdf. Copyright 2020 by the World Bank. From “GDP per capita, PPP (current international \$),” by the World Bank, 2020. https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?most_recent_value_desc=true. Copyright 2020 by the World Bank.

The second critical difference that is important to note is the wide-range of political systems that are found in the ASEAN member states. Extensive contact tracing and government surveillance are the fundamental keys to the ROK’s success, but it might also raise alarm because of the freedom and privacy concerns, especially in democratic member states of ASEAN. Massive data mining either by the public or private institutions is considered as a very sensitive topic in a democracy. In a practicing democratic nation, the transparency of data collection, usage, storage, and the time frame stipulated permissible in data storage should be safeguarded and governed. For instance, the vague terms in the Indonesian government’s privacy policy of PeduliLindungi for its COVID-19 tracking application, has already raised concerns from the ASEAN Intergovernmental Commission on Human Rights (AICHR) and several other human rights organizations (The Jakarta Post, 2020). In addition, the ROK has recently admitted that its authorized institutions are still keeping the previous data collected from the MERS outbreak back in 2015. This admission according to some, has raise the issue that the ROK has violated the Personal Information Protection Act (PIPA) that required all the data be deleted after its terms of use within a certain time period (Kuhn, 2020). If the same case were to take place in ASEAN’s full-fledged democratic countries, there is the strong possibility that many protest rallies will be organized and this will clearly have a negative impact on the countries’ social cohesion.

Adoption of the ASEAN-Korea Digital Partnership

In order to comprehensively disentangle the complicated situation, the ROK and ASEAN member states need to address several areas of their uneven technological development in the quest to enter

into a digital partnership. The first is by taking urgent note of the rapid evolvement of 5G technology worldwide, ASEAN should appreciate the significant role of 5G in improving the connectivity and development of a country. As the COVID-19 pandemic and its challenges have persisted for more than a year, the world undoubtedly needs more technological advancements to stop and contain the spread of the virus. The advent of 5G technology can help countries to address issues and challenges triggered by the COVID-19 pandemic. During this unprecedented serious crisis when healthcare services have been stretched to its limit due to the over flowing number of patients in hospitals, the need for a good telehealth system is more urgent than ever. However, a telehealth system requires an excellent internet connection because the patient and doctor must have at least need a 4K/8K video streaming capability with low-latency and low jitter, which can only be done through a 5G network. Moreover, the 5G network that comes with greater connectivity can also assist the government in conducting contact tracing of the suspected and positive COVID-19 cases, as well as to monitor the patients that have to undergo self-isolation orders (Siriwardhana et al., 2020). Most importantly, a 5G network is the key factor that can support successful e-commerce activities. Since the the pandemic has severely disrupted many sectors of the economy and forced businesses to close down, the transformation to a digital economy is the only way forward for many countries. In the 2019 ASEAN Conference on 5G networking, Vietnam's Minister of Information and Communication made the folling remarks, "5G will be the most important part of the digital economy infrastructure" (VNS, 2019). Since October 2019, the ROK and ASEAN have agreed to expand cooperation in 5G communication networks in a joint declaration made at the Telecommunication and Information Technology Ministers Meeting (Yonhap News Agency, 2019). Based on such a mutual commitment, it is urgent for the ROK and ASEAN to establish a detailed road map of 5G development that will help both parties to achieve their country specific goals as soon as possible. Investment is the most essential agenda to be discussed for the 5G rollout.

According to the President for Cisco Systems in Southeast Asia, most ASEAN member states are expected to begin with non-standalone 5G deployment which is faster, and requires less capex than a standalone

technology that Singapore has. It is suggested that to support this deployment, new antenna systems and radio infrastructure will be required to upgrade the 4G macro sites, along with fiber rollouts and microwave upgrade to improve on accessibility (Menon, 2019). Since each nation has a different technological capability, leading nations in 5G technology such as the ROK and Singapore can assist other ASEAN members in developing the desired infrastructures and technological knowledge. It can also help with the deployment of technological experts to assist and supervise the process of obtaining and producing the infrastructures.

