EXPLORATION ON DIGITAL TRANSFORMATION FOR ENTERPRISES UNDER THE PANDEMIC

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This Independent Study has been Approved as a Partial Fulfillment of the Requirement of an International Master of Business Administration in International Business Management

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Declaration

I, CUI JINGPING, hereby certify that the work embodied in this independent study entitled "EXPLORATION ON DIGITAL TRANSFORMATION FOR ENTERPRISES UNDER THE PANDEMIC" is result of original research and has not been submitted for a higher degree to any other university or institution.

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ABSTRACT

This research paper aimed to explore digital transformation for enterprises during the pandemic. Obviously, COVID has changed the way individuals and businesses interact and operate. In this new society, where direct contact between people was limited, digital, online, and smart were the new face-to-face. Businesses were more reliant than ever on digital technology to communicate internally, manage teams, interact with customers, and bring their products and services to market. The demand for truly shared digital experiences and digital communities was soaring, and adjust the business models to meet new demands. The objectives of this study were 1). To study what digital transformation carries out to be a successful enterprise in the crisis of the pandemic.2). To analyze how to transform Digital Technologies to the enterprise under the pandemic.3). To express how effective digital transformation to the enterprise under pandemic.

This study uses the documentary method. According to these studies, nodes investigate information linked to digital transition, publication time distribution, country of research, paper emphasis, and technique. The researcher included nodes pertaining to industry sectors, study fields, B2B marketing theories employed, and possible influence on the digital transformation process.

The coronavirus (Covid-19) crisis evidenced that technologies allow some segments of the population to choose where and when to work more freely, which can improve work-life balance, and for work environments to be made safer and healthier. The Covid-19 crisis also highlights the digital divide in the region as an urgent concern, as poor and vulnerable workers without the access and skills to benefit from digital tools are being left behind. Those unable to exploit the new digital tools are

likely to be more affected by the health, economic and social consequences of the crisis, potentially widening socio-economic inequalities.

Keywords: digital transforming, innovation technology, enterprises, pandemic, COVID.

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1. Introduction

1.1 Research Background

The COVID-19 epidemic has severely changed global working norms, making it vital for enterprises to adjust rapidly or face closure. Businesses have resorted to digital transformation and technology, which were already becoming an increasingly essential element of the workforce before to the epidemic, as a beneficial way to boost employee engagement, efficiency, and workplace flexibility.

In the early days of the COVID-19 pandemic in Thailand, enterprise leaders quickly realized they had to change the way their organizations did business, especially with the advent of employees working remotely. Existing business procedures, as well as formal business models, had to be converted to a new normal in which the majority of actions involving workers, partners, vendors, and consumers took place electronically. The epidemic prompted urgent operational changes at a time when many organizations were already engaged in ambitious digital transformation efforts. The epidemic had IT managers scurrying to ensure their resources were ready to accommodate the unexpected surge in remote working, even from home to work, while advanced digital platforms were being designed and deployed (Kirvan, 2021).

Teachers have grown increasingly proficient at crafting virtual lesson plans even in schools, where students have switched to remote classes in many school systems and colleges. The educational potential of this, particularly the ability to open doors for those who would have previously struggled to attend specific schools due to distance, is unlikely to be overlooked (Dr Hodari, 2020).

The rise of disruptive new digital technologies has sparked a global demand for exceptional digital services. Governments and organizations all around the globe are undergoing extraordinary change as they rethink their operational models and replace analogue systems with digitally updated ones. For many years, digital tools have been a fundamental part of business life; they are used to enhance processes, conquer new markets, modify business models, and, most crucially, affect how organizations or even nations are seen in terms of competitiveness.

The Fourth Industrial Revolution refers to this worldwide shift (i.e. Industry 4.0). Its ultimate goal is to make everything around us "smart," which makes it more of a digital makeover than a physical one (Chou, 2019). Adoption and adaptation to digital is more than a choice. The continuing changes in consumer expectations and behavior

need both businesses and government agencies to lead a digital transformation. On a commercial level, the use of digital technologies helps businesses to become more customer-centric and hence more effective in responding to market needs.

As a result, in order for organizations to remain competitive and avoid falling behind, it is critical that they assess, plan, and advance their digital transition. According to Chou (2019), firms who have not achieved "digital readiness" cannot be converted in the new digital era since they will encounter several challenges that would prevent them from profiting from the transformation.

In the case of governments, digital transformation may be fueled by a variety of local and global causes such as increased openness, increased citizen happiness and confidence, cost-cutting, improved rankings, and attracting new investors. However, digital transformation as a strategy needs constant upgrading to stay up with changing customer behavior, making it a time-consuming and energy-intensive process.

A novel coronavirus illness was discovered in Wuhan, China, on December 31st, 2019. The World Health Organization dubbed it Covid-19 and declared it a pandemic on March 11, 2020. (WHO, 2020). As a result, nations all over the world have imposed harsh restrictions on their people to halt the spread. By the time this article is published, 213 nations worldwide have reported over 11.4 million confirmed cases.

As the coronavirus spreads, numerous nations appear to be confronted with new and unexpected obstacles. The social and economic consequences of the Covid-19 epidemic are impossible to estimate currently. Along with the health crisis, there are concerns of a long-term global economic catastrophe as a result of the actions taken by governments and business sectors.

Most businesses and public administrations were hit by the effects of Covid-19 since people were asked to work from home, which means more use of digital tools (e.g. delivery apps, video conferencing software, etc.).

As a result, rather than just digitizing the interaction between company and consumer, it is now a responsibility to also digitize the relationship between business and employee, which gets us back to the Moroccan digital infrastructure and whether enterprises and customers are ready to go digital.

Considering these conditions, the goal of this article is to investigate the influence of the Covid-19 epidemic on the digital transformation implementation process and the extent to which economic players are willing to embrace digital transformation.

1.2 Research Problems

The COVID-19 problem has resulted in years of change in the way businesses operate across all industries and geographies. According to a new McKinsey Global Survey of CEOs, their organizations have sped up the digitalization of their customer and supply-chain contacts, as well as their internal processes, by three to four years. And their portfolio's percentage of digital or digitally-enabled items has increased by a startling seven years (McKinsey, 2020).

Because social separation and lockdown were the only viable strategies to restrict the virus's transmission, many economic activities came to a halt. This was especially noticeable at restaurants, theaters, amusement parks, airports, and other public places. However, in other instances, digital technology has aided in the transition of offline economic activity to online platforms.

As a result, food delivery rose, e-commerce expanded, and online meetings and instruction increased. Many businesses remained open by enabling their staff to work from home. In short, during COVID-19, the digital economy played an essential role as a macroeconomic stabilizer. If there had been no digital economic activity, the economy would have collapsed faster and for a much longer period of time. (Wang, 2021)

Disruptive technologies such as AI, blockchain, robots, and 3D printing are assisting in the COVID-19 response and recovery efforts in emerging nations. Despite the uncertainty surrounding the post–COVID-19 economic picture, developing countries are projected to see an acceleration in the adoption of disruptive technology as well as a proliferation of online business models and platforms (Bagchi, 2020).

In this research paper, the questions are what digital transformation carries out to be a successful enterprise in the crisis of the pandemic, how to transform Digital Technologies to the enterprise under the pandemic, and how the effectiveness of digital transformation to the enterprise under pandemic?

1.3 Objective of the study

This research aims to explore on the digital transformation of enterprises under the pandemic.

1. To study what digital transformation carries out to be a successful enterprise in the crisis of the pandemic.

2. To analyze how to transform Digital Technologies to the enterprise under the pandemic.

3. To express how effective digital transformation to the enterprise under pandemic.

1.4 Scope of the study

The purpose of this paper is to focus on digital transformation for enterprises at the crisis of pandemics. This study is secondary research based on previous papers such as books, journals, articles, newspapers, magazines, websites and other online sources of what the authors have been finding dealing with digital transforming during COVID. This study conducts the period of research from 15 October to 15 November 2021. So, the scope of this study is limited to the researcher, and more specifically to those offering digital transformation in the increasing IT age.

1.5 Research Significance

The significance of this study is to gain knowledge and experiences for readers. Even though this study is not perfect, some things would gain for enterprises. In this research paper, consequently, technology is not only improving people's lives but is also making work easier in many sectors. Successful enterprises will be those that create smart experiences and customer journeys to promote and complement people's lives. The failing enterprises will be those that do not seek to benefit from the new artificial intelligence technology, nor use data to predict demand trends and make decisions to improve the workforce.

