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Economic impacts of Covid-19

The case of Vietnam

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Thesis abstract

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At the end of December 2019, Chinese health officials reported a number of multiple acute respiratory syndromes in Wuhan City, Hubei Province, China. Chinese scientists quickly identified the new coronavirus as the main cause. This disease is now known as coronavirus disease 2019 (COVID-19). It is a new strain of coronavirus that has not been seen at all in humans.

Compared to other Asian countries, Vietnam has achieved significant results in how it addressed the coronavirus outbreak. However, Covid-19, poses a significant challenge to the country's economic growth and may continue unless fully addressed.

The thesis's purpose is to list down the impacts of Covid-19 that can have on Vietnam's economy and several solutions to address the issues.

Keywords: Covid-19, pandemic, Vietnam, economy, impact

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Terms and Abbreviations

LMICs	Lower middle income countries
WHO	World Health Organization
ARI	Acute respiratory illness
HICs	High income countries
ODA	Official Development Assistance
GSO	General Statistics Office
EVFTA	EU-Vietnam Free Trade Agreement
FTA	Free Trade Agreement
CPTPP	Comprehensive and Progressive Trans-Pacific Partnership Agreement
HIV / AIDS	Human immunodeficiency virus infection / acquired immunodeficiency syndrome
IHR	International Health Regulations

Special Symbols

%	Percent
$	US Dollar

1 INTRODUCTION

1.1 Research Problem

1.1.1 Background

At the end of December 2019, Chinese health officials reported a number of multiple acute respiratory syndromes in Wuhan, China. Chinese scientists quickly identified the new coronavirus as the main cause. This disease is now known as coronavirus disease 2019 (COVID-19). This is a new strain of coronavirus that has not been observed at all in humans.

Infinite first outbreak in Wuhan is rapidly spreading**,** shortly affecting other parts of China. Other cases were soon to be found in several different countries. Since then, the spread of this disease has been observed in Asia, Europe, Australia, Africa and America, and Vietnam is no exception.

The first two cases of COVID-19 in Vietnam were confirmed on 23rd January which a Chinese man from Wuhan travelled to Hanoi (the capital of Vietnam) to pay a visit to his son and the son was known to get infected by his father. A day later, the Minister of Health called for action of Emergency Epidemic Prevention Centre to get well preparation for the outbreak. In details, all flights from mainland China were suspended and people who returned from infectious areas were asked to get temperature check and quarantined within 14 days in quarantine centre, all tour regarding to Chinese were cancelled, a small town was locked down after 6 cases were confirmed there. By the time of 16 confirmed cases were cured and discharged from the hospital, Vietnam was on the verge of declaring “Covid-19 free”, unfortunately, a high number of returning people from the foreign countries has put Vietnam in a more difficult situation.

The case shows that despite the Vietnamese government's best efforts, global economic uncertainty about coronavirus and ongoing national concerns are likely to overshadow the economic outlook for 2020. (Thoi, 2020)

Compared to other Asian countries, Vietnam has achieved significant results in how it addressed the coronavirus outbreak. However, Covid-19, poses a significant challenge to the country's economic growth and may continue unless fully addressed.

Vietnam's economic toll has already been visible and more airlines have cancelled and stopped flying to infected destinations. The industries most affected are tourism, transportation, electronics, agriculture and insurance. Several restaurants, shops, cinemas and entertainment venues are severely affected by the lack of demand.

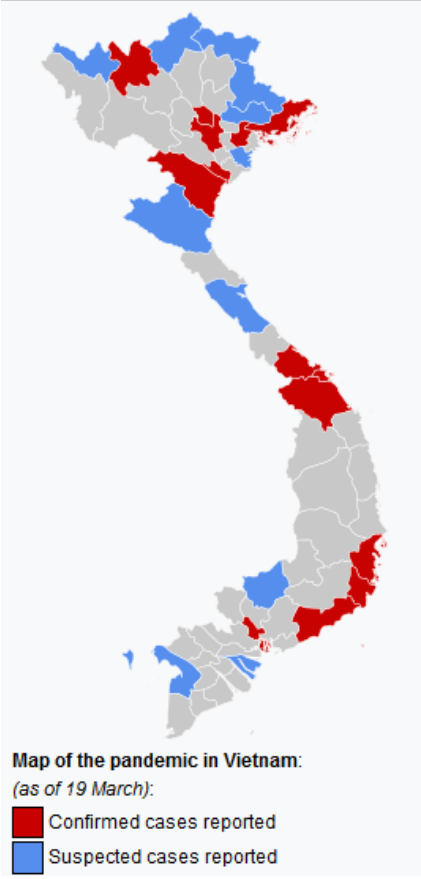


Figure 1: Map of the pandemic in Vietnam (Wikipedia, 2020)

1.1.2 Research Objective

The ultimate purpose of this thesis is to highlight the economic impact that an pandemic can have on a country. For that reason, there are two questions that the thesis addressed:

First question: How does a pandemic effect on Vietnam in terms of economic?

Second question: How can Vietnam deal with economic challenge caused by Covid-19?

1.2 Research Method(s)

The Advanced Learner's Dictionary of Current English (Oxford, 1952, p. 1069) defined research as "a careful investigation or inquiry specially through search for new facts in any branch of knowledge". Research is explained as a "systematized effort to gain new knowledge" by Redman and Mory (Redman & A. V.H., 1923, p. 10). As (Kothari, 2004, p. 1) stated that research includes defining the problems, developing hypothesis or proposing solutions; gathering and evaluating collected data; and finally coming to the conclusions according to Clifford Woody

Kothari mentioned 5 types of research methods in his research (2004, 3 –4)

Descriptive vs. Analytical

Descriptive research involves surveys and fact-finding enquiries, whose purpose is to describe the state of the information that currently exists. Analytical research analyzes and critically evaluates materials using facts and information already available.

Applied vs. Fundamental

The applied research's goal is to look for a solution to the immediate problem faced by society or an industrial / commercial organization, while fundamental research mainly focuses on the generalization and formulation of theory. Research can either be applied research or fundamental research.

Quantitative vs. Qualitative

Quantitative research is based on measuring quantity. This applies to phenomena that can be expressed in terms of quantity. Qualitative research, on the other hand, is associated with a qualitative phenomenon which relate to or involve quality or kind.

Conceptual vs. Empirical

Conceptual research is related to some ideas or concepts, used to establish new ideas or reformulate existing ones. The research study depends on the experience or observations themselves, often irrespective of methodology and theory.

Some other types of studies: all other types of studies are variations of one or more of the above approaches, based either on the purpose of the study or on the time needed to complete

the study, in the environment in which research is done: one-time research, longitudinal research, field-setting research, laboratory research, clinical or diagnostics, etc.

