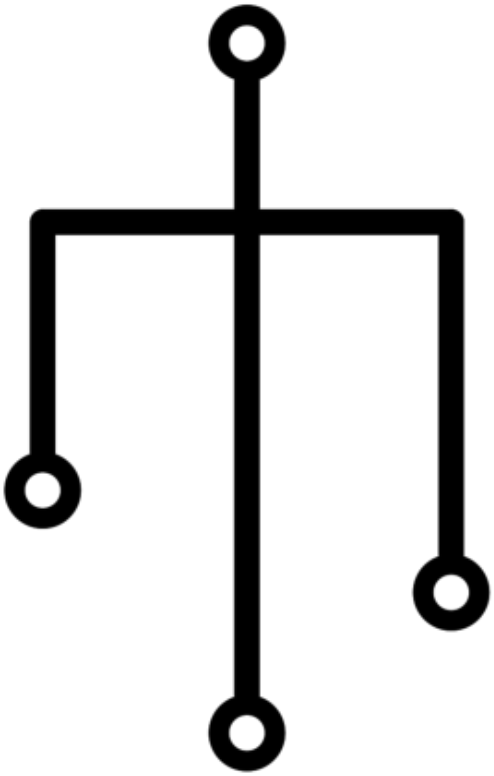
General Overview of Digitalization in the Philippines

August 2021



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Abstract

This paper titled “General Overview of Digitalization in the Philippines” discusses the overall current condition of digitalization in the Philippines and other key related topics. The paper also highlights the current challenges that Philippine society faces amidst the ongoing digitalization and the possible prospects that Philippines may go through in the future. This research highlights that despite the sporadic development in digitalization of the Philippines in some urban areas, the lagging state of overall digital infrastructure has still been a perennial problem and is currently the biggest challenge to maximize the possible benefits of digitalization for the majority of the Filipinos.

Introduction

Considered as the social media capital of the world, it is undeniable that a huge portion of the Filipino population is no stranger to the internet and the digital world. In fact, a survey by the National ICT Household Survey (NICTHS) conducted in 2019 showed that 21.1 million Filipinos are using the internet, with 85% accessing through mobile phones (Tabuga & Cabaero, 2021). Filipinos are largely on-board with and participative in trending topics on different social media platforms and are also on track with the latest in digital technology, riding on the hype for PS5 and iPhone 12, to name a few. The Filipinos' digital technology consumption goes beyond aspects related to entertainment and recreation, as some utilize new technologies to start or improve their businesses, upgrade capacities for their professions, find new hobbies, and purchase food and merchandise via online food delivery services and online shopping. Because of the COVID-19 pandemic, the lives of many Filipinos became more intertwined with the digital world, blurring the boundaries of online and offline lives, making them more inseparable. However, how can we be certain that this is the case for the majority of Filipinos? How do these changes impact Filipinos? More importantly, how does the Philippines fare in terms of digital development with respect to other economies? These are some of the key questions that this paper about the overview of digitalization in the Philippines will attempt to answer.

The paper aims to provide an overview of the current state of digitalization in the Philippines. The discussion into four major sections: (1) Macro-level Assessment; (2) Micro-level Assessment; (3) Goals; and (4) Evaluation. The first and second sections are the core parts of the paper. These two sections are laid down in a deductive flow to present a holistic image of Philippine Digitalization by combining the findings from the general and specific levels. The third section discusses the future of Philippine Digitalization based on the plans and goals of the public sector, specifically by the state and government institutions related to digitalization; and by the private and independent sectors of Filipino society. The last section provides a comprehensive summary and evaluation of the findings of the paper.

With this format and flow of the presentation, the researchers aim to provide a balanced and real-time image of the overall state of Philippine digitalization, as well as the possible plans and goals of institutions responsible for it.

Macro-level Assessment

Introduction

The Macro-level assessment discusses the general state of Philippine Digitalization by comparing three different global ranking indices and utilizing their collected data to create a panoramic presentation by comparing its performance on a global and regional (ASEAN) level, and an individual assessment based on its performance from the previous years and the commonality in the findings of strengths and weaknesses from the three indices.

There are two basic premises as to why the three global rankings, namely, the (1) World Digital Competitiveness Ranking (WDCR) for 2020 by the International Institute for Management Development, the (2) Digital Quality of Life Index (DQL) for 2020 by SurfShark, and (3) Global Competitiveness Index (GCI) for 2019 by Huawei were chosen to be used on this research. First, the three global rankings have the latest data available for 2020 and more wide-ranging methodology and measurements among other rankings. Although there are other comprehensive rankings and indices available, such as the IDI ITU, the limitations in terms of skills and data available hinder the researchers to recreate a paper based on its methodology (also, its latest data is from 2017). Second, using the three aforementioned global rankings would provide a multilateral approach to the research, as the said indices aimed to measure the capability and standing of digitalization in the Philippines by having their own approaches and target sectors of society that are interconnected albeit different (this will be discussed further below).

The flow of discussion involving the comparison of the three indices are as follows: a brief description of goals and metrics of each ranking; the global and regional ranking of the Philippines from the three indices; retrospect of the performance of the Philippines from the past years from each index; and the comparison of strengths and weaknesses of the Philippines from the three rankings as well as a brief evaluation on it.

Also, a separate discussion on the overview of the Internet in the Philippines is included in the last part of this subsection. A separate discussion on this topic is important since the internet is a fundamental aspect of the digitalization of a country and its people. This section also provides corroborative and auxiliary data to the prior subsection.

The Philippines and the Panorama of WDCR, DQL, and GCI Rankings

Goals and Metrics

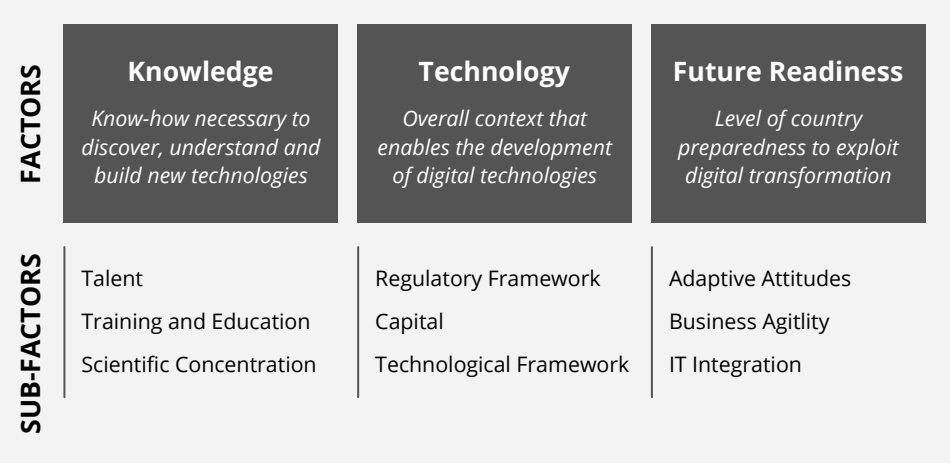
The three global rankings have their target of measurement and metrics used to achieve these goals. WDCR gathered the data from 63 countries to measure the extent to which their economies are capable and prepared "to adopt and explore digital technologies for economic and social transformation" (IMD WDCR, 2020). Knowledge, Technology, and Future Readiness are the key factors for the metrics of WDCR (2020). Meanwhile, the DQL, as its name suggests, measured the quality of digital life of 85 countries using these five factors: (1) internet affordability; (2) internet quality; (3) electronic infrastructure; (4) electronic security; and (5) electronic government (Surfshark, 2020). However, SurfShark made some adjustments to its measurement of internet quality to accommodate the impact and changes the COVID-19 pandemic brought globally (2020). Lastly, GCI focused on measuring the ICT maturity of 79 nations, emphasizing that ICT infrastructure is an important factor for digital transformation that yields the possibility of economic success and productivity gains (Zhang, 2019). To achieve this, they used 40 indicators to measure the