Additionally, the ROK has been applauded for its innovation in turning an urban planning system into a virus tracking database during the fight against COVID-19. Thanks to its early “smart city” database operation, the ROK has been able to utilize those infrastructures to keep tabs on patients via CCTV footage, credit card transaction data, travel information, and location data (Holmes, 2020). Hence, ASEAN should also seize the opportunity to promote the implementation of the ASCN and include it as a critical part of the ASEAN-Korea Digital Partnership. Specifically, in responding to the deepening crisis of the pandemic, Korea can introduce the Epidemic Investigation Support System (EISS) as a model for ASEAN members to learn from. The EISS is an application platform acting as a means for receiving data, mainly to access information in mobile base stations of mobile network companies and card usage information (Park, Y. et al., 2020). The system can track, store, and process subscribers’ information and automatically create infographics on the spread of infections from confirmed COVID-19 cases. This technology has been a huge help for the government in battling the pandemic.

Henceforward, the ROK can conduct workshops on the operation of the EISS with the help of technological experts from Korea and ASEAN. It will be a golden opportunity to share the required knowledge and skills, and also discuss the suitable deployment of the platform in each country and the possible improvement of the technology itself. Nonetheless, ASEAN countries are still burdened with the lack of technological infrastructure, especially CCTV networks and systems. A study by Comparitech showed that CCTV surveillance remains marginal in Southeast Asian metropolises, not to mention smaller

cities, and rural areas as can be seen from the data in Table 4 (Citrinot, 2019). Hence, ASEAN and Korea must start off with the necessary infrastructure investment for surveillance purposes.

Table 4

CCTV-Population Ratio of Several Capital Cities of Southeast Asian Nations

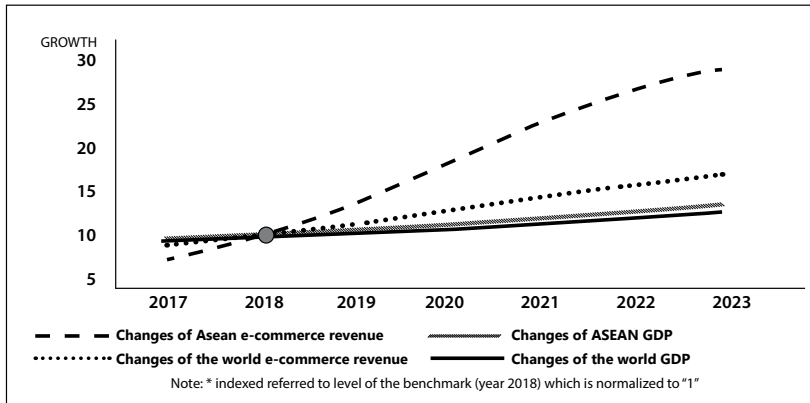
City	Number of CCT Cameras	Total Population	Ratio CCTV/ 1,000 people
Singapore	86,000	5,638,676	15.25
Bangkok	53,429	10,350,204	5.16
Ho Chi Minh	6,150	8,993,082	0.68
Yangon	2,995	5,243,989	0.57
Jakarta	6,000	10,638,689	0.56
Hanoi	4,400	88,053,663	0.55
Kuala Lumpur	1,000	7,780,301	0.13
Manila	300	13,698,889	0.02

Note. From “CCTV development remains slow in Southeast Asian metropolises,” by Citrinot, 2019. <https://asean.travel/2019/08/28/cctv-development-remains-slow-in-southeast-asian-metropolises/>. Copyright 2019 by The Voice of Travel & Tourism in South East Asia.

Another very important area for the ROK-ASEAN Digital partnership to engage in is e-commerce cooperation, as it is the key to revive the drastic slowdown in the economy (see Figure 1). ASEAN is considered to be one of the most potential e-commerce markets. Together with East Asia, it possesses the world’s fastest-growing online market in which the total e-commerce revenue of ASEAN is calculated to increase by almost 200% from 2018 to 2023, as can be seen in Figure 1 (Chen & Kimura, 2020)

Figure 1

The Projected Growth of E-commerce Revenue and GDP in ASEAN



Note. From “E-commerce Connectivity in ASEAN,” by Chen & Kimura, 2020. https://www.eria.org/uploads/media/E-commerce-Connectivity-in-ASEAN/0_E-Commerce-Connectivity-in-ASEAN_FINAL.pdf. Copyright 2020 by Economic Research Institute for ASEAN and East Asia.