The topic of this thesis is “Economic impact of Covid-19: The case of Vietnam” which will analyse the influence of Covid-19. This thesis will mostly focus on descriptive research as it is based on the existed information of Covid-19 in general and the economic situation of Vietnam during this period.

2 IMPACTS OF PANDEMICS

2.1 What is a pandemic?

Pandemic, according to the New Shorter Oxford English Dictionary, is a disease “normally absent or infrequent in a population but liable to outbreaks of greatly increased frequency and severity” or a “temporary but widespread outbreak of a particular disease”. Pandemics are a large outbreak of infectious diseases that can significantly increase morbidity and mortality in widespread pandemic areas and cause serious economic, social, and political turmoil. There is evidence that the potential for pandemics has increased over the last century due to world travel, integration, urbanization, changes in land use and increased use of the natural environment (Jones and others, 2008). Pandemics are, thus, identified on a geographical scale, not from the severity of the disease. For instance, unlike the seasonal flu pandemic, a pandemic flu is defined as “when a new influenza virus emerges and spreads around the world, and most people do not have immunity” (WHO, 2010).

2.2 Importance of pandemics

Pandemics can cause sudden, widespread morbidity and mortality, as well as social, political and economic shocks. The world has experienced several notable pandemics, including Black Death, Spanish Flu, and HIV / AIDS as figure 2 shown.

Starting year	Event	Geographic extent	Estimated direct morbidity or mortality	Estimated economic, social, or political impact
1347	Bubonic plague (Black Death) pandemic	Eurasia	30–50 percent mortality of the European population (DeWitte 2014)	Likely hastened end of the feudal system in Europe (Platt 2014)
Early 1500s	Introduction of smallpox	Americas	More than 50 percent mortality in some communities (Jones 2006)	Destroyed native societies, facilitating the hegemony of European countries (Diamond 2009)
1881	Fifth cholera pandemic	Global	More than 1.5 million deaths (9.7 per 10,000 persons) (Chisholm 1911)	Sparked attacks on Russian tsarist government and medical officials (Frieden 1977)
1918	Spanish flu influenza pandemic	Global	20 million–100 million deaths (111–555 deaths per 10,000 persons) (Johnson and Mueller 2002)	GDP loss of 3 percent in Australia, 15 percent in Canada, 17 percent in the United Kingdom, 11 percent in the United States (McKibbin and Sidorenko 2006)
1957	Asian flu influenza pandemic	Global	0.7 million–1.5 million deaths (2.4–5.1 deaths per 10,000 persons) (Viboud and others 2016)	GDP loss of 3 percent in Canada, Japan, the United Kingdom, and the United States (McKibbin and Sidorenko 2006)
1968	Hong Kong flu influenza pandemic	Global	1 million deaths (2.8 deaths per 10,000 persons) (Mathews and others 2009)	US$23 billion–US$26 billion direct and indirect costs in the United States (Kavet 1977)
1981	HIV/AIDS pandemic	Global	More than 70 million infections, 36.7 million deaths (WHO Global Health Observatory data, http://www.who.int/gho/hiv/en/)	2–4 percent annual loss of GDP growth in Africa (Dixon, McDonald, and Roberts 2001)[a]
2003	SARS pandemic	4 continents, 37 countries	8,098 possible cases, 744 deaths (Wang and Jolly 2004)	GDP loss of US$4 billion in Hong Kong SAR, China; US$3 billion–US$6 billion in Canada; and US$5 billion in Singapore (Keogh-Brown and Smith 2008)
2009	Swine flu influenza pandemic	Global	151,700–575,500 deaths (0.2–0.8 per 10,000 persons) (Dawood and others 2012)	GDP loss of US$1 billion in the Republic of Korea (Kim, Yoon, and Oh 2013)
2012	MERS epidemic	22 countries	1,879 symptomatic cases, 659 deaths (Arabi and others 2017)	US$2 billion loss in the Republic of Korea, triggering US$14 billion in government stimulus spending (Jun 2015; Park and Kim 2015)
2013[b]	West Africa Ebola virus disease epidemic	10 countries	28,646 cases, 11,323 deaths (WHO 2016a)	US$2 billion loss in Guinea, Liberia, and Sierra Leone (World Bank 2014)
2015	Zika virus pandemic	76 countries	2,656 reported cases of microcephaly or central nervous system malformation (WHO 2017)	US$7 billion–US$18 billion loss in Latin America and the Caribbean (UNDP 2017)

Note: List of events is illustrative rather than exhaustive. All U.S. dollar amounts are rounded to nearest billion. GDP = gross domestic product; HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome; MERS = Middle East respiratory syndrome; SARS = severe acute respiratory syndrome.

a Studies of the effects of HIV/AIDS on per capita gross national product have found smaller effects.

b The West Africa Ebola virus outbreak occurred from 2013 to 2016, but the peak and international response efforts began in 2014.

Figure 2 Notable Epidemics and Pandemics since the Middle Ages (Jamison, et al., 2017)

Since the definition of a pandemic is primarily geographic, it combines several distinct types of events and threats to public health, each of which has its severity, frequency, and other characteristics of the disease. Each type of event requires an optimal response and preparation strategy. The variety of pandemic threats is due to the wide variety of pathogens and their interactions with people. Pathogens differ in several ways, including the mechanism and dynamics of transmission of the disease, the severity and differentiability of related diseases. These and other factors determine whether cases will be detected and quickly stopped or whether an outbreak will spread. (Fraser, et al., 2004). As a result, potentially contagious pathogens are highly diverse not only in their health, economic, social, and political situations, but also in the potential impact of resources, functions, and strategies needed to mitigate their effects.

Several broad categories of pandemic threats should be distinguished. At one extreme are pathogens with a high potential to cause truly global serious pandemics. These pathogens are effectively transmitted between people, have asymptomatic infectious periods long enough to facilitate the undetected movement of infected people, and have symptomatic profiles that pose

problems for differential diagnosis (especially in the early periods of infection). The second group of pathogens poses a moderate global threat. As a result, the infectious pathogens are very diverse. These agonists (eg, Nipah virus, H5N1 and H7N9) did not show continuous human-to-human transfers, but may be more effective as a result of mutation, and adaptation. A third group of pathogens (eg, Ebola, Marburg, Lassa) can cause epidemics between regions and inter-regions, but the risk of pandemics worldwide is slow transmission or detection and is likely to be localized, so it is limited.

Influenza, among all known epidemics, poses a major threat due to potentially serious and semi-scheduled events since at least the 16th century. (Morens, et al., 2010). The infamous 1918 flu kills 20 to 100 million people worldwide, only spreading to a few countries (Johnson & Mueller, 2002). It seriously reflects partially limited health techniques during periods when infections or mortality could not be reduced using antibiotics, antivirals and vaccines. (Murray, et al., 2006).