"four technology enablers": (1) broadband, (2) cloud, (3) Internet of Things (IoT), and (4) AI (Huawei, 2019).

The key factors of each ranking are further subdivided into subfactors and specific indicators. Below are the charts containing the details of the subdivision of the three rankings.

Chart A1

IMD Digital Competitiveness Ranking 2020 Factors and Subfactors



From: Institute for Management and Development. (2020). *IMD World Digital Competitiveness Ranking 2020 (No. 1).*
https://www.imd.org/globalassets/wcc/docs/release-2020/digital/digital_2020.pdf

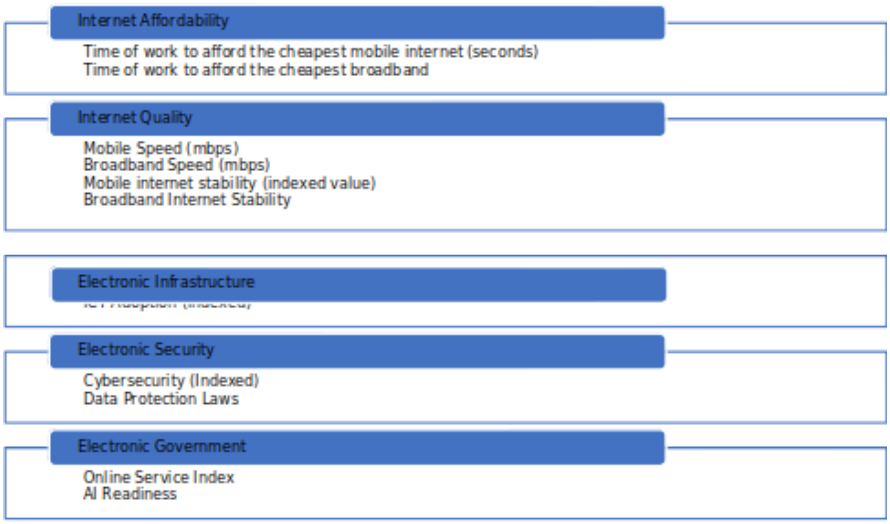
Chart A2

Digital Quality of Life 2020 Indicators and Index Components

From: *Digital Quality of Life Index 2020.* (2020, July 17). Surfshark. https://surfshark.com/dql2020

Chart A3

Huawei Global Competitiveness Index, Indicators and Sub-indicators 2019



From: Huawei. (2019b). *Powering Intelligent Connectivity with Global Collaboration. https://www.huawei.com/minisite/gci/assets/files/gci_2019_whitepaper_en.pdf?v=20191217v2*

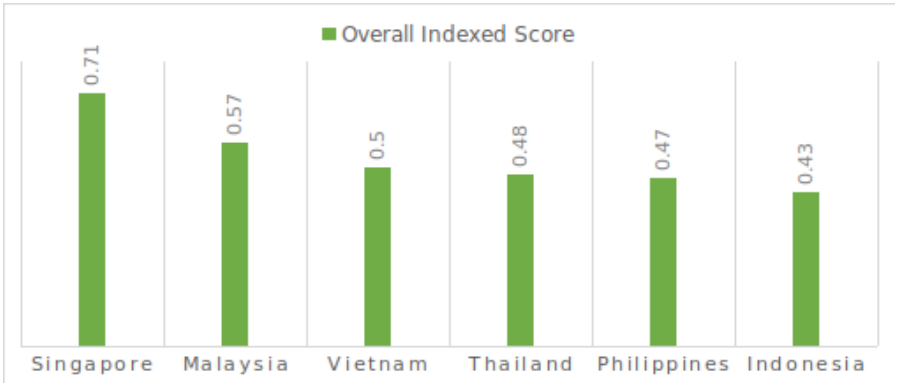
Philippines, Global, and ASEAN Rankings

The Philippines ranked 57th with an indexed score of 50.031 in the WDCR out of the total 63 countries included in their index (IMD WDCR, 2020). It was included in the Bottom 10 in the overall ranking, placing as 4th and preceded by Indonesia (rank 56) in the said bracket (2020). In a separate bracket for countries with a population of more than 20 million, the Philippines ranked 23rd (2020). Meanwhile, with an indexed score of 0.47 DQL ranked the Philippines as 66th out of 85 countries (SurfShark, 2020). The global average for this index is 0.56, while 0.48 for the Asian Region (2020). On the other hand, the GCI ranked the Philippines as 59th out of 79 countries (Huawei, 2019). In addition, the Philippines got an overall score of 37 out of 120, making it the 4th out of 24 countries in the Starters Bracket, where countries included are considered to be in the early stage of ICT infrastructure build-out (2019).

Aside from global ranking, it is also worth noting the position of the Philippines in connection to its ASEAN neighbors as most of these countries are still in the developmental stage of digitalization, and fitting to be a point of comparison (Mia and Habradas, 2020). The Philippines is clustered in the Asia-Pacific geographical division of WDCR and is ranked as the 13th (IMD WDCR, 2020). But it would rank as 5th and last if compared side by side with its ASEAN neighbors included on the said global ranking with Singapore topping the list (2020).