During the crisis, technology not only improves people's lives but also makes work in many fields easier. Digital transformation helps organizations keep up with emerging customer needs and survive in the future. It enables enterprises to better compete in an economic environment that is constantly changing with technological development. The correct management of digital transformation gives to enterprises the opportunity to gain operational and production advantages in the business world.

2. Literatures Review

2.1 Digital transformation

Digital transformation is the incorporation of digital technology into all aspects of an organization, radically altering how it operates and provides value to consumers. It's also a cultural shift that necessitates firms constantly challenging the status quo, experimenting, and being comfortable with failure (Ting, Carin, Dzau, & Wong, 2020).

An enterprise may embark on digital transformation for a variety of reasons. The most likely explanation, however, is that they must: It's a matter of survival. Following the pandemic, an organization's capacity to quickly adjust to supply chain interruptions, time-to-market demands, and fast-changing changing consumer expectations have become important.

According to the May 2020 International Data Corporation (IDC) Worldwide Digital Transformation Expenditure Guide, spending on digital transformation (DX) of corporate practices, products, and organizations is continuing "at a strong pace despite the obstacles given by the COVID-19 epidemic." According to IDC, global spending on DX technology and services would increase 10.4 percent to $1.3 trillion by 2020. This compared to 17.9 percent rise in 2019, "but remains one of the few bright spots in a year characterized by severe decreases in total technology investment," according to the report (Karabag, 2020).

Technology is at the core of the post-COVID-19 period; it connects individuals to one another and to possibilities despite the social distance established by COVID-19 (coronavirus). Opportunities enabled by technology and issues solved by it in other sectors, such as finance, agriculture, education, healthcare, energy, industry, and commerce, are far greater than opportunities enabled by technology and issues solved by it in the Information and Communication Technology (ICT) sector. According to a Deloitte report, the following are the top retail digital transformation industry investment trends for 2021 in the United States as an example see figure 1.

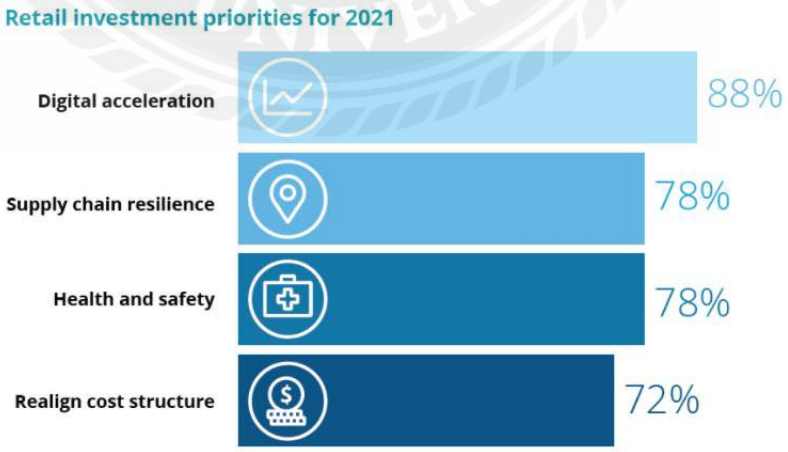


Figure 1 Technology increase at the core of the post-COVID-19 period

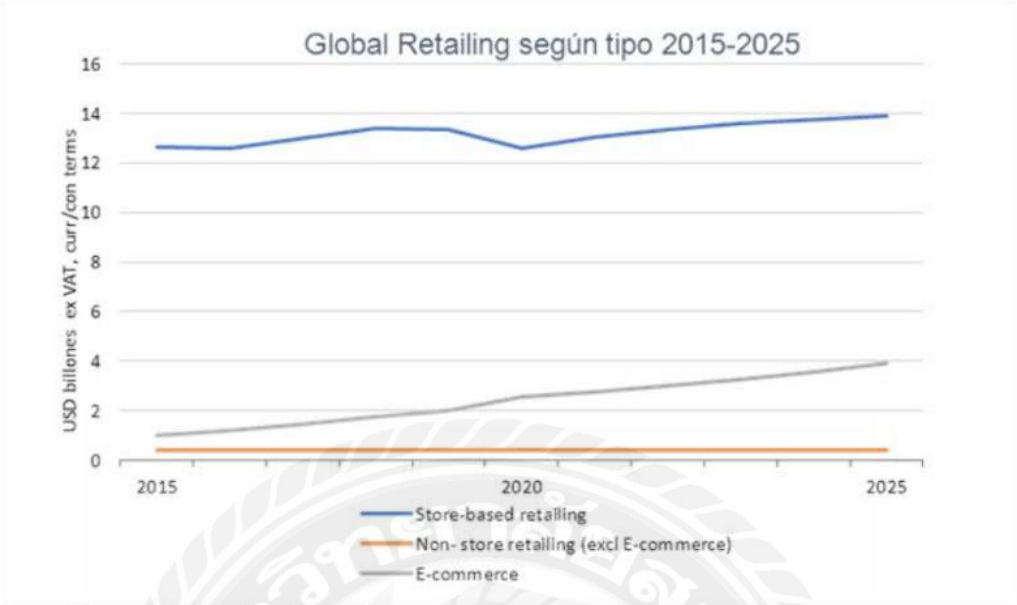
The desire for digitization has increased, as seen by the statistics presented above. While these changes may take months or years, one thing is certain:

digitization is a significant choice with several rewards. Digital transformation has been a trend for some years, and regardless of the pandemic, digital transformation has pushed retail firms in recent years. The need for businesses to digitally adapt and differentiate themselves in 2021 and beyond is critical, as the quantity of digital interactions has reached historic levels.

Despite occasional business closures owing to shifting COVID-19 cases and government limits, a great number of enterprises who have taken care to conduct their digital transformation process have been able to continue functioning and earning profits. This has been critical in keeping the world economy afloat.

Euromonitor International predicts an 81 percent decrease in physical store buying by 2020. However, according to a recent study by the same company, by 2025, 76 percent of goods will still be purchased in physical stores. Although much attention has been paid in the last year to the rise of e-commerce and the shift away from physical stores, physical stores remain an important part of the shopping journey in today's retail market. At the same time, Global Market Insights Inc. predicts that retail sector revenues would reach USD 25 million by 2027. Overall, the retail industry continues to develop in both physical and online stores, but purchasing and delivery procedures are also shifting to reflect new market realities.

The rapid growth of the e-commerce sector, along with the rising demand for retail sector enterprises to give distinct in-store experiences to their consumers, has fueled the retail industry's use of analytics. The use of analytics by both online and offline retail industry players has grown significantly as a result of the multiple benefits it provides, such as monitoring supply chain movements, inventory levels, purchasing choices, consumer demand, and so on.



Fuente: Passport, edición de retailing 2021

Figure 2 Global retailing Ecommerce

2.2 Digital transformation rapid change

As the COVID-19 pandemic spreads over the world, businesses have been forced to swiftly adjust to a new "normal" manner of doing business. The status quo has been rocked like never before, and firms are being compelled to swiftly rewire their processes to react to new social distancing techniques. While the changes brought about by the pandemic are unprecedented, the world we live in is becoming increasingly unpredictable, filled with trade disputes and geopolitical tugs of war.

Some things may revert to their previous state, or change may become the new normal, with the rate of change accelerating. Companies that are forward-thinking have embraced digital solutions to assure business continuity, whether through remote working or eCommerce. Businesses that previously planned multi-year digital plans have had to expedite their rollouts significantly.

If there is one advantage to this predicament, it is the rise of improvisation and experimentation from newly digital businesses that are more eager to learn via trial and error than ever before. The way they learn and respond to today's crises will have an impact on how they do business in tomorrow's changing world.

While their storefronts were closed, most of the businesses engaged with their clients using non-traditional channels such as Facebook Live. This has resulted in a fivefold increase in consumer involvement, with a sizable chunk of that converted into

digital purchases. When offices were ordered closed and employees were unable to work remotely, several firms were forced to admit their lack of readiness for tomorrow's digital economy.

Other conventional enterprises in areas like manufacturing or construction may have been less affected, but this may serve as a wake-up call for them to digitize and implement business continuity strategies in the event of similar crises. Some businesses have discovered the limitations of their continuity strategies when not all of their activities can be run remotely. We frequently see back-office operations remain on-site, whether owing to data security concerns or technical limits, while other workers may function remotely. Back-office processes are vital to firms, and they should be digitized to ensure that they can continue to operate in the face of future challenges.