During the 1918 pandemic, LMICs with low and moderate mortality rates among the population experienced significantly higher mortality rates than HICs, probably as a result of higher levels of malnutrition and associated diseases, lack of access to supportive care and more high rates of disease transmission (Brundage & Shanks, 2008). The differences in mortality between HIC and LMIC would probably be even greater today for the same difficult event, because LMICs have a disproportionately lower medical potential, less access to modern medical interventions and a higher interconnectedness between population centers.

2.3 Origin of pandemics

Most new pandemics began through the "zoonotic" transfer of pathogens from animal to human. (A., 1998) (M, 2012, pp. 1956-1965) and the next pandemic may also be zoonosis. Zoonoses comes in by both domesticated animals (such as farm pigs and poultry) and wildlife. Many historically significant zoonoses have been introduced as a result of more active human interactions with animals after domestication, and potentially high-risk zoonoses (including bird flu) continue to appear in livestock systems**.** (P, et al., 2012) Some pathogens (including Ebola) came from natural lands and entered the human population for hunting and consuming wild species (such as the meat of the wild animal), smuggling of wild animals, and other interactions with wildlife. (Infectious Diseases Society of America, 2010)

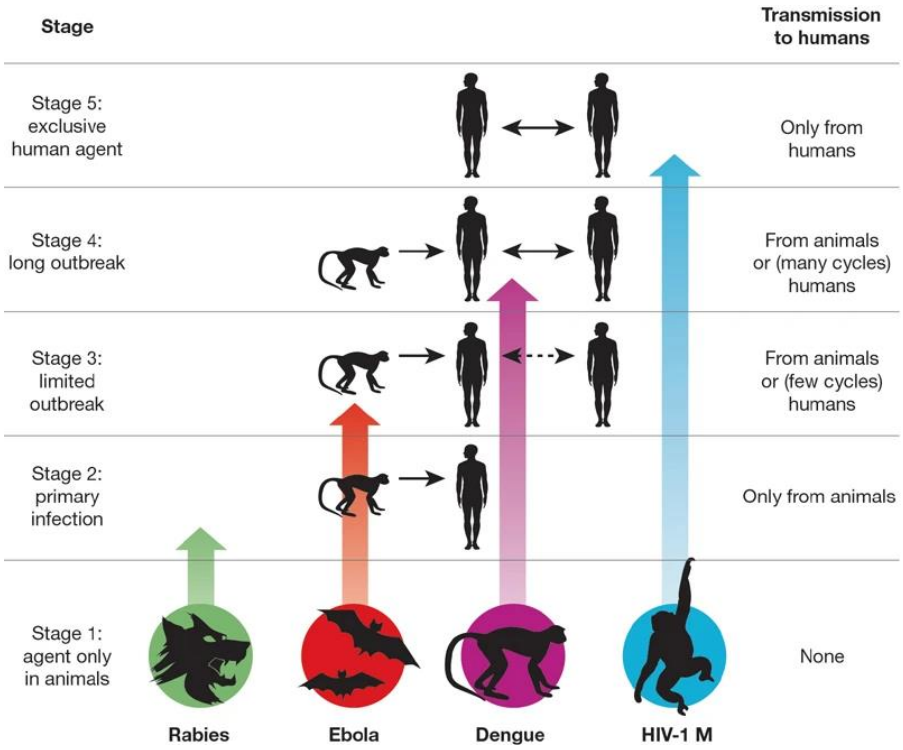


Figure 3 Pathogen Adaptation and Pandemic Risk (Wolfe, et al., 2007)

Zoonotic pathogens vary depending on how much they can survive in the human body and spread between them**.** As shown in Figure 2, the degree of zoonotic adaptation covers a continuous path from transmission only in animal populations (stage 1) to transmission only in human populations (stage 5). Most zoonotic pathogens are poorly adapted to humans (stages 2-3), occur sporadically as a result of side effects, and can lead to localized outbreaks called stuttering chains (Pike, et al., 2010). These episodes of “viral chatter” increase the risk of a pandemic, enabling viruses to better adapt to spread in the human population. Stage 3 pathogens are of most concern because they are sufficiently adapted to humans to cause long chains of transmission between people (directly or indirectly via vectors), and their geographical distribution is not limited to the habitat of the animal reservoir.

2.4 Pandemic Risk Factors

Pandemic risk is caused by the combined effects of spark and spread risk. Concentrations of both risk factors often overlap, especially in some LMICs (Central Africa, West Africa, Southeast Asia, etc.), and these areas are particularly vulnerable to pandemics and negative consequences.

2.4.1 Spark Risk

Zoonotic sparks can result from the introduction of pathogens from either livestock or wildlife. Zoonotic diseases from domesticated animals are concentrated in densely populated livestock production systems, including areas in China, India, Japan, the United States and Western Europe. The major drivers of spark risk from livestock include intensive and large-scale agricultural and livestock production systems, live animal markets, and potential contact with livestock and wildlife storage (Gilbert, et al., 2014). The risk of zoonosis in wildlife is much more widespread, especially in China, India, West Africa, Central Africa, and the Amazon Basin (Jones and others, 2008). Risk factors include behavioral factors (such as hunting bushmeat and the use of traditional animal-derived drugs), extraction of natural resources (such as forestry and logging), and extension of roads to natural habitats and lastly, wild and environmental factors, including degree and distribution of animal diversity. (Wolfe N, et al., 2005)

2.4.2 Spread Risk

After sparking, the risk of a pathogen prevailing within a population is affected by pathogen-specific factors at the population level (including genetic adaptation and mode of transmission) and human factors (population density and susceptibility to infectious diseases, travel, movement patterns of trade and migration, speed and effectiveness of public health monitoring and response measures). (Sands, et al., 2016)

According to Neiderud (2015), he discussed the possibly pandemic of disease can promote the spread of pathogens in densely populated cities, especially in urban centers with overcrowded informal settlements. In addition, social inequality, poverty, and environmental correlation can significantly increase an individual's susceptibility to infection (Farmer, 1996). While companion diseases, malnutrition and lack of calories weaken an individual's immune system, environmental factors such as a lack of clean water and proper hygiene can increase transmission rates and increase morbidity and mortality. (Toole M & Waldman R, 1990). Overall, all of these factors indicate that disenfranchised people, including refugees and people living in urban slums and informal settlements, are at higher risk and mortality during a pandemic.