Chart B1

Ranking of ASEAN Countries on IMD WDCR 2020

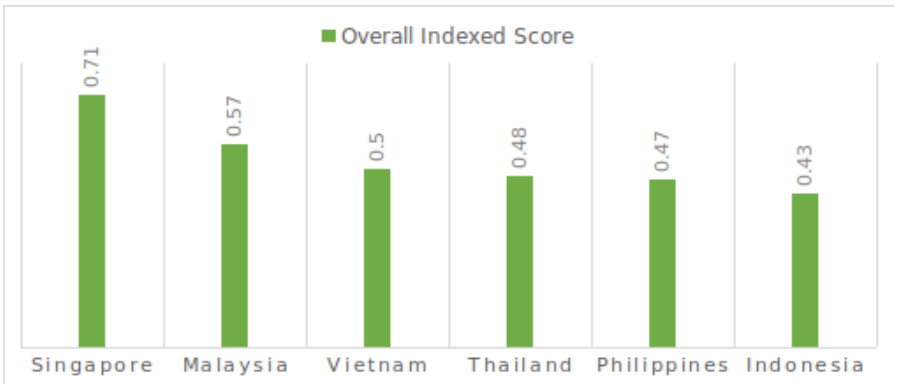


Note: Only the data of ASEAN countries included in the global ranking is presented on the table;
From: WDCR 2020

On a similar note, the Philippines ranked as 5th out of 6 countries in the ranking of ASEAN nations in the DQL 2020 (SurfShark, 2020). Again, Singapore got the highest, with a global rank of 12, followed by Malaysia in 41st, Vietnam in 54th, Thailand in 63rd, the Philippines in 66th, and lastly by Indonesia in 71st (2020).

Chart B2

Ranking of ASEAN Countries on DQL 2020

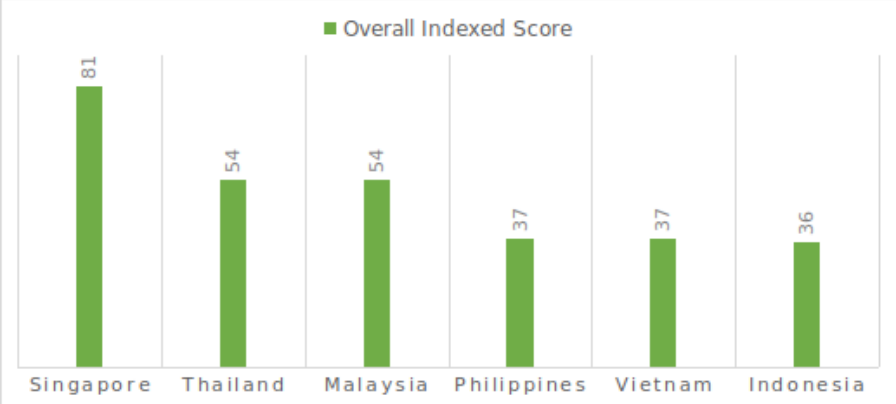


From: DQL 2020

Likewise, the Philippines got the same position as the 5th in comparison with its fellow ASEAN members in the GCI 2019 (Huawei GCI 2019). Singapore ranks first, with a global ranking of 4, followed by Malaysia in 30th, Thailand in 54th, Vietnam in 57th, the Philippines in 59th, and Indonesia in 62th (2019). The Huawei GCI 2019 has a special categorization of countries labeling them as either Frontrunners, Adopters, and Starters, about their ICT infrastructure development (2019). Singapore is included in the first; Malaysia and Thailand on the second; and Vietnam, the Philippines, and Indonesia on the last.

Chart B3

Ranking of ASEAN Countries on Huawei GCI 2019



From: GCI 2019

Retrospect of Philippines

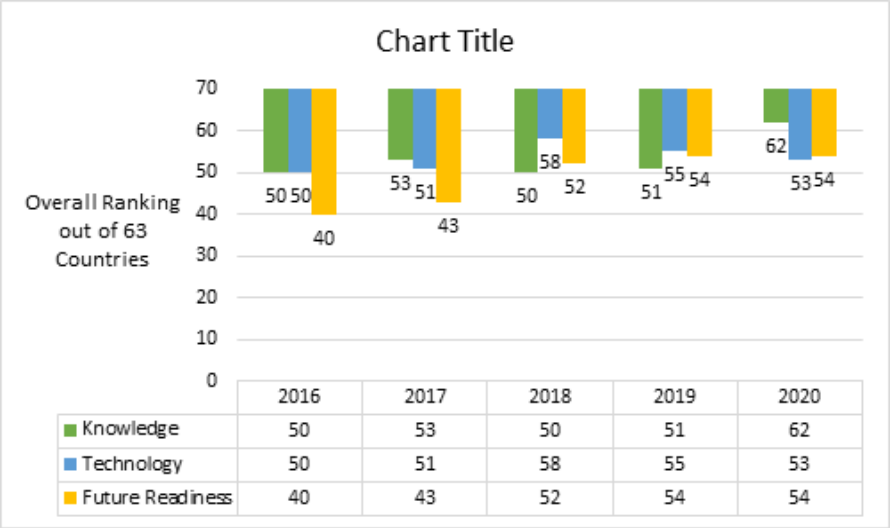
Aside from comparing its latest performance with other countries around the world and its South-East Asian neighbors, it is apt to provide a retrospect on the performance of the Philippines for the past performance for five years based on two global rankings of IMD WDCR and Huawei GCI. The reason for not including the DQL 2020 is that it is impossible to create a detailed and accurate retrospect of this ranking, as it was only initiated in 2019, hence, making it impossible to lay down a five-year performance comparison. Besides, the methodology of 2019 and 2020 has several differences such as the number of countries, key factors, and normalization of data.

The Philippines showed a 5-year decline of ranking since 2016, placing as 46th with a score of 65.540 from that year to 57th with a score of 50.031 in 2020 assessment of WDCR (although there was a one-point increase in 2019) (IMD WDCR, 2020). Meanwhile, the Philippines had stagnant mobility in ranking since 2015 based on the reports of GCI from 2015-2019 (Huawei GCI 2020). Nevertheless, its overall score showed an upward trend, scoring a 30/120 for 2015 while increasingly obtaining a 37/120 in 2019 (2020). Although it moved a bit higher, the 7 points increase is a small improvement for five years.

Charts C1 and C2 briefly summarize the 5-year performance of the Philippines based on its overall ranking and key indicators of WDCR 2020 and GCI 2019 (2 tables).

Chart C1

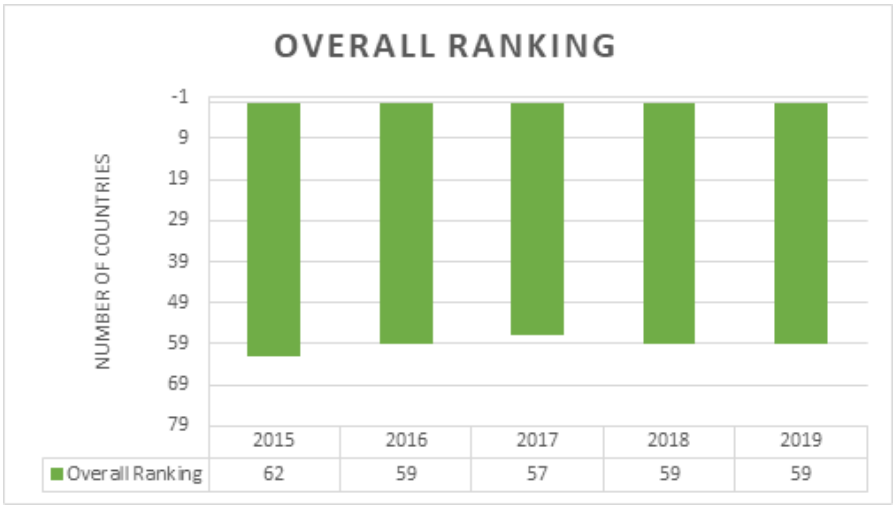
2016-2020 Ranking of Philippines in IMD DCWR 2020