Now is not the time to rethink digital efforts, particularly those that enable the organization to reposition itself for a post-crisis environment. Some objects may ultimately return to their previous state in this new world, while others may be irrevocably altered. This is likely to occur in industries where consumers quickly acquire acclimated to conveniences, such as online retail or home delivery meals. Delaying digitalization initiatives today may appear to be a safe bet, but it might be the worst one if firms lose this crucial time repositioning their company for a post-COVID digital future. The risk of doing nothing is higher than ever before. First movers might grab the market, leaving others unable to compete.

Companies understand how to launch digital projects under "normal" settings, but how many understand how to do it under current turbulent social and economic conditions? According to Abelam’s Digital Transformation matrix, there are four areas of concentration that might lead to innovative new digital services or revamping existing processes to be more effective in a lower revenue situation. As seen in Figure 3, all these strategies optimize for profit by increasing revenue or decreasing costs through business models or process reforms.

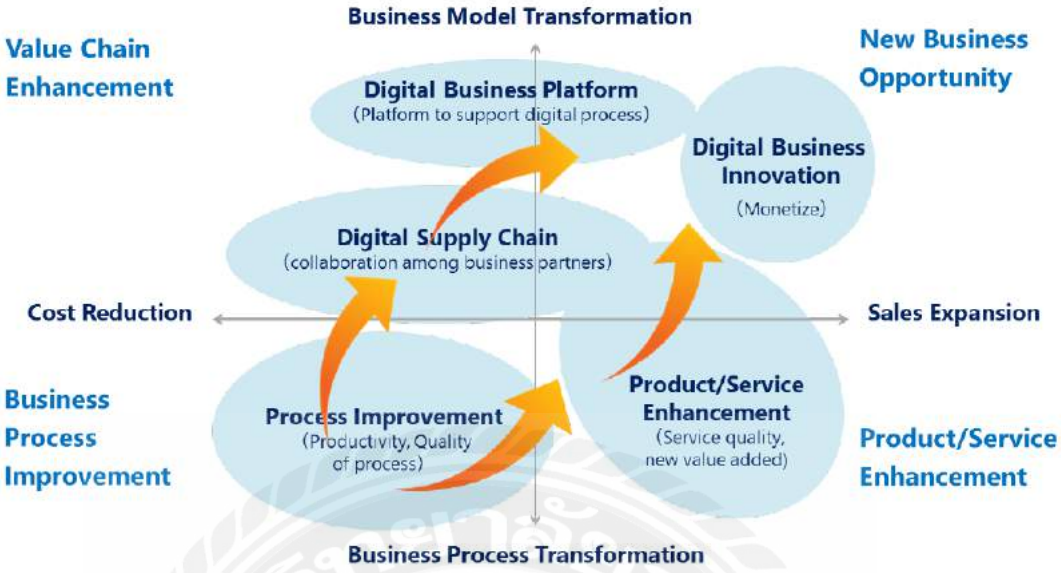


Figure 3 Business Model Transformation

2.3 Digital Business Platform

The coronavirus (Covid19) issue has had a significant economic impact and will complicate the global macroeconomic future. Internal and external shocks are being delivered by the crisis. National health policies are having a significant impact on economic activity and, as a result, social conditions, while a sharp decline in global demand, the significant drop in commodity prices, financial volatility, and additional effects associated with lower investment, contraction of tourism, and potential decrease in remittances compound a complex scenario. In 2020, overall economic growth will be down by more than 9%. (ECLAC, 2020).

Beyond the immediate consequences of the coronavirus (Covid19) outbreak, the region's policy actions must focus on resolving structural difficulties. Development traps, which feature cyclical, self-reinforcing processes that limit a country's ability to grow, are the outcome of historical shortcomings as well as new obstacles resulting from advancement toward higher-income status. Low productivity, social vulnerability, institutional weakness, and environmental sustainability are the four development traps highlighted by Development in Transition (OECD, 2019). In terms of the latter, digital transformation should help to achieve a "fair" transition to low-carbon development that is also social justice.

The digital transformation has arisen as a major worldwide movement that presents both difficulties and possibilities that, when complemented by good policies, can help to overcome development traps. While attempts are being made, capitalizing on possibilities will need new policy approaches and complementing investments. The OECD's Going Digital initiative identified seven major policy elements that will improve growth and well-being from the digital transformation: 1) provide access to digital technology; 2) improve their effectiveness; 3) allow digital innovation; 4) ensure excellent jobs for all; 5) promote social prosperity; 6) increase trust; and 7) support open markets (OECD, 2019).

2.4 Digital marketing Theory in B2B

While the shift to digital marketing, virtual sales, and inside sales was already happening in more and more sectors as gradually digital-savvy generations, the importance of digital channels for B2B companies has grown significantly in the last few years and has radically increased since the COVID-19 crisis began (McKinsey). While there was no alternative to remote selling and purchasing during the epidemic, it undoubtedly hastened sales leaders' embrace of digital and remote.

According to McKinsey study, sales model adjustments in B2B are here to stay, with 32% extremely likely to sustain the modifications triggered by COVID-19 for more than a year after the epidemic and 48% relatively likely to do so. Changes in the sales model include remote selling, digital rather than conventional sales interactions, and buyer preferences, which will affect the necessity for a more established online presence as well as the use of marketing and sales strategies as they are recognized in B2C contexts, among others.

The McKinsey study includes visuals and statistics on themes such as the growing relevance of digital interactions, the function of self-service channels as buyers seeks information, and the shift to remote selling. The epidemic has an influence on nearly every facet of business and whole industries, ranging from healthcare to the fundamental way we live. However, many components keep reappearing: increased technology adoption/use, the need to be more robust and flexible in terms of flexibility, remote capabilities, and so on.

2.5 Past Research

All over the world, and since the beginning of 2020, there is only one topic of interest: Covid19 pandemic. With the health crisis it caused and the number of infected people still on the rise, it is difficult to foresee its impact on the economy and society at large. First detected in China, the novel coronavirus has traveled to 213 countries and territories, infected more than 11.4 million, and claimed the lives of more than 530.000 people at the time of this writing Several countries have implemented health, economic and social measures to face the rapidly spreading virus and flatten its curve until a vaccine is developed (Anderson, 2020).

It is uncertain how long the influence of Covid-19 will endure and how effective the countermeasures will be (Karabag, 2020). According to Fernandes (2020), comparing the Covid-19 problem to past global crises such as the 2008 financial crisis is pointless since we are dealing with unique challenges that have never been seen before.

Many firms adopted digital transformation techniques even before Covid-19 spread to better their internal, external, and holistic organizational aspects (Hess et al. 2016). Fitzgerald (2013) provides the most common definition of Digital Transformation (DT) in the Information System (IS) literature, defining it as "the application of emerging digital technologies (social media, mobile, analytics, or embedded devices) to allow large business gains" (such as enhancing customer experience, streamlining operations or creating new business models).

The Covid-19 crisis may be viewed not just as a disruptive moment of insecurity and danger, but also as a period of increased usage of digital technology (Karabag, 2020). Prior to the pandemic, numerous businesses recognized the necessity of DT, but the process of implementing it was hampered for most of them owing to various issues such as complexity and expense (Scott, 2020), until COVID-19 made digital transformation an urgent priority (Lesser et al. 2020).

Looking ahead to the post-covid-19 period, corporate tactics are undergoing significant changes (Kodama, 2020). They are now being pushed to rethink their business strategies more than ever before in order to guarantee that the crisis has as little impact on them as possible while still providing acceptable services to their clients. The coronavirus outbreak gave businesses the chance to experiment with and increase their use of digital tools such as video conferencing programs, therefore eliminating the need for face-to-face meetings (Karabag, 2020).

It is a wake-up call for both corporations and governments. The shift that occurs in government operations to enhance the way citizens are treated is referred to as digital transformation of the public sector (OECD, 2018). As a result, and given the Covid-19 situation, digital technology is reshaping the way public services such as health, education, and communication are delivered (Ting, 2020), and many governments have increased their use of social media platforms such as Facebook and Twitter in order to further connect with their people and enable them to receive accurate and up-to-date information, according to the United Nations Division for Public Institutions and Digital Government (2020).

However, numerous nations, mostly those in the developing world, are still struggling to establish their digital economy. This necessitates, first and foremost, the development and maturation of digital infrastructures such as fiber-optic networks, wireless-based ICT, digital technologies (such as artificial intelligence, big data, cloud computing, and so on), and software that would ensure and facilitate 24/7 online real-time connectivity.

Second, the development, within companies, of a certain level of awareness regarding the importance of digital transformation and the improvement of employees' skills, which would result in a better understanding of the changes currently occurring in the global business environment and in a significant increase in companies' ability to embrace and use digital technologies.