The readiness index developed by Oppenheim and others can be used to describe a country's predictive capacity to reduce pandemic spread (2017). The index illustrates global differences

in institutions' readiness to detect and respond to a widespread outbreak of infectious diseases. It is based on indicators of the IHR core potential and other publicly available transnational indicators. However, it differs from the IHR in its breadth and focuses on measuring basic and enabling institutional, infrastructural and financial capacities, such as the following (Greenhill & Oppenheim, 2017):

- A public health infrastructure capable of detecting, tracking, managing and treating cases.
- Appropriate physical and communications infrastructure to provide information and resources.
- Basic bureaucratic and state management opportunities
- Ability to mobilize financial resources to pay for disease response and to overcome the economic shock after an outbreak

Well-prepared countries have effective government institutions, a strong economy, and adequate investment in the health sector. They have created the specific competencies needed to detect and control disease outbreaks, including surveillance, mass vaccination and risk communication. Poorly prepared countries can suffer from political instability, poor governance, inadequate resources for public health, and gaps in the fundamental outbreak detection and response systems.

Figure 4 shows a global distribution against the epidemic, where the countries are grouped in fives quartiles. Geographical analysis of the preparation shows that some areas with a high risk of spark are also the least prepared. Areas at high risk of sparks from domesticated animals (including China, North America and Western Europe) have a relatively high level of preparedness, but China is inferior to other countries. However, geographic areas with high spark risk in wildlife species (including Central and West Africa) have the lowest readiness scores in the world, showing potential risk overlaps between spark and spread risks.

2.5 Consequences of Pandemics

2.5.1 Health impacts

The direct health effects of pandemics can be fatal. About 30-50 percent of Europeans had died during the Black Death (DeWitte, 2014). Most recently, the HIV / AIDS pandemic has killed 35 million people since 1981 according to WHO data.

Pandemics can disproportionately affect young, economically active parts of the population (Charu, 2011). During an influenza pandemic (unlike seasonal flu outbreaks), the age distribution of morbidity and mortality shifts to a younger population, which significantly increases the lost years of life (Viboud, 2008)**.** In addition, many infectious diseases can have constant consequences, which can become more common or widespread in the event of a pandemic. For example, Zika-related microcephaly has a lifetime impact on health and well-being.

The indirect health effects of a pandemic can further increase morbidity and mortality. Factors that cause indirect health effects include diversion or depletion of resources to provide daily care, inability to travel, diminished access to daily care due to fear, or other factors. In addition, fear can lead to a proliferation of "worried well" seeking unnecessary care, further straining the healthcare system. (Falcone & Detty, 2015)

During the 2014 West African Ebola pandemic, the closure of the facility as a result of lack of work and concern for disease played a major role in the lack or resolution of access to regular health care. A study of 45 public facilities in Guinea found that Ebola outbreaks reduced outpatient visits to regular attrition and child health services by 31 percent. (Barden-O'Fallon, 2015) Among children under 5 years old, hospitals had a 60 percent reduction in visits for diarrhea and 58 percent of visits for acute respiratory illness (ARI), while medical centers decreased by 25 percent diarrhea visits, 23 percent reduced of ARI visits. In Sierra Leone, visits to public facilities for reproductive health care were reduced by 40 percent at the time of the outbreak. (UNDP, 2014)

The availability of health care staff also reduces while there is an pandemic due to illness, death or absenteeism due to fear. Viral hemorrhagic fever, such as Ebola, is particularly damaging to health care workers in the face of significant exposure to infectious material.

- During the outbreak of Quiquit-Ebola in 1995 in the same country, 24% of cases occurred among known or potential health workers. (Rosello & others, 2015)

- Healthcare workers experienced high mortality during the 2014 Ebola outbreak in West Africa: 8 percent of Ebola-killed doctors, nurses and midwives in Liberia, 7 percent in Sierra Leone and 1 percent in Guinea. (Evans, et al., 2015)

Even if healthcare providers do not die, their ability to provide care may be impaired. In the midst of a severe influenza pandemic, up to 40 percent of health workers may not be able to report on the job because they themselves are sick, need care for sick family members, need care for children due to school closure or are afraid. (Falcone & Detty, 2015)

2.5.2 Economic impacts

Pandemics can cause severe short-term fiscal crises and long-term damage to economic growth. Early public health efforts to contain or limit outbreaks (such as contact tracing, quarantine, and isolation of infectious cases) entail significant human and personnel costs. (Achonu, et al., 2005) As an outbreak evolves, new facilities may need to be built to handle further infectious cases; this, together with the growing demand for consumables (medical supplies, personal protective equipment and medicines) can significantly increase the costs of the health system. (Herstein, et al., 2016)

Decreasing tax revenues can exacerbate fiscal stress from increased spending, especially in LMICs, where the tax system is weaker and the government has more financial constraints. This dynamic was noticeable during the Ebola pandemic in West Africa in 2014: while response costs increased, economic activity slowed, and quarantine and curfew reduced the government's ability to raise revenue (World Bank , 2014).

HICs that are not affected by mild or moderate pandemic can offset the financial shock by providing increased official development assistance (ODA) to affected countries, including direct budget support. However, during a major pandemic where the HIC is unable to provide support in the face of the same financial stress, LMICs can faces greater budget scarcity, weakening public health response and reducing other government spending.

However, the direct financial impact of a pandemic is generally less than the indirect damage to economic activity and growth. The negative effects of economic growth are directly caused by reduced workforce due to illness and death and behavioral changes due to fear. Fear is displayed through multiple behavioral changes. As a result of analyzing the economic impact of the Ebola pandemic in West Africa in 2014 noted, “Fear of association with others ... reduces labor force participation, closes places of employment, disrupts transportation, motivates some governments to close land borders and restrict entry of citizens from affected countries, and motivates private decision makers to disrupt trade, travel, and commerce by canceling scheduled commercial flights and reducing shipping and cargo services” (World Bank , 2014). These effects, in addition to the direct morbidity and mortality impacts of the pandemic, reduce labor force participation and limit regional and regional trade.

The pandemic indirect economic impacts are largely quantified by a general computational equilibrium simulation; the empirical data is not very developed. World Bank economic simulation revealed that serious pandemic would reduce gross domestic product (GDP) by about 5 percent. (Burns, et al., 20016) Demand reduction caused by aversive behavior (lack of travel, restaurants, avoiding public spaces, preventive absenteeism, etc.) exceeds the economic consequences of a direct absence of morbidity and mortality.

Finally, financial and growth shock estimates are important, but do not include the intrinsic value of lost life. Fan, Jamison, and Summers (2016) estimate the value of excess mortality across various levels of pandemic severity and take into account the additional dimension of economic loss, most of the expected annual losses due to infectious diseases are particularly low severe incidents, determined by the direct cost of mortality.

During a severe pandemic, all sectors of the economy — agriculture, manufacturing, services — face disruptions, which can lead to shortages, rapid increase in prices for staple products, and economic strains for households, private companies, and governments.