Note: The numbers refer to the ranking of the Philippines out of 63 countries meaning that the higher the number, the lower its rank is.
From: DWCR 2020

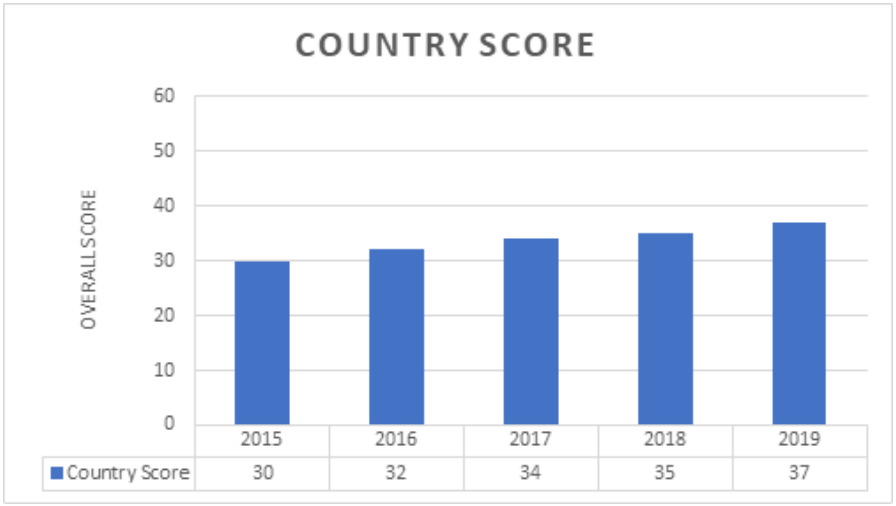
Chart C2

2015-2019 Ranking of Philippines in Huawei GCI 2019



From: GCI 2019

2015-2019 Overall Score of Philippines in Huawei GCI 2019



Note: The ranking of the Philippines had been staying in the same range for the past five years, while its overall score has shown an increasing rate, meaning that despite its effort to develop, it is still being outperformed by other developing countries.
From: GCI 2019

Comparison of Strengths, Weaknesses, and Potential

Finally, this part will compare and discuss the strengths, weaknesses, and potential of the Philippines based on the three global rankings. This aims to create a more compact and scientific analysis by drawing out the commonality among the three independent methods and indexes. To accomplish this task, the researchers organized the strengths and weaknesses of the Philippines based on the (1) individual assessment of indexes themselves and the (2) highest score and the lowest score on their subfactors and indicators based on their latest available data, then categorizing them by their common denominator based on the following: (1) E-Government; (2) Techno-infrastructure Investment; (3) Internet Connection; (4) (Business); (5) Law Enforcement; and (6) Technological Availability to People.

Charts D1 shows the organized comparison of strengths, while D2 shows the weaknesses:

Table D1

Strengths of the Philippines based on the Three Rankings

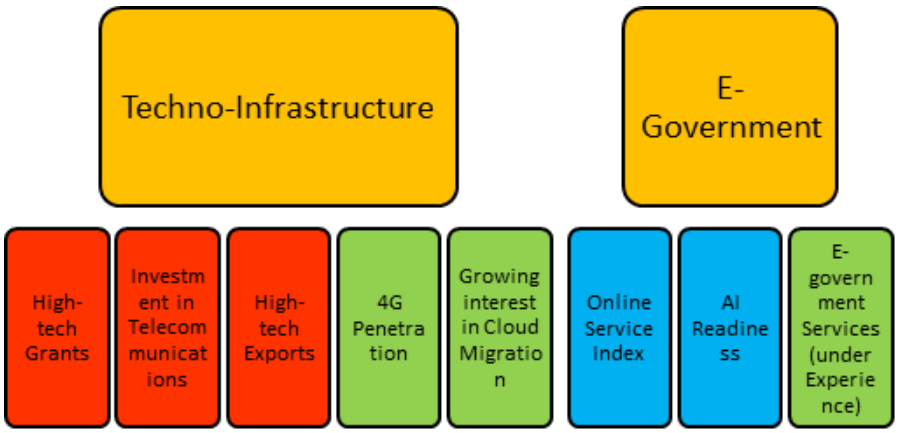
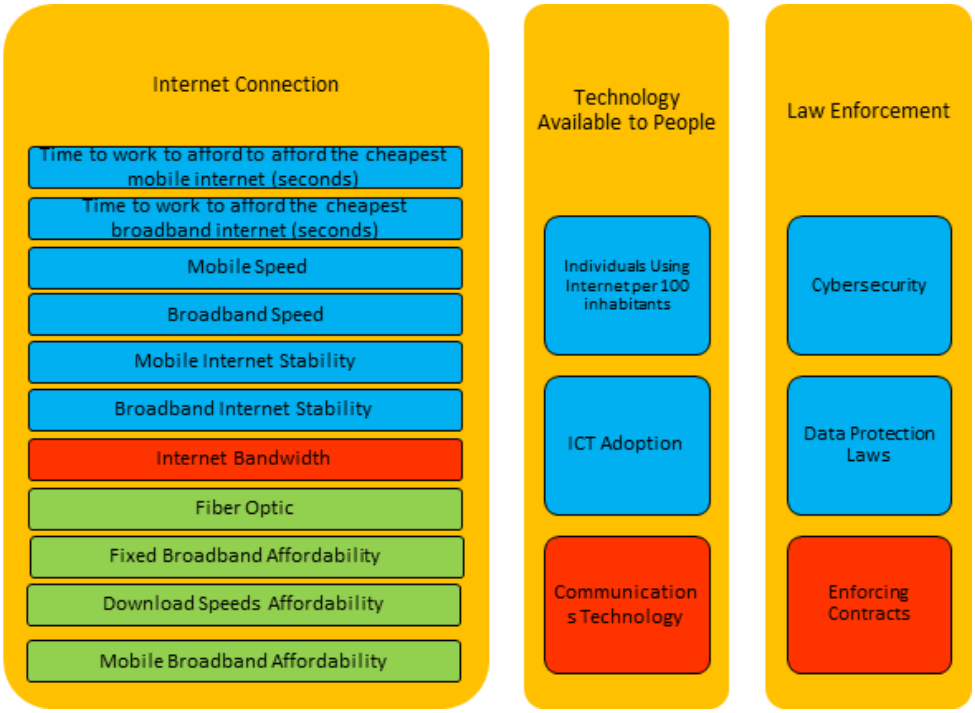


Table D2

Weaknesses of the Philippines based on the Three Rankings



Note: The boxes on both tables represent which ranking the specific indicator was extracted. The red is for WDCR; blue for DQL; and green for GCI.
From: IMD WDCR (2020), SurfShark (2020), and Huawei GCI (2019).