And third, contributing to end-users' digital literacy and readiness through increasing their willingness to accept Internet-based services and providing them with new resources of knowledge, which will allow a better understanding of digital transformation and help close the digital divide.

In the future, digital transformation will be required in both the public and commercial sectors. To achieve a successful digital transformation, it is required to invest in resources and the determination to execute from all sectors of society, as well as specialized orientations and solutions (Hai, 2021). Digital change has had a significant impact on the global economy, particularly during pandemics (Van, 2021).

The digitization of commercial banks is another essential aspect of digital transformation. This process is influenced by both pull and push influences. On the one hand, banks are seeing increased competition from emerging Fintech firms. For many depositors, online money market funds, for example, might be a significant alternative way to keep their savings (Huang, 2021).

Digital transformation is an effort to accelerate business by using technology tools and looking at opportunities that can help business processes, on that the target market is wider. When companies are compelled to shift due to a pandemic, the upside is that they may increase advertising through web apps. When organizations are forced to change, digital transformation may tackle two challenges at once, notably sales and logistics. The supply chain can begin to rely on internet platforms that connect business people with raw supply producers.

Furthermore, company owners may analyze revenue and spending records to help them make judgments on goods that are expensive and must be regulated for their expenses. Digital transformation fundamentally alters the way of working by utilizing technology to serve society in a more efficient and effective manner, while also contributing to the promotion of cultural innovation in the workplace and facilities such as infrastructure and operational models to improve labor productivity (Tuyet, 2021).

The post-pandemic age ushers in the incorporation of smart-enabled technology into daily life, resulting in the remote office working, distant learning, and a cashless society, converting residents' lives into an on-demand model with constant internet access. A good digital company strategy requires strong leadership, a customer-centric culture, and the capacity to manage and implement change (Connor, 2021)

Technology management is possibly the most important resource on which redeployment and reconfiguration activities rely. As a result, it is critical to developing new competencies to deal with the predicted volatility in the New Normal. Zoom was relatively unknown prior to Covid. Nonetheless, by March 2020, digital transformation was holding more than 200 million online meetings every day. With individuals confined to their houses, technology has become more important than ever in order to stay connected and execute numerous responsibilities ‘remotely' (Ferreira, 2020).

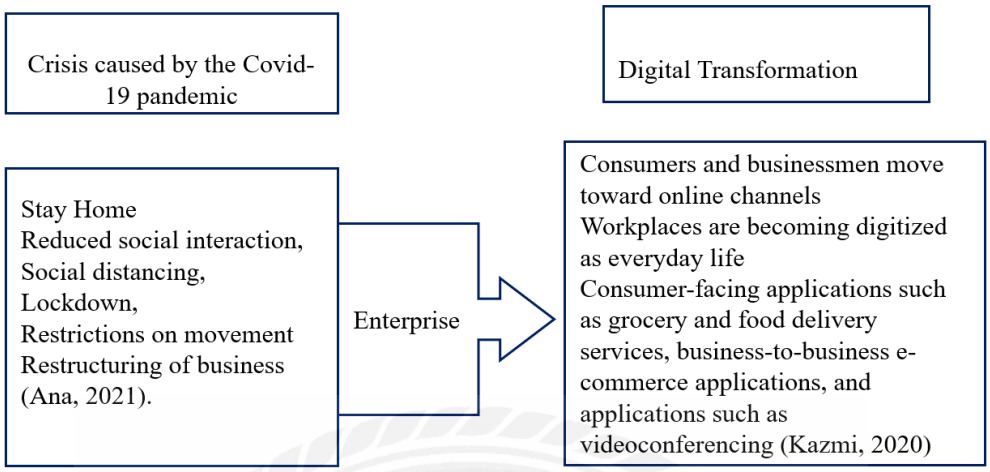


Figure 4 Model used as a guideline for this research

3. Research Methodology

3.1 Introduction

The researcher selects the research methodology which best suit the research nature. In this section the documentary research is explained as it the method select by the research. Therefore, the secondary data is employed in this research to answer the research questions.

This study is based on previous research papers that have been investigated by many researchers. This is a documentary research paper. Documentary research is described as research performed using government or personal records as the source of information. It is mostly used to evaluate diverse texts for their social or historical worth. Researchers in this discipline also perform documentary research to examine various materials pertaining to events or persons. Documentary research is related to content analysis in that it examines existing information recorded in media, texts, and physical objects. It is not necessary to acquire data from people in order to conduct research in this case. As a result, this is a secondary research approach.

It is the best strategy for investigating and comprehending occurrences as well as addressing new issues (Creswell & Poth, 2017). The researcher used an exploratory case study approach, which is appropriate for new area research where "little is known and the literature is poor," and is thus used to generate new research questions and hypotheses that may be examined further in future studies.

Yin (2017) point multiple-case studies are likely to generate more valuable insights compared to single-case studies. The main objective of the present working

paper is to explore the impact of the Covid-19 pandemic on digital transformation within the Thailand context. Due to lockdown in Thailand, it was not possible to collect primary data. As a starting point, the researcher conducted a manual content analysis of secondary data, including reports, surveys, press releases, and press articles published in Thailand's most consulted business newspapers, such as the Bangkok Post, in order to collect evidence on the digital transformation phenomenon and how both Thailand's public and private sectors are behaving toward it under the pressure caused by the Covid-19 pandemic. This working paper's selection of public and private sectors was not decided at random.

3.2 Research Design

These studies intended to get a preliminary knowledge of the phenomena of corporate digital transformation, as evidenced by the substantial use of documentary method. This strategy is based on the idea that digital transformation is a relatively recent phenomenon. In line with this, Li (2020) contends that we have a methodological barrier in investigating new emerging trends since they are "still in very early phases of development with low empirical presence."

A systematic literature review is used in this work. A systematic literature review, according to Massaro, Dumay, and Guthrie (2016), is "a process for evaluating a corpus of academic literature in order to create insights, critical reflections, future research routes, and research questions." Because "it is based on a positivist, quantitative, and form-oriented content analysis for reviewing the literature," the structured literature review was chosen. This technique employs a 10-step procedure that allows the researcher to "possibly construct more informed and relevant research routes and questions" (Massaro, 2016), so advancing theory, which is the goal of the literature review.

A literature review protocol is used by the researcher to guide the review of the literature. The protocol-driven method provides researchers with a framework for selecting, analyzing, and evaluating articles in order to get solid and defensible results through dependability and repetition (Massaro, 2016). The researcher then developed the research questions, with the goal of gaining new insights from the examination of the literature. As a result, in the protocol paper, the researcher identified the following study questions:

What does digital transformation carry out to be a successful enterprise in the crisis of the pandemic?

How does Digital Technologies transform impact the enterprise under the pandemic?

How does effective digital transformation the ensuring the differentiation of strategy to enterprise under pandemic?

The next stage was to decide what types of research to include in the review. The researcher chose the keywords to search for research as well as the selection criteria. The researcher opted to explore the digital transformation literature using the terms "digital transformation," "digital disruption," "technology* change," "organic* change," and "business model." Because the explicit goal of this study is to provide a comprehensive picture of the business's digital transformation, the researcher purposely concentrated on academic empirical research that provides insights into how digital transformation affects corporate innovation. The coding nodes were chosen based on a recent comprehensive review of research (Dal, 2020).

According to these studies, nodes investigate information linked to digital transition, publication time distribution, country of research, paper emphasis, and technique. The researcher included nodes pertaining to industry sectors, study fields, theories employed, and possible influence on the digital transformation process. These nodes were included to acquire a better understanding of the field's evolution and to provide implications for future advancement. These nodes were incorporated into a framework that was used to code the articles and analyze the findings. Chapter 2 contains the framework as well as a discussion of the parameters.

There have been no more empirical investigations to support or disprove the proposed assertions. Few publications study the link between digital transformation and enterprise using an explanatory technique. A substantial number of works present conceptual or theoretical perspectives. These findings imply that the area of corporate digital transformation study may be limited to a single paradigm. The absence of positivist research will stymie the field's acceptance and progress.

The key of secondary data analysis is to use theoretical knowledge and conceptual abilities to solve research issues using current data. As a result, the initial stage in the process is to generate research questions. The goal of this study was to look at digital transformation for businesses in the midst of a pandemic. The following research questions led this work:

What does digital transformation carry out to be a successful enterprise in the crisis of the pandemic?

How does Digital Technologies transform impact to the enterprise under the pandemic?

How does effective digital transformation the ensuring the differentiation of strategy to enterprise under pandemic?