2.5.3 Social impacts

Evidence suggests that epidemics and pandemics can result in considerable social and political consequences, causing clashes between states and citizens, undermining the capacity of

the state, leading to population displacement and increasing social tensions and discrimination. (Price-Smith, 2009)

Serious pre-modern pandemics have been associated with significant social and political upheavals caused by severe shocks in mortality and the resulting demographic shifts. In particular, the deaths caused by the spread of smallpox and other diseases in the Americas led directly to the collapse of many indigenous communities and weakened the institutions and military capabilities of indigenous peoples to such an extent that they became vulnerable to European conquest (Diamond, 2009). Subsequent pandemics did not have such a drastic impact on political and social stability, mainly because the potential shock to mortality was mitigated by improved prevention and care.

Evidence does suggest that epidemic and pandemics can exacerbate existing political tensions and cause unrest, especially in fragile states with a legacy of violence and weak institutions. During the 2014 Ebola pandemic in West Africa, social and opposition political leaders were suspicious of steps taken to alleviate the transmission of diseases, such as quarantines and curfews by security forces. This led directly to riots and violent clashes with security forces (McCoy, 2014). Latent political tensions from previously warring factions in Liberia also arose at the outbreak of the pandemic and were associated with threats to health workers, as well as attacks on personnel and public health facilities.

Pandemics can also have effects on public capacity in a long run (Price-Smith, 2001). The HIV/AIDS pandemic is one of the prime examples. In the 1990s and early 2000s, there was an extremely high HIV / AIDS prevalence among the African military, which led to an increase in the number of absenteeism, a decrease in military capabilities and in preparedness (Elbe, 2002). Similar effects can occur with shorter and more acute pandemics, reducing the capacity of the state to cope with instability. The weakening of security forces can, in turn, increase the risk of civil war and other forms of violent conflict. (Fearon & Laitin, 2003)

Finally, outbreaks of infectious diseases can lead to the fact that they can cause already vulnerable social groups, such as ethnic minorities, will be stigmatized and accused of the disease and its consequences (Fraser, et al., 2004). During the Black Death, Jewish communities in Europe faced discrimination, consisting of expulsion and violence in society, due to stigma and guilt for outbreaks of disease (Cohn, 2007). Modern outbreaks have witnessed more subtle forms of discrimination, such as avoidance and fear, aimed at minorities associated with foci

of the disease. For example, Africans in Hong Kong SAR, China, reported experiencing social exclusion, anxiety, and economic hardship due to fears of their association with Ebola (Siu, 2015)

2.6 Trends Affecting Pandemic Risk

Over the past decades, several trends have affected the likelihood of an epidemic, preparedness, and mitigation potential. Several factors such as population growth, the increase of urbanization, increasing need for animal protein, mobility and connectivity between population centers, loss of habitat, change in climate and increased interactions in the human-animal interface affect the possibility of pandemic events by increasing either the likelihood of a spark occurring or the possible spread of a pathogen (Tilman & Clark, 2014) (Tyler, 2016). It is estimated that by 2050 the world's population will reach 9.7 billion. While travel and trade will continue to grow, public health systems will have less time to identify and isolate a pandemic before it spreads (Tyler, 2016).

Regarding poverty, trends are mixed. On the plus side, tremendous success in reducing poverty has led to a reduction in the number of people living in extreme poverty. This can somewhat mitigate the fatal shock of a mild pandemic. Extreme poverty, on the other hand, is currently concentrated in a small number of countries with low growth and high poverty (Chandy, et al., 2015). In these countries, the capacity of health system capacity development has slowed significantly.

Similarly, in some countries that have uniquely vulnerable institutions, building institutional capacity for complex tasks such as pandemic mitigation and response may be slow even under the most optimistic assumptions (Pritchett, et al., 2013). Many of these countries, especially in Central and West Africa, are at high risk of sparks, so they may remain vulnerable during an outbreak and require significant international support.

Other environmental and demographic trends that can increase the severity of pandemics include the presence of slums, a refractory health system, the prevalence of more accompanying illness, poor hygiene and aging populations (Arimah, 2010) (UNDESA, 2015). Bacterial illnesses such as tuberculosis and cholera, as well as viral illnesses (especially a significant

proportion of deaths in influenza are the result of co-infection with bacterial pneumonia) (Brundage & Shanks, 2008).

2.7 Pandemic Mitigation: Preparedness and Response

Pandemic preparedness and response activities can be classified by their timing of occurrence, depending on the occurrence of the pandemic: the period before the pandemic, the spark period and the propagation period, as shown in Figure 4

Prepandemic period (before a pandemic starts)

- Stockpile building
- Continuity planning
- Public health workforce training
- Simulation exercises
- Risk transfer mechanism set-up
- Situational awareness[a]

Spark period (as a pandemic starts)

- Initial outbreak detection
- Pathogen characterization or laboratory confirmation
- Risk communication and community engagement
- Animal disease control
- Contact tracing, quarantine, and isolation
- Situational awareness[a]

Spread period (after a pandemic starts)

- Global pandemic declaration
- Risk communications
- Contact tracing, quarantine, and isolation
- Social distancing
- Stockpile deployment
- Vaccine or antiviral administration
- Care and treatment
- Situational awareness[a]

a Situational awareness includes passive and active animal and human disease surveillance and monitoring of public health facilities and resources.

Figure 4 Examples of Pandemic Preparedness and Response Activities, by Time Period (Madhav, et al., 2018).

Managing pandemic preparedness and response is difficult, as powers are fragmented between international, national, and subnational institutions, as well as among several organizations that have functional responsibilities for specific tasks (Anon., 2003). Preparing for a pan-

demic requires close coordination between public and private stakeholders. Vaccine development requires close coordination between the government and vaccine producers. On the other hand, critical measures such as quarantine management require involvement between non-profit organizations (hospitals, clinics, non-governmental organizations), public health authorities, affected communities and civil society groups, as well as the security sector.

Historical epidemics provides only a partial perspective to guide preparedness and response activities. Many countries and organizations have used historic influenza pandemics in 1918, 1957, and 1968 to assess the potential burden of morbidity and mortality during a future pandemic (WHO , 2016). Nevertheless, planning a mild pandemic flu (such as the 2009 influenza pandemic) using these moderate-to-severe events can be overreacting, such as a wide range of compulsory school closures that can have unintended negative economic consequences (Kelly, et al., 2011). While the 1918 flu pandemic is considered to be the "worst scenario" for planning purposes, today's scenario is much more contagious and can be much more corrupted as the deadly flu virus emerges. In particular, the LMICs lacks an intensive care unit (ICU) bed and treatment for acute respiratory distress syndrome, which can lead to many casualties (Osterholm, 2005).