Based on the data from Table D1 and D2, we can conclude the following about parallelism of the strengths and weaknesses of the Philippines based on the three rankings:

1. The main strong points of the Philippines in terms of digitalization and ICT development currently lie in its **e-government** and **techno-infrastructure investment**.
2. On the other hand, the Philippines is weak in more digitalization aspects, specifically, **law enforcement**, **technological availability** to people, and **internet connection**.

Of all the weaknesses stated above, the problem with the internet connection is the highlight and existing among the three rankings. In the WDCR, the Philippines ranked 61st on the sub-indicator internet bandwidth. Similarly, the Philippines got the lowest score on the Internet Affordability and Internet

Quality ranking of DQL 2020, ranking as 82nd and 77th, respectively. The result from GCI 2019 is not that different, as shown that the Philippines performed poorly in aspects related to a reliable internet connection, specifically on the fiber optic and broadband affordability. A separate overview of the state of internet connection in the Philippines will be further discussed in the next section.

Although the aforementioned five elements were deemed by the three rankings as the factors worth highlighting in the Philippines, it does not necessarily mean that they function excellently in reality. For instance, according to Khalid and Laville (2019), the e-government of the Philippines is significantly lagging as most of the e-government websites are still on the emerging stage, while those belonging to urbanized cities are only on stage two. The Commission on Elections data leak incident is a controversial case showing the frailty of the Philippine e-government when it comes to data security (Foundation for Media Alternatives [FMA], 2018).

For its potential aspect, the Philippines got an average grading on the Future Readiness factor of WDCR 2020 which is composed of three subfactors, namely adaptive attitudes, business agility, and IT integration. The Business Agility subfactor only got a slightly higher score of 32 (IMD WDCR, 2020). On the brighter side, the Huawei GCI 2019 saw a huge potential on the investments in cloud migration and other telecommunication structures of the Philippine government, stating that it is a huge step for a starting ICT country (Huawei GCI, 2019). GCI still emphasized that the Philippines needs to address its gaps in supply and demand (e.g., Internet affordability and the growing number of users) to maximize this potential (2019).

Overview of the Internet in the Philippines

The internet is a fundamental aspect of digital society, but it is merely part of digitalization as a whole. As shown in the previous section, the Philippines is underperforming in this particular aspect. A quick overview and breakdown of

its status and some of its key components in the Philippines are necessary to create a complete picture of digitalization in the Philippines.

General Information

As of January 2020, the population of the Philippines reached approximately 108.8 million (Kemp, 2020). 73 million of them are active internet users, equating to 67% of internet penetration—the same number is the active number of Filipinos using social media (2020). Among the 73 million internet users, ranging from aged 16 to 64, 93% use smartphones, while 67% use either a laptop or desktop (2020).

Chart E1

Device Ownership of Filipino Internet Users

Note: The numbers on the chart are based on the January 2020 data of Hootsuite.
From: Kemp, S. (2020, February 18). *Digital 2020: The Philippines.* DataReportal – Global Digital Insights. https://datareportal.com/reports/digital-2020-philippines

Internet Use

Filipino internet users spend at least 9 hours and 45 minutes of their day on the internet (regardless of device), while at least 5 hours and 11 minutes

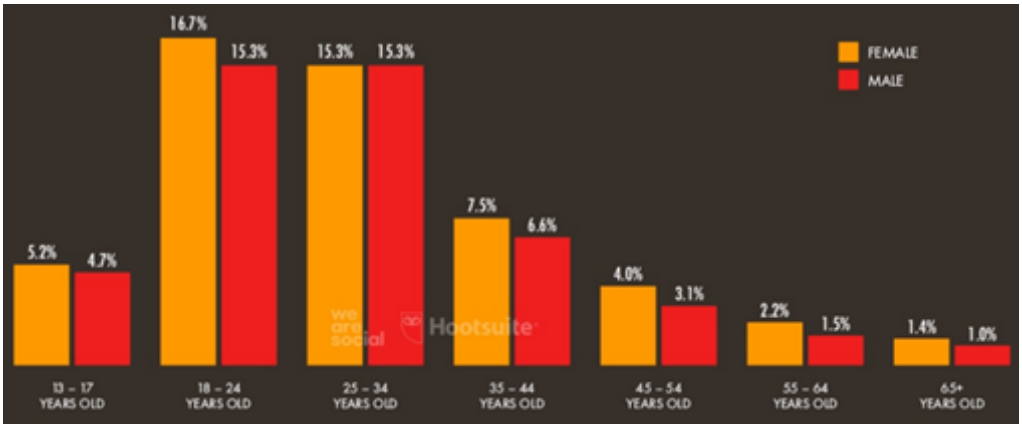
are spent using mobile devices (Kemp, 2020). Despite the amount of time people spend on the internet using mobile phones, there is a big disparity in the speed of mobile data and fixed internet connections (broadband), with the former only playing on an average of 16.76 Mbps, while the latter on a 25.55 Mbps (2020). Google, Facebook, YouTube, Pornhub, and Yahoo are the top five most visited websites in the Philippines based on their monthly traffic (2020).

Social Media Use

It is reported that 98% of Filipinos access their social media via mobile phones (Kemp, 2020). The age groups of 18-24 and 25-34 comprised the majority of Filipino social media users (see Chart E2) (2020). Aside from its use for personal, entertainment, and informative purposes, Filipinos use social media for work-related tasks as well, as it was reported that 60% of its users utilize it for work purposes (2020). On the type of content that Filipinos consume the most, watching online videos tops the list, gathering 98% of the share of total internet users (see Chart E3) (2020). Facebook, considered the top social media network in the Philippines, is accessed through mobile phones by 97.8% of its users (see Chart E4) (2020).