Secondary data analysis provides methodological benefits and can help to research by providing new information (Heaton, 2008, Johnston, 2012; Smith, 2008). The main purpose of this technique is the same as that of others: to contribute to scientific knowledge by providing an alternative perspective; it only differs in its dependence on current data. LIS researchers should take use of the high-quality data that is accessible and assess the potential utility in generating information and providing insight into a wide variety of research concerns by applying secondary data analysis approaches.

However, efficient secondary data analysis necessitates a methodical approach that recognizes the constraints of leveraging current data while also addressing the unique features of secondary analysis. The approach presented in this research from this application gives a systematic process that includes measures to perform in order to minimize potential restrictions. Secondary data analysis is a realistic strategy for this study at a time when vast volumes of data gathered, processed, and preserved by academics all over the world are now more freely available.

4. Finding

As per Marome and Shaw (2021) Thailand has been affected by COVID-19, like other nations in the region. Thailand’s response to the COVID-19 pandemic has been guided by the “Integrated Plan for Multilateral Cooperation for Safety and Mitigation of COVID-19” (OECD, 2020). This strategy of the nation has a major influence on the nation's enterprise. The temporary closing of the restaurant, nightlife, mall and tourist have a major influence on business in the nation. Moreover, the limit on international traveling affected the business partnership and other operations were badly affected. To meet the challenges impost by the COVID-19, the business plan is to do digital, and many of the operations were digital. This aids the business to operate at a different time but also opens new ways of doing business. The next section explores the digital transformation observed during the COVID-19 period.

4.1 Adapting the rules of the game to govern the digital transformation

The digital transformation has emerged as a profound global trend that offers challenges and opportunities which, if accompanied by effective policies, can contribute to overcoming governments development traps. While efforts are underway, seizing the opportunities requires new policy approaches and complementary investments. The OECD's Going Digital project identifies seven key policy dimensions to make the digital transformation benefit growth and well-being: 1) enhance access to digital technologies; 2) strengthen their effective use; 3) enable digital innovation; 4) ensure quality jobs for all; 5) promote social prosperity; 6) strengthen trust; and 7) foster openmarkets (OECD, 2019). Action in these areas will help overcome development traps of governments around the world (OECD, 2019).

Policy efforts for going digital must move beyond a sectoral approach, as it is a multidimensional process with implications in various areas. The cross-border nature of some of its challenges and opportunities demands greater international coordination. Setting up mechanisms for political dialogue at the regional level, fostering agreements in areas that demand international regulatory coherence and encouraging cooperation is essential. The Regional Digital transformation co-ordinated since 2000, has gained relevance. Governing the digital transformation is a crucial public policy issue. Changes to institutions, regulations, and markets are needed to ensure the fair and equitable advancement of the digital transformation. Governments face new regulatory challenges, not only in managing issues arising from the digital transformation but also in ensuring that it benefits all (OECD, 2019).

Regulatory frameworks must be adapted to address competition challenges from the increasing convergence of networks and services in the digital economy. A stable, predictable framework fosters long-term investment in broadband infrastructure and digital innovation. At the same time, innovation-friendly regulation is needed to facilitate new industries and digitally intensive firms. Frameworks must also help protect consumers. In designing regulations, responsibilities must be clear, avoiding overlap and giving institutions specific tools to enforce decisions. Sufficient safeguards to protect sensitive sectors and citizens from digital security incidents and strengthen trust in the digital ecosystem are key. As individuals, governments, and firms become more digitally open, security incidents are increasingly frequent and risk causing social and economic harm. Security risks can cause disruption of operations and essential services, such as water, energy, public health and safety;

direct financial loss; lawsuits; reputational damage; loss of competitiveness, e.g. through disclosure of trade secrets; loss of personal data; and consumer distrust (OECD, 2015).

Governance of the digital transformation must incorporate ethical dimensions and react to new challenges. The growing use of AI apps raises concerns related to human values, fairness, human determination, privacy, safety and accountability, among others. Data on which algorithms train can be erroneous, biased, insufficient or not updated (Sánchez et al., 2019), underlining the need for more robust, safe, secure and transparent AI systems with clear accountability mechanisms (OECD, 2019). Social media platforms have enhanced the facility and rapidity with which mass disinformation (fake news) spreads. Exposure to disinformation is negatively correlated with trust in government (OECD, 2019). Disinformation has other negative social effects: the spread of fake news about the coronavirus (Covid-19) risks encouraging behaviors that negatively affect public health.

4.2 Digital transformation can boost productivity growth for enterprise

The region has experienced a high and increasing productivity gap with respect to developed economies in the last decades. Aggregate labor productivity shows reduced and persistently low productivity growth from 1950 onwards. Productivity growth is the core engine of sustained economic progress, but domestic product (GDP) growth is mainly explained by labor force expansion, with little contribution from productivity growth each country shown as figure 5.

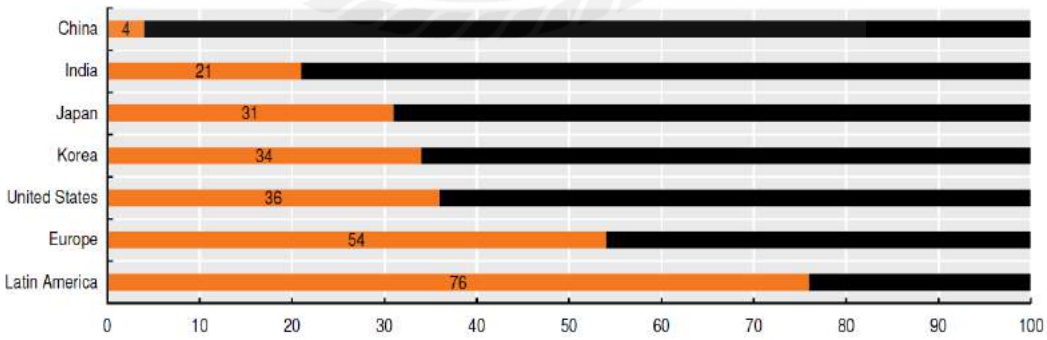


Figure 5 Contribution from productivity growth

Most Latin American countries' competitiveness is largely based on abundant natural resources or low-skilled labor. The result is a poorly diversified production structure, entailing low value-added and an export specialization concentrated in

goods with low technological content. As with the commodity boom, this type of structure can provide periods of rapid growth but not sustained productivity growth. Achieving the latter requires the incorporation of technology and production diversification towards dynamic sectors, both in technology and in terms of international demand (OECD, 2019).

4.3 Promoting the digital transformation of production

Governments all around the world must take advantage of the digital transformation and promote production transformation to escape the productivity trap. Some countries are incorporating policies to boost the development of emerging technologies, such as advanced robotics and artificial intelligence (AI), to improve productivity. Challenges remain, especially in the productive application of digital technologies, the development of digital entrepreneurship, and business heterogeneity. A large share of smaller businesses has difficulties adopting new technologies. Furthermore, despite the rapid pace of technological change and its potential to improve efficiency, aggregate productivity growth, has slowed over the past decade, giving rise to a productivity paradox (OECD, 2017).

The diffusion and impact of digital technologies on productivity are not automatic and depend on indispensable elements, including proper access to and diffusion of digital technologies, healthy business dynamism, small and medium-sized enterprise engagement in digital transformation, and adequate competition in the digital economy. Developing a holistic digital ecosystem is essential to facilitate adoption by firms (CAF, 2017). In 2018, 68% of the population used the Internet regularly – almost twice the share in 2010, although lagging the OECD average of 84%.

4.4 Transforming governments

To improve public governance, governments can use digital tools to become more credible, efficient, inclusive, and innovative. Governments are evolving from e-governments to digital governments. E-government uses ICT, particularly the Internet, as a tool to achieve better government (OECD, 2014). It allows for little interaction with citizens, and management practices remain hierarchical. The digital government relies on a digital government ecosystem comprised of government actors, non-government organizations, businesses, associations, and individuals who support the production of and access to data, services, and content through interactions with

the government. The shift towards digital government is expected to bring greater transparency and openness on the part of governments, and a more collaborative, user-driven, and proactive approach that recognizes data as strategic assets.

Digital technologies can improve the trustworthiness of public institutions and therefore increase their credibility. In 2018, 26% of the population reported having confidence in the national government, down from 45% in 2008 (Gallup, 2019). The perception of corruption is a main driver of mistrust in public institutions: in 2018, 79% of the population believed corruption was widespread in their governments (Latinobarómetro, 2018); 53% believed corruption had increased in the previous 12 months (Pring & Vrushi, 2019). Trust is a cornerstone of public governance and critical for the success of public policy. Without it, citizens disengage from civic duties and find few incentives to participate in politics and pay taxes. If well managed, the digital transformation can help governments regain trust by harnessing the opportunities of open government data, creating a culture of transparency, integrity and social accountability.