2.7.1 Situational Awareness

Situation awareness of the epidemic ratio should be defined as having an accurate and up-to-date visual representation of potential or advanced infectious disease threats (including traditional surveillance of humans and animals) and resources (human, financial, informational) that can manage threats (ASPR, 2014). Situational awareness is a vital activity in all stages of a pandemic (including before the pandemic, during the outbreak period, and during the transmission period). It requires the support of healthcare resources (hospitals, doctors and nurses), diagnostic infrastructure and communication systems. It also requires the public to use and trust the healthcare system. Situation awareness supports policy decisions by tracking the location of the outbreak, detecting the most effective way to reduce infection, and locating resources for allocation. Through situational awareness during epidemics, it is possible to monitor the progress of infectious diseases and the effectiveness of arbitration measures.

The ability to detect a pandemic requires health workers to recognize the disease and have the technical and laboratory capabilities to identify a pathogen (or eliminate known pathogens)

and respond to bursts of clinical samples in a timely manner. Rapid identification mitigates risk by isolating infected persons and providing appropriate clinical care. A one-week delay in the application of control measures during the SARS pandemic in 2003 almost tripled the magnitude of the outbreak, which could have increased by four weeks (Wallinga & Teunis, 2004).

Endemic infections can impact outbreak detection by quickly identifying infectious disease diagnoses and complicating outbreak cases. Symptom overlap between epidemic and emerging pathogens, such as dengue and Zika, or malaria and Ebola, prevents early detection of cases (E, et al., 2016). This difficulty presupposes the role of investment in the development and deployment of rapid diagnostic tests in areas where the burden of local pathogens and the risk of outbreaks of disease or their import are high (Yamey & others, 2017).

2.7.2 Preventing and Extinguishing Pandemic Sparks

While most pandemic preparedness activities aim to reduce morbidity and mortality after the pandemic is widespread, some activities can prevent and contain pandemic sparks before they become a broader threat. Pandemic prevention is based on the concept of One Health, an approach that considers the fundamental interconnection between human health, animal health and the environment (Zinsstag, et al., 2005).

One Health activities that are important to understanding the causes of an epidemic include animal pathogen surveillance of pandemic potential in the human-animal interface, modeling evolutionary dynamics, risk assessment of animal pathogens, and other ways to understand the interactions between environmental changes and pathogen development (Paez-Espino & others, 2016).

2.7.3 Risk Communications

Risk communication can play an important role in controlling a new epidemic or epidemic by providing information that people can use to take protective and preventative measures (WHO, 2013). Disseminating basic information such as pathogen transmission methods, patient care management and guidelines, risky practices, and protective measures can reduce the transmission of diseases quickly and significantly.

The way in which risk communication is assembled and sent is very important. They must be delivered by a clear, simple, timely and reliable messenger. Factors such as literacy rate, cultural susceptibility, familiarity with scientific principles (such as the bacterial theory of disease), and reliance on oral and written traditions all affect how messages are designed and delivered (Bedrosian & others, 2016).

Public health officials should also identify and eliminate false information, rumors and anxieties. This can be a serious problem. During the 2014 Ebola epidemic in West Africa, many communities turned to culturally-known explanations for disease transmission and rejected disease control methods that were contrary to their traditional way of healing and burial practices (Roca & others, 2015). Still other people spread rumors about the source of the infection; for instance, in Liberia, some community leaders stated that the government created the disease.

Rumors can impede the fight against disease and can be exacerbated by distrust of government officials, which is a serious problem in LMICs with a high level of corruption or a legacy of violent conflict and social divisions. Studies have shown that in unstable conditions, people tend to believe rumors confirming their previous beliefs and worries (Greenhill & Oppenheim, 2017). This conclusion suggests that it is not enough to refute rumors using only facts. The risk message must be realistic and responsive and reflect the community's experience, the underlying fear of the incident being developed through the prism of history and cognition.

Measuring the effectiveness of risk communication is difficult. However, previous risk communication efforts have created a comprehensive theme that may be useful during the next epidemic or pandemic. One notable model is the outbreak of the Nipah virus in Bangladesh in 2010. In that outbreak, the message about the source of infection and potential strategies for mitigating risk is communicated by credible local leaders and in the sense that it is grounded in relation to the shared experience of the affected communities turned out to be more effective (Parveen & others, 2016)

2.7.4 Reducing Pandemic Spread

Following the onset of a major pandemic, public health efforts are often aimed at minimizing its spread. Limiting the spread of a pandemic can help reduce the number of infected people

and thus mitigate some indirect effects on health and the economy. Pandemic minimization strategies include the following (Ferguson, et al., 2005):

- Curtailing interactions between infected and uninfected populations: as an example, by isolating patients, lockdown, social distance practices and closing schools
- Reduction of infections in symptomatic patients: antiviral and antibiotic therapy and infection control practices.
- Reducing susceptibility of non-infected individuals: by vaccine for example

During the pre-epidemic period, plans should be developed to implement these measures and tested using simulation exercises.

3 POTENTIALLY IMPACTED ECONOMIC SECTOR

3.1 Impacts on local consumption

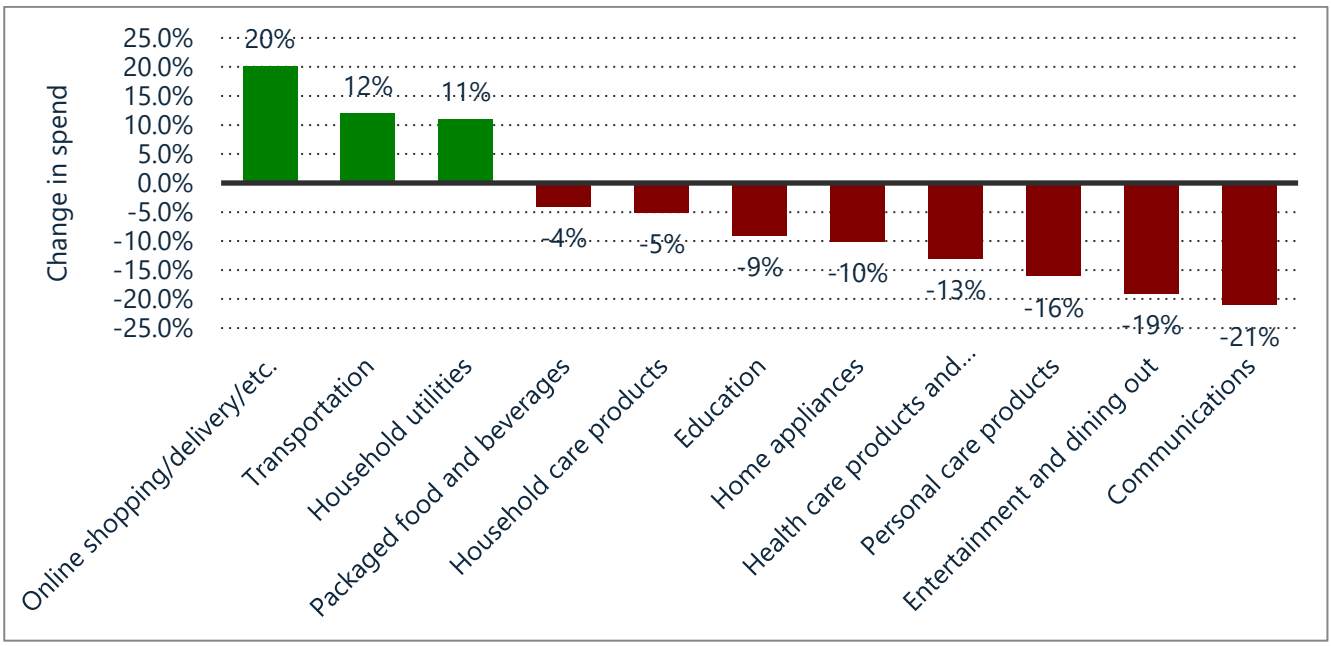


Figure 5 Impact on consumers' spending due to COVID-19 in Vietnam 2020 vs 2019, by sector (Infocus Mekong, 2020)