The advent of the COVID-19 pandemic has fueled the Asian e-commerce boom in general and ASEAN member states more specifically. However, due to the lack of digital literacy and limited technological capacity, consumers in Southeast Asia have to still rely on brick-and-mortar stores. Local e-commerce services continue to struggle with the sudden and rapid rise in the volume of online-shopping demand (UNAIR, n.d.). Although the rise in the number of online shopping consumers poses an extraordinary opportunity for the e-commerce sector, it has at the same time also resulted in difficult challenges, especially due to the lack of delivery capacities (Kang, 2020). In this regard, the ROK with its third worldwide ranking in online retail sales can support ASEAN members in developing and expanding the operations of e-commerce companies, especially in terms of product and shipping services. The ROK can do this by enhancing more cooperation with the private sectors in each ASEAN country. Furthermore, ASEAN will also be an ideal market for the ROK’s e-commerce firms. These ROK firms can export their goods,

while promoting their quality products such as phones, cosmetics, and fashion items (Jae-kyoung, 2016).

However, due to the strict regulations of self-isolation and limits imposed on physical contact through social distancing, the use of the internet and digital technologies have surged significantly and this has led to the issues and challenges of cybersecurity. According to INTERPOL (2020), the increasing number of cyberattacks that happened in ASEAN were categorized as follows: phishing/scam/fraud (59%), malware/ransomware (36%), malicious domains (22%), and fake news (14%) which mostly focused on attacking the healthcare industries, e-commerce businesses, and internet users' data. For example, in May 2020, the data breach of Tokopedia in Indonesia cost 91 million users' data to be leaked. Moreover, in Thailand, a case of ransomware attack on hospitals and businesses occurred in September 2020 (INTERPOL 2021). During the 2019 ASEAN-ROK Commemorative Summit, participants recognized the robust economic links between members, thus there was a strong emphasis on the concern that cyber security was a 'concrete area' and 'critical ingredient' to support the digital economy (Baker, 2019). In retrospect, ASEAN has made much progress in the area of cybersecurity, for example Singapore being the leading country in terms of its technological development has initiated the ASEAN-Singapore Cybersecurity Centre of Excellence (ASCCE). Singapore's commitment in supporting the regional cybersecurity capacity building effort is reflected in its initiative to invite and promote open-source information sharing among the top regional and international experts and trainers (Baharudin, 2019).

Consequently, the ROK as an active partner of ASEAN is expected to seize this opportunity to embrace the Singapore initiative as a part of the ASEAN-ROK Digital Partnership and to intensify its contribution to the ASCCE. This cooperation could be regarded as a mutually beneficial cooperation because ASEAN will have the window of opportunity to access the ROK's advanced technological knowledge and technologies and thus to learn from the ROK. At the same time, it will also enhance the ROK's ability to combat cyberattacks by learning from ASEAN countries. Benefitting from the knowledge and experiences gained from each other, especially in the context of

Singapore and Korea, the collaboration through the partnership will help the the participating members complement their own limited understanding and capability in dealing with the unexpected issues and challenges of cyber-threats.

CONCLUSION

The COVID-19 pandemic and in its wake the deep economic recession all over the world have challenged most countries' resilience and their willingness to reinforce their strategic relations. Marking their 30 year-long journey, ASEAN and the ROK are expected to engage even more vigorously in various areas of collaboration, especially in digital partnership. Hence, to establish the ASEAN-ROK Digital Partnership, both parties need to understand each other's strengths, differences, and limitations, so as to find a common ground for cooperation. The ROK has been recognized internationally for its success in handling the COVID-19 with its robust technology, which has helped to control the number of infections in its population, as well as to mitigate the country's economic slowdown.

However, ASEAN is still suffering from its handling of the fast spreading COVID-19 virus and its variants, and will most likely fall into a severe economic recession due to its limited and unequal access to advanced technology. Since the nexus of technological capability and the success of combating COVID-19 has become clear, the ROK with its advanced technological resources has become a credible strategic partner that can help ASEAN face the challenges of the COVID-19 pandemic. Nevertheless, there are significant barriers that will hamper the full implementation of the ROK's technological adoption in the ASEAN member countries, such as the uneven technological growth, different economic capabilities, and diverse political systems.

Therefore, in line with the challenges, the researchers of this study have considered 5G connectivity, surveillance technology, e-commerce, and cyber security as the four most crucial areas of concern which had to be addressed to face the issues and challenges of the COVID-19 pandemic. In short, the researchers have shown that the ASEAN-Korea Digital Partnership was not only mutually beneficial for both the partners, but it was also essentially crucial to pursue especially in light

of the severe ramifications from the effects of the pandemic. Despite the various possibilities that have been elaborated by the researchers, this research has not yet comprehensively addressed the specific mechanisms required to execute those proposed possibilities. Hence, the researchers would like to invite and encourage future studies to complement this present study by conducting further research into the specific mechanisms necessary and sufficient to address the issue at hand.

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