Social media can be a powerful tool to support citizen trust. Particularly in the context of a crisis, such as a coronavirus (Covid-19) pandemic, governments must ensure that clear and trustworthy communication reaches the greatest number. Social media can provide an important platform to inform citizens about the risks and evolution of the crisis and the measures adopted to counter it. It can be especially effective around the world, given the high use of social media.

By making public services more efficient with new technologies, governments can improve citizens' experience and cut transaction times and in-person costs. Digital channels for processing transactions could eliminate in-person time and costs.

The digital transformation of enterprise can also support more inclusive public services through open data policies, more interactions with stakeholders (e-consultation) and citizen involvement in decision-making processes (e-decision making). It can help governments provide more inclusive public services by reaching the more disadvantaged segments or remote areas with access challenges. Education is one area in which digital technologies can expand the reach of services. E-learning has undergone an extraordinary transformation in recent years. E-health also has strong potential. E-consultations during Overview: Digital transformation for an inclusive and sustainable r recovery post Co vid-19 the coronavirus (Covid-19) pandemic have played a crucial role in stemming the spread of the virus and reducing the burden on emergency rooms.

The digital transformation can help enterprises be more innovative in public policy design, delivery and evaluation, improving the policy-making process, for instance, thanks to the use of Big Data. Technology and the digitalization of societies and governments are generating massive amounts of data, which can be important assets to spur innovation and develop better informed and targeted public policies and services. Many countries are using smartphone-generated geolocated and proximity data to map the geographical distribution and evolution of the coronavirus (Covid-19) or monitor compliance with lockdown measures. Making the most of the digital transformation requires a change within public administration from an information-centered to a data driven, innovative approach that includes digital technologies and data in public policy design from the outset.

4.5 Strategies for digital transformation

The digital transformation influences households' quality of life, jobs and learning. New technologies offer many opportunities for accessing better public services, improving health and education, creating jobs, and bringing previously under-represented groups into the labour market and closer to public policies. The digital transformation can also help improve the quality of jobs and skills: dangerous or repetitive tasks in particular can be automated.

The coronavirus (Covid-19) crisis evidenced that technologies allow some segments of the population to choose where and when to work more freely, which can improve work-life balance, and for work environments to be made safer and healthier. The Covid-19 crisis also highlights the digital divide in the region as an urgent concern, as poor and vulnerable workers without the access and skills to benefit from digital tools are being left behind.

Those unable to exploit the new digital tools are likely to be more affected by the health, economic and social consequences of the crisis, potentially widening socio-economic inequalities. In particular, workers with no access to new technologies or skills are more prone to short- and long-term economic and other losses, for instance, because they have no opportunity to telework or sell goods on line, while their children may be unable to continue their education remotely.

Currently, the world is facing a crisis caused by the Covid-19 pandemic. Crisis sudden appearance, which certainly marks one of the most critical social and economic crises, has affected the reduction of the activities of all humanity, but also the conduct of business activities in the normal conditions to which we have been

accustomed so far. Reduced social interaction, social distancing, lockdown, restrictions on movement and restructuring of business are disturbances caused by the pandemic that has significantly transformed daily lives and set requirements for accepting and getting used to the "new normal" way of life of all humanity. In such social and business conditions, information and communication technologies (ICT) have shown their importance and become crucial for the continuation of personal and business services and interactions (Ana, 2021).

During the pandemic, consumers have moved dramatically toward online channels, and companies and industries have responded in turn. The survey results confirm the rapid shift toward interacting with customers through digital channels (McKinsey, 2020). Workplaces are becoming digitized as everyday life outside of work is too. In the US alone, recent data shows that almost 90% of people are online, while 77% own a smartphone. While less prevalent than smartphones, 51% of people own a tablet. It is little wonder that with such widespread dominance of these technologies, people expect to be able to use them through the companies they seek products and services from. Last year, at least 43% of Americans spent at least some time working remotely, while freelancers now make up at least 35% of the U.S. workforce. Admittedly, there has always been some who have been able to work remotely, but the numbers have exploded since digital technology has been able to facilitate their work (Kazmi, 2020).

In the early days of the COVID-19 pandemic, enterprise leaders quickly realized they had to change the way their organizations did business, especially with the advent of employees working remotely. Existing business processes and even formal business models had to be adapted to a new normal where the bulk of operations -- involving employees, partners, vendors, and customers -- now happened virtually. Digital transformation isn't a new imperative for business leaders, but COVID-19 has made it more urgent, with companies looking to enhance their agility, speed, and data-driven decision making (Close, 2021).

The urgent operational changes provoked by the pandemic came when many companies were actively involved in ambitious digital transformation programs. (Kirvan, 2021). If going to make digital transformation happen in the pandemic and after, it's got to be all about working through the people by providing the tools, energizing them, and listening to them, "Wester-man said" That's how we come out of this stronger than we were before." Technology offers businesses across industries incredible potential to engage with people around the world at a moment's notice.

Prior to the pandemic, many organizations were just beginning to see the potential that many of these capabilities offered their businesses (Stackpole, 2021).

However, when in-person meetings and work was limited in response to Covid-19, they quickly realized just how powerful technology can be. For businesses, one consequence of the COVID-19 crisis has been a dramatic uptick in the use of digital technologies that help reduce face-to-face interactions and safeguard customer and employee health and well-being. These digital technologies include consumer-facing applications such as grocery and food delivery services, business-to-business e-commerce applications, and applications such as videoconferencing that seem to have penetrated the consumer, business, and not-for-profit worlds (Gerald, 2020).

Before the pandemic hit, nearly half of businesses reported that they saw technology as a means of reducing company costs as one of their top three digital priorities. However, with the pandemic spreading and businesses beginning to discover the other values of technology, only 10 percent reported this as a top reason after the beginning of the shutdowns. Instead, more businesses reported that modernizing their capabilities, gaining a competitive advantage, and creating a business culture that was focused around digital technologies all outpaced concerns about reducing costs. When technology is used well, it offers brands tremendous opportunities to innovate and mature in their ability to engage customers, answer their needs, and move forward in a new way. (Dr Hodari, 2020).

According to Organization for Economic Co-operation and Development (OECD), the policy framework toward digitalization is around seven building blocks such as access, use, innovation, trust, employment, society, and market openness. The framework brings together policies that the government must consider in order to determine a common digital in the future, improving lives, and promoting economic growth and well-being. These Pillars of the indicators and policy guidance would support enterprises.

Successful digital transformation strategies for productivity rely on a broader range of interventions and sectors than ICT alone. Transport connectivity and skills are critical enabling elements in the digital era which lags the OECD. Digital skills development policies should be aligned with broader industrial and technological policies to ensure that workforce abilities match those required by priority sectors. Adoption and adaptation of digital technologies involve an array of functions and professions, each with distinct education and skills requirements.

Investing in appropriate skills and narrowing the gap relative to countries at the technological frontier will be essential for enterprises. to leverage digital technologies. Furthermore, transport connectivity is fundamental to make the most of digital transformation. Thanks to digital platforms, e-commerce can expand markets and improve efficiency. Improving transport infrastructure and logistics should promote further competitiveness, including in the expansion of e-commerce. Digital technologies are not independent from the sector, organisation structure and other context-specific aspects in which they operate. Technological solutions and policies must be adapted to individual sectors and types of production units, in particular small and medium-sized enterprises (SMEs), to address the unique characteristics that influence their functionality.

As the Covid-19 recalls, in a region where productivity disparities are considerable according to the size of the firm, the digital transformation brings an opportunity but also a risk of reinforcing disparities. With appropriate policies, digital technologies could help close the productivity gap with bigger firms. Despite advances in recent years, low adoption of even basic technologies, especially among small firms, shows that space remains for further policy intervention. For instance, in some countries of the region, the productivity gap between small and large companies that own their own website is higher than 30 percentage points.

The region entered the Covid-19 crisis with relatively few companies using digitalization in their everyday operations. Therefore, greater digitalization should be a feature of the post-pandemic economy (CAF, 2020; ECLAC, 2020). Digital technologies will be key to new operating models: companies will have to adopt technologies to process large amounts of information to improve decision processes, which may redefine business models. Industry should incorporate greater use of robotics to improve efficiency and increase the use of artificial intelligence (AI) tools (CAF et al., 2020). Digital transformation may also affect business model operations through changes in the sale and delivery of goods and services or interactions with suppliers (ECLAC, 2020).