Regarding local consumption, Infocus Mekong has done a survey with a number of more than 7000 participants. Following the outbreak of COVID-19, there were winning and unprofitable sectors in consumer spending. While the communications sector lost 21 percent of consumer spending, online store and delivery services saw a 20 percent increase. According to the source, the digital industry can help counter risks and economic uncertainties. The main winners in 2020 should be online purchase / delivery services, the automotive industry, packaged food and possibly home care products, as consumers spend more time on staying at home and less in public places.

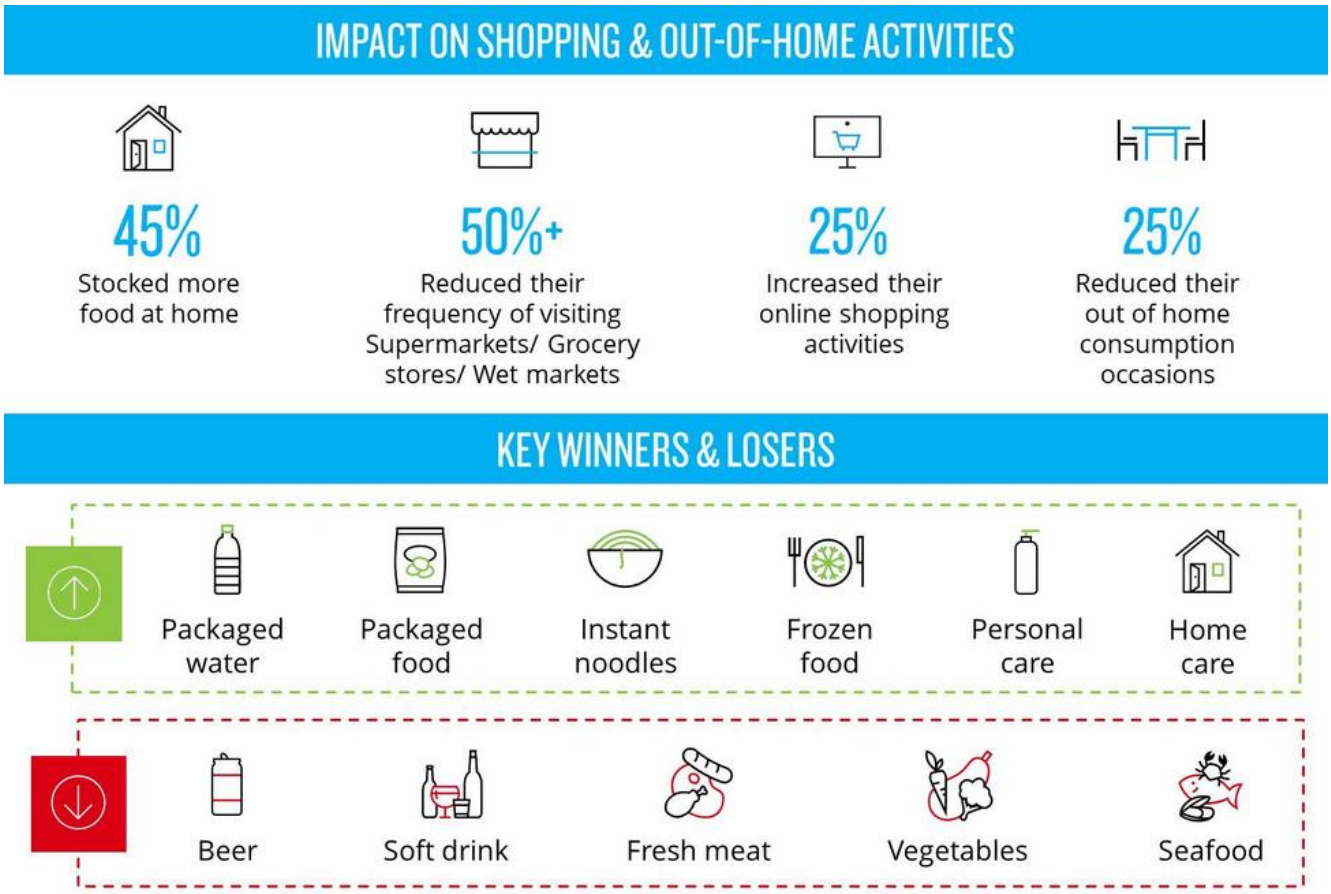


Figure 6 Impact of Covid-19 on Vietnamese's consumption (Nielsen; Infocus Mekong, 2020)

According to Nielsen's survey, 45 percent of respondents said they stocked more food at home than before. Brick and mortar channels were affected, as more than 50 percent of people reduced their visits to supermarkets, grocery stores, and markets.

In addition, 25 percent of respondents said they increased their purchases on the Internet and reduced their incidence of consumption outside the home.

"Vietnamese now are spending more time online and are also shopping more online. This provides an opportunity for marketers to be aggressive with their digital strategies and should have a stronger and visible presence online," said by Mohit Agrawal, Head of Consumer Insights, Nielsen Vietnam.

Along with changes in purchases and consumption, consumers reported that their relationships with certain categories were particularly affected. With an increase in stocks at home, there is a trend towards categories such as instant noodles (+ 67 percent) and frozen foods (+ 40 percent) and sterilized sausages (+ 19 percent). Packaged water and food also tend to grow.

In addition, in personal hygiene (mouthwash + 78 percent, personal hygiene products + 45 percent and facial wipes + 35 percent) and home care there has been an increase in consumption, as people pay special attention to protection against COVID-19, paying particular attention to washing and cleaning.