Chart E2

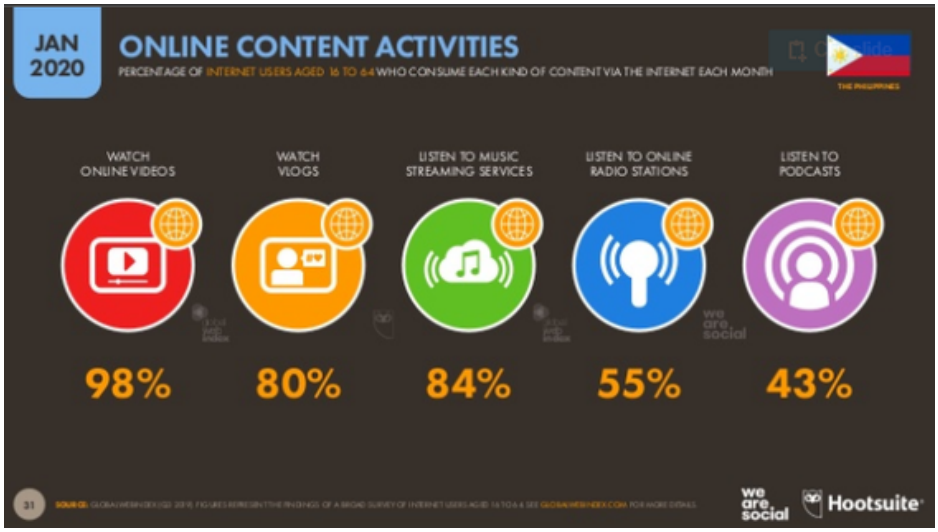
Age Distribution of Internet Users in the Philippines



From: DataReportal.com

Chart E3

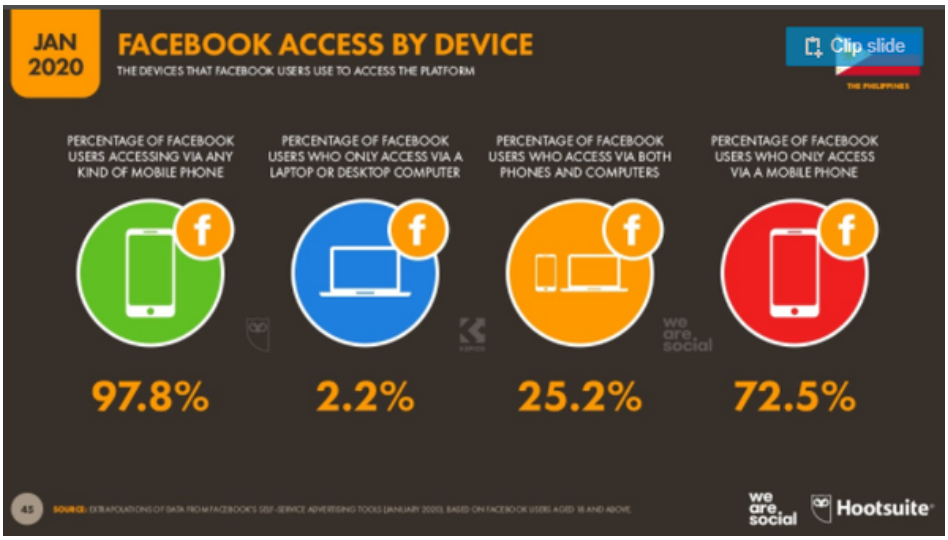
Rate of Consumption of Filipinos on Different Online Content



From: DataReportal.com

Chart E4

Access to Facebook by Device



From: DataReportal.com

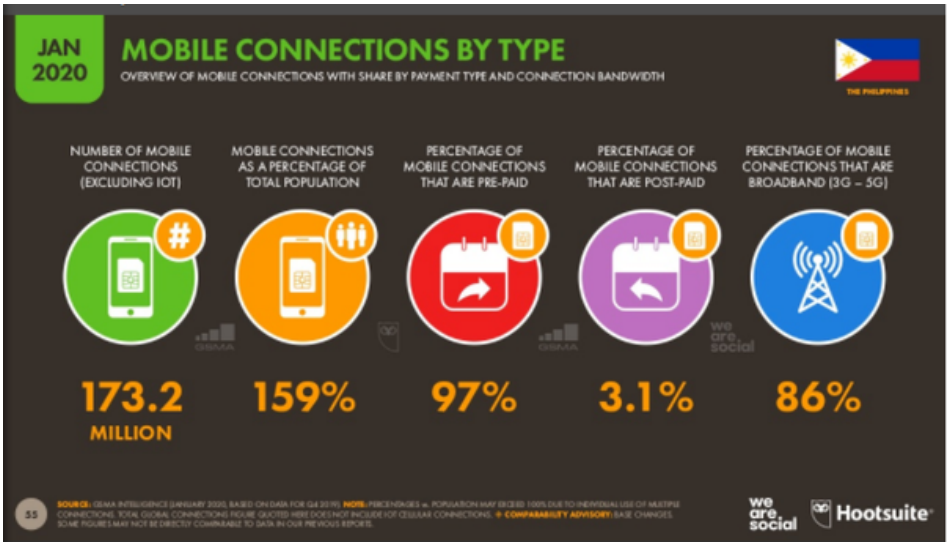
Mobile Connections

According to the report from Kemp (2020), there are 173.2 million mobile phone connections in the Philippines, showing a 28% increase from last year. It should be noted that the reason it surpassed the population of the

Philippines itself is due to the multiple device ownership of an individual (2020). As stated earlier that more than 90% of Filipinos access the internet through mobile phones, 97% of them resort to pre-paid data connections, while only 3.1% are subscribed on a postpaid plan (see chart) (2020).

Chart E5

Types of Mobile Connections in the Philippines



From: DataReportal.com

Ecommerce

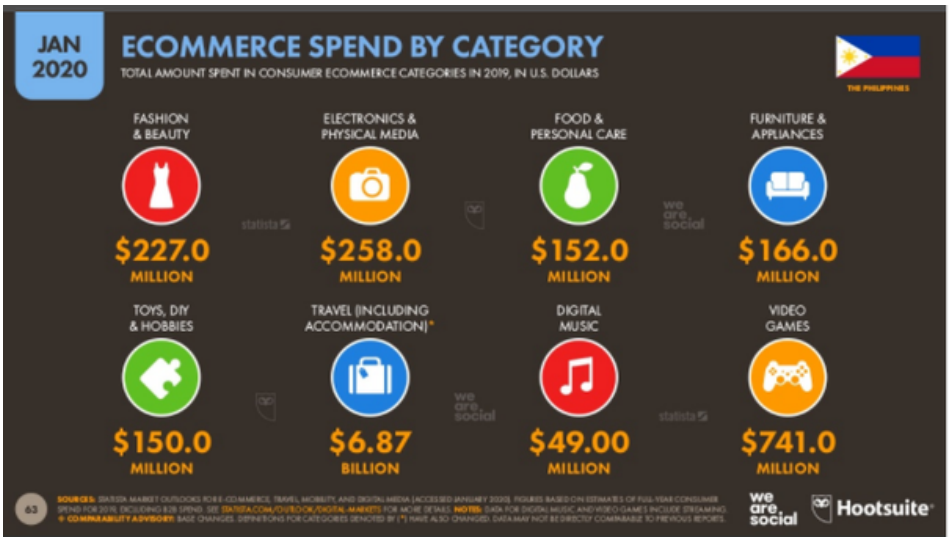
E-commerce has become a vital aspect of the daily digitalized life of Filipinos, despite its relatively new penetration in the Filipino mainstream society. It is reported that 48.7 million Filipinos purchased online consumer goods in 2019 (Kemp, 2020). The total value of the market amounts to Php46 billion, of which video games top the list as the largest earning e-commerce category, with a total of approximately Php36 billion (see chart below) (2020).