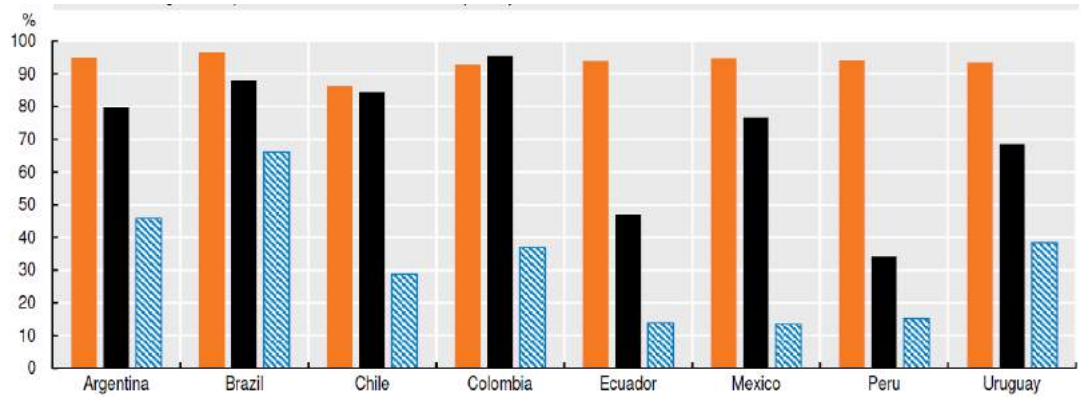


Figure: 7 Digitalization of the supply chain, 2018

The region is in a better place to take advantage of the digital transformation, mainly because of increased access to networks and devices. However, it is necessary to ensure the key enabling elements of a virtuous digital ecosystem, such as quality infrastructure, digital skills for all and consistent legal frameworks that promote investment and innovation. There is significant space to promote R&D, new business models and adjustments of productive value chains through digitalization. Past experiences show that such policies' impact depends on a strategic vision, e.g. including them in NDPs, ensuring coordination and building cooperation co-operation.

5. Conclusion and Recommendation

The researcher of this research suggests number of recommendations to different party, who can be benefited from this study. The Private and public organizations should consider digital security in risk management, rather than treating it as a specific technology risk that needs to be addressed individually. Countries around the world are moving towards a long-term strategic plan for digital security: 2019, (IDB/OEA, 2020). Data has become not only a critical economic asset, but a key input to an effective frontline response to the spread of the coronavirus (Covid-19).

Greater regulation of data governance, privacy, value and cross-border exchange is needed. During the pandemic, privacy enforcement agencies have played a key role in applying new or existing privacy and data protection frameworks to ensure reliable, fast and secure data management. Most of the differences can be explained by adopting dates, and to some extent by the influence of various international models. International

coordination should be supported to promote a framework that encourages the exchange of information while protecting civil rights.

The COVID 19 pandemic has driven digital transformation, causing many organizations to begin a “spring cleaning” process for organizational technology investments. In a pre-COVID world, it was easy for employees and business leaders to overlook redundancies or gaps in service when businesses might only occasionally invoke their digital capabilities. However, the reliance on technology created by the pandemic has forced people to take a closer look at the technology investments they have and how they align with what is needed to run a digitally-centric business effectively.

Businesses should create simplified services across the organization. Meeting software, platforms to host projects, tracking capabilities to monitor customer experience, and other important forms of software should be chosen for their ability to create a unified experience so that they can operate with as little clutter and disruption as possible.

Regardless of how the crisis and its aftermath unfold, there is no doubt that digital technologies continue to transform the way we live and work around the world. The advent of 5G and IoT will further drive data production, increasing concerns about data governance, privacy and security. Additionally, automation, especially in manufacturing facilities, can improve responsiveness to future health crises.

REFERENCES

America and the Caribbean, Santiago. (n.d.). Naciones Unidas. www.cepal.org/es/observatorio-regional-de-bandaancha

Ana, K. (2021). Covid-19 accelerates digital transformation in industries: Challenges, issues, barriers and problems in transformation. *IEEE Xplore*, 9, 79373 - 79388. doi:10.1109/ACCESS.2021.3084801

Bagchi, I. (2020). *The impact of COVID-19 on disruptive technology adoption in emerging markets.* IFC/ International Finance Corporation https://timesofindia.indiatimes.com/india/covid-19-indias-cash-transfer-scheme-inspires-other-countries/

Basto-Aguirre, N., S. Nieto-Parra and Vazquez-Zamora, J. (2020). *Informality in Latin America in the post COVID-19 era: Towards a more formal 'new normal'?"* (blog), Vox Lacea, Bogotá, www.lacea.org/vox/?q=blog/informality_latam_postcovid19

BELLA. (2019). *BELLA - Building the Europe link with Latin America"* BELLA Consortium, Cambridge. http://www.bella-programme.eu/.

Buenadicha Sánchez, C. et al. (2019). *La Gestión Ética de los Datos [The Ethical Management of Data]*. Inter-American Development Bank. BID. http://dx.doi.org/10.18235/0001623.

CAF. (2017). *Towards the digital transformation of Latin America and the Caribbean: The CAF observatory of the digital ecosystem*. Development Bank of Latin America, Caracas. https://www.caf.com/app_tic/#es/home.

CAF. (2020a). *Economic perspective for the second quarter*. Internal documents, Development Bank of Latin America.

CAF. (2020b). *El estado de la digitalizacion de America Latina frente a la pandemia del COVID-19*. https://scioteca.caf.com/bitstream/handle/123456789/1540/El_estado_de_la_digitalizacion_de_America_Latina_frente_a_la_pandemia_del_COVID-19.pdf?sequence=1.

CAF et al. (2020). *Las oportunidades de la digitalizacion en America Latina frente al Covid-19*. CAF2020, UN ECLAC 2020. https://repositorio.cepal.org/bitstream/handle/11362/45360/4/OportDigitalizaCovid-19_es.pdf.

Close, K. (2021). *Digital transformation.* BCG. https://www.bcg.com/capabilities/digital-technology-data/digital-transformation/overview

Conference Board. (2020). *Total Economy Database* (database). www.conference-board.org/data/economydatabase.

Connor, E. O. (2021). *EPC group*. Retrieved from Understanding Enterprise Digital Transformation and Why You Should Care. https://www.epcgroup.net/enterprise-digital-transformation-and-why-you-should-care/

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Sage.

Creswell, J. W., Poth, C. N. (2017). *Qualitative inquiry and research design: Choosing among five approaches.* Sage.

DB/OEA. (2020). *Ciberseguridad: ¿Estamos preparados en América Latina y el Caribe?* Inter-American Development Bank and Organization of American States.

ECLAC. (2012). *Cambio Estructural para la Igualdad: Una Visión Integrada del Desarrollo*. Trigésimo cuarto.

ECLAC. (2016). Science, technology and innovation in the digital economy: The state of the art in Latin America and the Caribbean. In *Second session of the Conference on Science, Innovation and ICTs of ECLAC, United Nations, Santiago*. www.cepal.org/en/publications/40840-science-technologyand-innovation-digital-economy-state-art-latin-america-and.

ECLAC. (2018). Digital agenda for Latin America and the Caribbean (eLAC2020). In *Sixth Ministerial Conference on the Information Society in Latin America and the Caribbean, Economic Commission for Latin America and the Caribbean, Cartagena de Indias*. https://conferenciaelac.cepal.org/6/sites/elac2020/files/cmsi.6_digital_agenda-en-23_april.pdf.

ECLAC. (2019). *Observatorio regional de Banda Ancha* (database). Economic Commission for Latin.

ECLAC. (2020a). *Addressing the growing impact of COVID-19 with a view to reactivation with equality: New projections*. Economic Commission for Latin America and the Caribbean.

ECLAC. (2020b). *Sectors and businesses facing COVID-19: Emergency and reactivation (Special Report)*. ECLAC. https://repositorio.cepal.org/server/api/core/bitstreams/4a71000c-245a-48eb-a162-c739141b6675/content

EHL insights group. (2020). *Post COVID-19: What's next for digital transformation?* EHL Insights: https://hospitalityinsights.ehl.edu

European Commission. (2019). *Shaping Europe's digital future* (Webpage). European Commission, Brussels. https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/shapingeurope-digital-future_en.

Ferreira, K. (2020). *A Brief Exploration into how COVID-19 is changing Technology.* IMPOSSIBLE: https://medium.com/impossible/a-brief-exploration-into-how-covid-19-is-changing-technology-763044d5be2a

Gallup. (2019). *Gallup world poll* (Database). Gallup Inc. www.gallup.com/analytics/232838/world-poll.aspx.

Gerald, K. C. (2020). *A case of acute disruption*. Deloitte. https://www2.deloitte.com/us/en/insights/topics/digital-transformation/digital-transformation-COVID-19.html

Hai, T. N. (2021). Digital transformation: Opportunities and challenges for leaders. *Emerging Science Journal*, 5. doi: 10.28991/esj-2021-SPER-03

Hanefi, C. M. (2020). The role of artificial intelligence within the scope of digital transformation in enterprises. In *Advanced MIS and digital transformation for increased creativity and innovation in business* (pp.122-146). N.P.

Heaton, J. (2008). Secondary analysis of qualitative data: An overview. *Historical Social Research, 33*(3), 33-45.

Holmes, R. J. (2021). Strategic management theory in a post-pandemic and non-ergodic world. *MDPI*, 13, 259–264. https://www.mdpi.com/2071-1050/13/18/10195/htm

Huang, Y.P. (2021). *ADB / Asian development bank institute.* Digital Technology and Economic https://www.adb.org/adbi/main

Indriastuti, M. (2021). *Impact of Covid-19 on digital transformation and sustainability in Small and Medium Enterprises (SMEs): A conceptual framework.* Department of Accounting, Faculty of Economics.

ITU. (2020). *World telecommunication/ICT indicators database 2020* (Database). International Telecommunication Union, Geneva. https://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx

Johnston, M. P. (2012). School librarians as technology integration leaders: Enablers and barriers to leadership enactment. *School Library Research*, 15(1).

Kahveci, S. (2020). *Recommendations for successful digital transformation*. Start it up. https://medium.com/swlh/5-recommendations-for-successful-digital-transformation-c156590dad06

Karabag, S. F. (2020). An unprecedented global crisis! the global, regional, national, political, economic and commercial impact of the Coronavirus Pandemic. *Journal of Applied Economics and Business Research, 10*(1), 1-6.

Kazmi, R. (2020). *The impact of digital transformation on how we work.* Koombea. https://www.koombea.com/blog/impact-digital-transformation-how-we-work

Kirvan, P. (2021). *10 ways the pandemic changed.* Techtarget. https://searchcio.techtarget.com

Latinobarómetro. (2017). *Latinobarómetro survey* (Database). Latinobarómetro, Providencia. www.latinobarometro.org/lat.jsp.

Latinobarómetro. (2018). *Latinobarómetro survey* (Database). Latinobarómetro, Providencia. www.latinobarometro.org/lat.jsp.

Li, F., (2020). The digital transformation of business models in the creative industries: A holistic framework and emerging trends. *Technovation*, 92–93, 102012. doi: 10.1016/j.technovation.2017.12.004

Marome, W., & Shaw, R. (2021). COVID-19 Response in Thailand and its implications on future preparedness. *International Journal of Environment Research and Public Health.* 18, 1-10.

Massaro, M., Dumay, J., & Guthrie, J. (2016). On the shoulders of giants: Undertaking a structured literature review in accounting. *Accounting, Auditing & Accountability Journal*, 29(5), 767-801. https://doi.org/10.1108/AAAJ-01-2015-1939

Massaro, M., Lombardi, R., and Garlatti, A. (2019). From output to outcome measures in the public sector: A structured literature review. *International Journal of Organizational Analysis*, *27*(5), 1631–1656. doi: 10.1108/IJOA-09-2018-1523

Matiza, T. (2020). Post-COVID-19 crisis travel behaviour: Towards mitigating the effects of perceived risk. *Journal of Tourism Futures*, 2012(April). https://doi.org/10.1108/JTF-04-2020-0063

McKinsey, J. O. (2020). *Digital adoption has taken a quantum leap at both the organizational and industry levels*. Mckinsey and Company. https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever

McKinsey, J. O. (2020). *How COVID-19 has pushed companies over the technology tipping point—and transformed business forever.* McKinsey and Company. https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever

Nedelkoska, L. and Quintini, G. (2018). *Automation, skills use and training*. OECD.

OECD. (2014). *Recommendation of the council on digital government strategies*. OECD Publishing.

OECD. (2015). *Digital security risk management for economic and social prosperity: OECD Recommendation and companion document*. https://doi.org/10.1787/9789264245471-en.

OECD. (2017a). *Going digital: Making the transformation work for growth and well-being*. OECD.

OECD. (2017b). *OECD Digital Economy Outlook 2017*. http://dx.doi.org/10.1787/9789264276284-en.

OECD. (2018a). *Good jobs for all in a changing world of work: The OECD jobs strategy*. https://doi.org/10.1787/9789264308817-en.

OECD. (2018b). *PISA 2018 Database* (database). www.oecd.org/pisa/data/2018database/.

OECD. (2019a). *Going digital: Shaping policies, improving lives*. https://doi.org/10.1787/9789264312012-en.

OECD. (2019b). *Shaping the digital transformation in Latin America: Strengthening productivity, improving*. OECD.

OECD. (2019c). *OECD Employment Outlook 2019: The future of work*. https://doi.org/10.1787/9ee00155-en.

OECD. (2019d). *Artificial intelligence in society*. https://doi.org/10.1787/eedfee77-en.

OECD. (2019e). *How's life in the digital age?: Opportunities and risks of the digital transformation for people's well-being*. https://doi.org/10.1787/9789264311800-en.

OECD. (2020). *OECD secretary-general tax report to G20 finance ministers and central bank governors– July 2020*. www.oecd.org/tax/oecd-secretary-general-tax-reportg20-finance-ministers-july-2020.pdf.

OECD et al. (2019). *Latin American Economic Outlook 2019: Development in transition*. OECD. https://doi.org/10.1787/g2g9ff18-en.

OECD. (2020). Digital transformation in the age of COVID-19: Building resilience and bridging divides, *digital economy Outlook 2020 supplement.* www.oecd.org/digital/digital-economy-outlook-covid.pdf.

ORBA/ECLAC. (2019). *Household survey data bank* (database). United Nations Economic Commission.

Papagiannidis S., Harris J. & Morton, D. (2020). WHO led the digital transformation of your company? A reflection of IT related challenges during the pandemic". *Int. J. Inf. Manage*. 55.

Pring, C. and J. Vrushi. (2019). *Global corruption barometer, Latin America and the Caribbean 2019: Citizens' views and experiences of corruption*. Transparency International. www.transparency.org/gcb10/latin-america-and-the-caribbean?/news/feature/global_corruption_barometer_gcb_latin_america_2019#full-report.

Roseth, B., A. Reyes and C. Santiso. (2018). *Wait no more: Citizens, red tape and digital government* (Executive Summary). Inter-American Development Bank. https://publications.iadb.org/en/wait-no-more-citizens-red-tape-and-digital-government-executive-summary.

Santiso, C. (2018). *El 'big data' al asalto de la corrupción", IDB Gobernarte* (blog). Inter-American Development Bank. https://blogs.iadb.org/administracion-publica/es/el-bigdata-al-asalto-de-la-corrupcion/.

Smith, E. (2008). *Using secondary data in educational and social research*. McGraw-Hill Education.

Stackpole, B. (2021). *Digital transformation after the pandemic.* MIT Management: https://mitsloan.mit.edu/ideas-made-to-matter/dont-hide-your-ideas-test-them-anyone-who-will-listen

Thi Tuyet, M. N. (2021). Digital transformation: Opportunities and challenges for leaders. *Emerging Science Journal*, 5. doi:10.28991/esj-2021-SPER-03

Ting, D. S. W., Carin, L., Dzau, V., & Wong, T. Y. (2020). Digital technology and COVID-19. *Nature Medicine*, 1-3.

UN. (2019). *United Nations E-Government knowledge database* (Database). https://publicadministration.un.org/egovkb/en-us/Data-Center.

Van, Q. N. (2021). Digital transformation: Opportunities and challenges for leaders. *Emerging Science Journal*, 5. doi:10.28991/esj-2021-SPER-03

Wang, J. (2021). *Digital technology and economic, impacts of Covid-19: Experiences, of the people's republic of China.* ADB/Asian Development Bank Institute. https://www.adbi.org

Webster, J., and Watson, R. T. (2002). *Analysing the past to prepare for the future: writing a literature review*. MIS.

WHO. (2020). *Rolling updates on coronavirus disease (COVID-19).* World Health Organization. https://www.who.int/emergencies/diseases/novel-coronavirus -2019/events-as-they-happen