Majority of the online consumers amounting to 47% pay using cash while 42% use bank transfer (see chart) (2020). This is not surprising, as there are only 32% of Filipinos that have a bank account while only 4.5% have mobile money accounts (2020). Regardless of the mode of payment, the average annual transaction of a Filipino online consumer totals nearly Php 7,300

(2020). Related to e-commerce is the ride-hailing market, with at least 6.3 million Filipino consumers as of 2019 (2020).

Chart E6

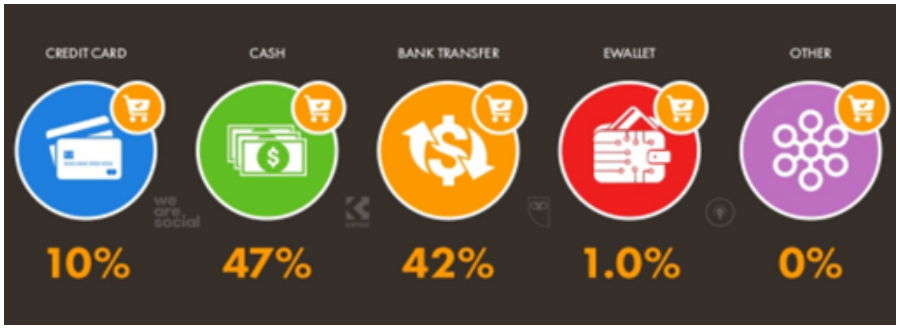
E-commerce Spend by Category



From: DataReportal.com

Chart E7

E-commerce Purchase by Method



From: DataReportal.com

Section Summary

Several important points could be gathered for this part. First, the Philippines placed one of the lowest brackets in all of the three latest global rankings of IMD WDCR 2020, SurfShark DQL 2020, and Huawei GCI 2019. It was not

performing poorly and slowly globally, but it is also being outperformed by its ASEAN neighbors, of which most are on the starting stage of digitalization in the previous years as well. Indonesia is the only ASEAN country that the Philippines outperforms in some aspects.

Second, the declining performance of the Philippines is not only obvious from the comparison angle but also stemming from an intrinsic perspective. As shown by the data of IMD WDCR 2020 and Huawei GCI 2019, the Philippines had a downward trend of ranking from their key indicators. Exempted to this is the score of the Philippines on the GCI 2019, which shows an upward trend.

Third, the Philippines, despite its low ranking, does not only consist of weak points but also possesses some strong aspects and potentials in its respect. Among its strengths are the e-government and techno-infrastructure investment. Its weaknesses, on the other hand, are law enforcement, technological availability to people, and most importantly, the internet connection. The three global rankings saw the problem of internet connectivity in the Philippines as a major issue, as it is one of the fundamental aspects of ICT structure and digitalization not only on the structural level but also on the ground level.

Fourth and last, despite the craggy internet status, the Filipinos continued digitalizing their daily lives and lifestyle in general. This can be seen in the continuing rise of internet and mobile penetration, and budding e-commerce.

In the next section, the paper will cite on-ground examples of cases in digitalization in the Philippines as a form of substantiation to the data given above.

Micro-level Assessment

By providing on-ground cases on the process of digitalization in the Philippines, this section aims to provide substantiating and corroborative pieces of evidence from the previous macro-level section. The micro-level section cites cases of challenges and adaptations of Filipinos on this stage of digitalization, especially amidst the challenges of the COVID-19 pandemic. This section will provide a brief discussion on the following topic on the ICT status in the Filipino society: (1) issues on internet connectivity; (2) the increasing importance of e-commerce; and (3) e-governance. This section adds to the ultimate goal of this paper to provide a more holistic picture of the status of digitalization in the Philippines.

Issues on Internet Connectivity

This subsection will cover two topics: (1) the difficulty of online classes in the Philippines; and (2) the DITO Telco. The challenges for and responses of Filipinos on the shift from traditional to the online set-up of classes during the COVID-19 pandemic will be examined on the first one. Meanwhile, the security and other issues involved in the new Telco company in the Philippines will be tackled.

Online Classes in the Philippines

As discussed in the previous section, the Philippines have some major issues when it comes to internet connectivity, particularly on its speed and affordability. Filipinos pay more for their slow internet services in comparison to Singapore and Thailand, which offer faster internet speed at a similar price (Leyco, 2020). This difficulty of access became even more apparent during the start of online classes as an adjustment for the ongoing pandemic. Some students who cannot afford to attend online classes, known as "online synchronous" can go for "remote asynchronous" learning. Even though

presented with this alternative, 44,000 college students would not enroll for this academic year due to fear of contracting the virus, issues on finances, availability of gadgets, and their location is far from their schools (Magsambol, 2020).

Unfortunately, even those who were able to attend online classes face their kind of challenges, such as technical difficulties, and of course, internet reliability and stability (Amadora, 2020). One teacher recounted that during the online class, the number of students connected started to decline from 45 to 37, saying that this might be due to the perennial problem in internet connection (Adonis 2020).

There were extreme cases wherein a student from Ilocos Sur needed to climb a mountain to catch a good internet signal, and had to run down and return to her home when her batteries ran out (GMA News Online, 2020). Aside from going to a risky place, the student has also been in constant danger due to rain and possible lightning strikes in her "study area" (2020).

Several institutions, both private and public, were quick to act and respond to these challenges. Some personalities started to donate gadgets such as tablets and laptops, while some initiated crowdfunding, such as the #PisoParasaLaptop initiative to the needy students struggling to fit in online classes (Niño, 2020). City governments also initiated the distribution of free gadgets and internet packets to their constituents, both students and teachers. Pasig City, for instance, allotted Php1.2 billion for a similar project in June of 2020 (Santos, 2020).

DITO Telecommunications

Related to the issues on the internet connection in the Philippines is the duopoly of the two giant telcos Globe and PLDT. Despite their large profits from 2000 to 2015, with PLDT, Smart, and Globe having a profit margin of 40.2%, 50.4%, and 46.5% on this period, respectively, they failed to improve their services, especially in the far-flung areas in the Philippines (IBON, 2017).

Although there were other contending telco companies as of 2020, such as Converge, the aforementioned two are still the major players in the industry.

Entering as a new competitor, the DITO Telco can offer some hope for the internet connection of Filipinos, as it already passed its franchise of 25 years in the Lower House as of August 25, 2020, under the H.B. 7332. (Rosario, 2020). But this new telco competitor (formerly the Mislatel) has been involved in security issues, as its technological partner is under China Telecom, a company owned by the Chinese government which abides under the Chinese law to provide intelligence to the government (Manila Standard, 2020). Such is the reason why several groups have deemed it as a Trojan Horse. Stoking the furnace of doubt, even more, is the plan of DITO to build cell towers inside military camps itself, furthering the fear of using these infrastructures for espionage, eavesdropping, and other threats in security (CNN Philippines, 2020). As of March 8, 2021, DITO Telco has officially announced the start of its commercial operation a week after it passed the technical audit of the National Telecommunications Commission (NTC) on February 22, 2021 (Rey, 2021).

E-commerce

As shown in the previous section on the macro-scale level, e-commerce has become a new niche in the digitalized society of Filipinos purchasing online goods—and it continues to become bigger. But this industry has paradoxically become more lucrative during the pandemic because people cannot go outside on the premises of their homes due to health risks and lack of mobility (Arreola, 2020). One good example is the 376% growth experienced in the first half of 2020 by Shopback Philippines (Lunas, 2020). Shopee, another online selling platform, stated that e-commerce spread nationwide during this pandemic, not only helping products and goods reach remote areas but also help local businesses and promote cashless transactions and other modes of online payment (Villanueva, 2020).

Aside from online-selling websites, Facebook became a pivotal platform and source of income for people during the nationwide lockdown, especially in the early stages (Barreiro, 2020). Some of the people who resorted to online selling on Facebook were those who lost their jobs due to this pandemic. Several groups on the said social media were created to cater to different types of goods and services—acting like an online bazaar where everyone can buy and sell according to their liking (2020). As the pandemic hit some Filipinos worse, barter trading groups on Facebook also popped out sporadically (Morales, 2020)

E-governance

Limiting the rate of increase in the number of COVID-19 cases is the responsibility of the government, from national to local. And one of its means to immediately identify the possible individuals infected by the virus is via contact-tracing methods. And to avoid it becoming a further spreader, services such as these should be contactless. Despite the lack of clear order from the early stages of the pandemic, the city of Valenzuela, for instance, managed to construct its Mega Contract Tracing Center (MCTC), which has a set-up similar to a call center (Abad, 2020). Related to this is the implementation of a contact tracing application, known as ValTrace, that offers an alternative for pen and paper contact tracing for stores by just simply scanning the registered QR code on the city website (Kabagani, 2020). Even the residents outside the city are required to present a QR code to enter the government and business establishments in the city (2020).

Goals

This section will briefly discuss the future of digitalization in the Philippines based on the ICT development plan of the agencies related to this industry. Specifically, this part will revolve around the plans of the government and other private institutions.

Government

The government has two major roadmaps for the future of digitalization in the Philippines: the E-Government Masterplan (EGMP) 2022 and the National Cybersecurity Plan of 2022. As a successor to the EGMP 2016, the first one focuses on the digital transformation of basic services to "promote open governance" and provide "more efficient and cost-effective public services to citizens and businesses" (Umali, 2019).

The second one, on the other hand, aims to create a "Cyber Resilient Philippines" by fortifying the defenses of the cybersecurity of the country (Reyes, 2017). Aside from strengthening the fundamental aspects of cybersecurity, such as the “infostructures”, public and military networks, and inter-agency coordination, especially with law agencies, the NCSP 2022 also pushes for the integration of cybersecurity in the Philippine education system (DICT, 2019).

Private Sector

Meanwhile, private institutions, such as the PwC, an auditing firm that offers advisory services to various industries, deemed the MSMEs in the Philippines as the potential innovators on the ongoing digital transformation in the Philippines (Lavilla, 2020). However, MSMEs still face difficulties in adopting digitalization in their business and operations, especially when it comes to the financial and technical aspects (2020). For the MSMEs to be competitive and maximize their potential to become the cradle of innovation, PwC suggests the following to be done: (1) providing them proper technologies; (2) improving internet infrastructures; and (3) financial support (2020). The second and third advice heavily relies on government efforts.

Evaluation

As shown from the previous sections, the digitalization and ICT development of the Philippines has shown poor performance in comparison with other countries—not only globally, but also with its ASEAN neighbors who were on the same level for the past years. Although it should be considered that the poor status of ICT in the Philippines is because it is still in its budding stage, the global rankings have shown that its performance for the past five years has been on a downward trend. According to WDCR, the continuing decline of the Philippines in terms of ICT development and competitiveness is due to the lacking of internationally experienced senior managers that could have ushered the growth of training and education subfactor by attracting highly skilled foreign personnel and employee training (IMD WDCR, 2020). More importantly, the comparison of the three rankings showed that the Philippines has a major issue with its internet connectivity and infrastructure. The affordability and inaccessibility of the internet for the majority of the population remains a perennial issue, coincidentally forming a chain reaction that affects the ICT development and digitalization of the Philippines, both on the structural and ground level.

The weakness of the internet in the Philippines dealt a heavy blow on the Filipinos, as seen in the struggles of students, parents, and teachers on the quick shift to online classes due to COVID-19. The pandemic did not only highlight the fragility and inadequacy of internet service in the Philippines, but it also highlighted the great divide between the people who have the access to technology and those who do not, of which the majority of the Filipinos belong. Fortunately, there were efforts made by private and public sectors to provide necessary technical assistance. But sporadic efforts by a few good-willed groups and individuals can only be considered as a band-aid solution. A more intensified and radical solution from the government is urgently needed, especially if they themselves consider these scenarios as the "new normal".

One of the possible ways to improve the quality of the internet in the Philippines is through massive investment in ICT infrastructure by the government and not an additional “competitor” to turn the duopoly into an oligopoly. With a core principle of serving the interest of the Filipinos, the government should not only improve the overall state of the internet in the Philippines by making it more accessible and reliable to the majority but also support other ICT sectors such as hardware manufacturers, software researchers, and developers. This step would not only be in favor of the local economy as it will advance the local technological development that is adjusted and adopted with the unique local demands but will end the continuous dependence on foreign products. Aside from the economic advantage, using well-suited local ICT products will increase the probability that the security and privacy of the data of consumers, as the entities (whether private or public) are subjected to local laws and institutions. This can only happen if the national government would prioritize people in this particular agenda.

Things are not always dark, however, as the paper has shown the strengths and potentials of the Philippine digitalization, particularly on its e-government and investment in techno-infrastructure. Fortunately, the E-government Masterplan 2022 and National Cybersecurity Plan 2022 both maximize the said strong points. Investments in MSMEs should also be given a highlight, especially with their quick digitization and innovation as an adaptive response to the challenges posed by the pandemic. Technical and financial support, as reiterated by the PwC, should be given to this sector of our society.

To cut it short, until the status of the internet connection in the Philippines does not improve, along with other problems such as the lack of proper allocation of technology, training, and education, the digitalization of the Philippines will remain stagnated and stuck at the early stage. The large potential at the societal level, such as the large active social media users, a large percentage of mobile penetration, among others, will just go to waste and will never be maximized. Unless the duopoly of two telco giants will not be broken,

the improvement will be far from getting realized. Instead of actively building its downfall—or more precisely, its people—the government can formulate proactive solutions that are sustainable, long-term, and for the people.

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