"Marketers can capitalize on this trend by inducing the consumers to continue with the good habit for a longer term. This can be done by educating consumers about the benefits and also with the right market strategy of being available at the right outlet and at the right price," Mohit said. (2020)

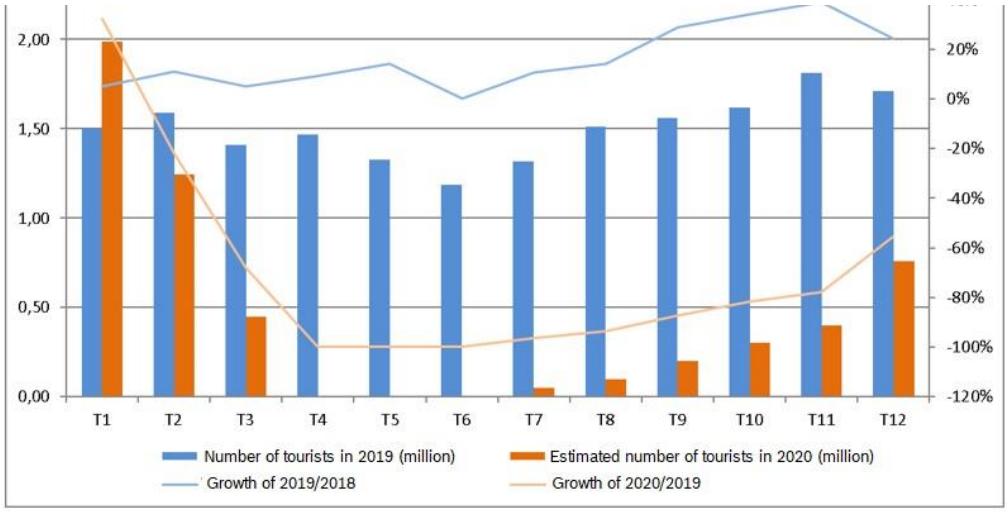
On the other hand, people tend to avoid fresh meat, vegetables, and seafood during this outbreak. As for drinks, the consumption of beer and soft drinks (except water) decreased.

3.2 Impacts on tourism & travel

During the first two months of 2020, COVID-19 infection caused significant damage to the tourism aspect. According to a survey conducted by the Vietnam Tourism Advisory Council, hotel reservations and accommodation in the northern and southern regions of Vietnam were down 20-50 percent from the same time last year. The number of foreign visitors arriving in March 2020 is expected to decrease by more than 60 percent, and due to the threat of this deadly virus, domestic tourists could fall by 80 percent. Tourism staff were asked to take temporary unpaid leave. COVID-19 infections are expected to cost Vietnam $ 5.9-7 billion over the next three months.

Vietnam National Administration of Tourism has discussed two possible scenarios for international tourism as follows: (Vietnam Tourism Advisory Council, 2020)

Figure 7 Scenario 1: The virus will be contained at the end of June (Vietnam Tourism Advisory Council, 2020)



In this case, the number of international visitors will be at the lowest point from April to June. At this time, international visitors can hardly come to visit Vietnam. The number of visitors will recover gradually at the end of the year but still low, unable to grow positively compared to the same period in 2019.

Once the pandemic is under control, business travel may become a priority due to the urgent need for trade and production worldwide. However, the journey was not the same as before, because a pandemic occurred because countries were still wary of the return of COVID-19. Markets close to Asia are likely to recover earlier than the markets of Europe, North America, Australia ... In this scenario, the number of foreign tourists may decline by 2020. Approximately 70 percent compared to 2019, only about 5.5 million.

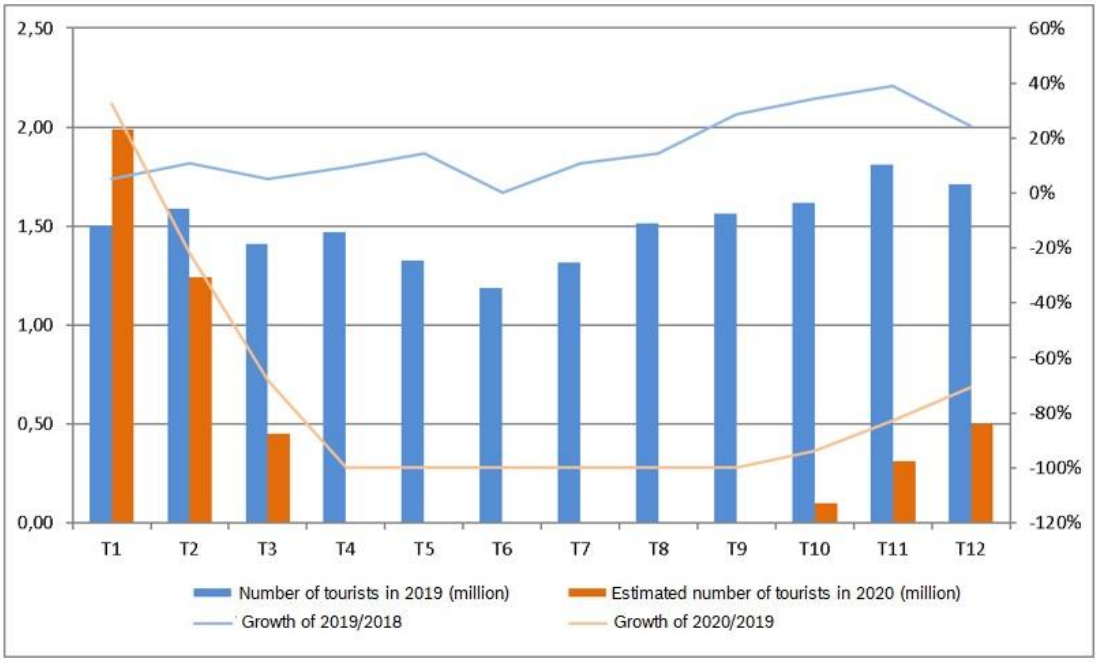


Figure 8 Scenario 2 The virus will be contained at the end of September (Vietnam Tourism Advisory Council, 2020)

In this scenario, the pandemic still occurs worldwide, especially in Europe and North America. In Asia, China, South Korea, and other countries, the pandemic is controlled first, but travel and trade restrictions are limited to prevent the spread of the disease. If this is the case, the downtime with almost no international tourists will last longer from April to September, it can only begin to recover very limited from the end of the year thanks to tourism activities, civil service and trade. According to this scenario, the number of international tourists arriving by 2020 will decline by almost 75 percent, to about 4.6 million.

In addition, if the situation worsens, by the end of December 2020, the Covid-19 pandemic will not stop, from April to December there will be almost no international tourists coming, the total number of foreign tourists in 2020 will decrease by 80 percent compared to 2019, stopping at the first 3 months of the year with 3.7 million arrivals.

However, in an unprecedented situation, tourism is believed to recover faster and stronger. Take an example, during the Vietnamese holiday weekend from April 30th to May 3rd, the roads leading out of Hanoi and Ho Chi Minh City were congested, increasing domestic tourism to areas such as Dalat, Vung Tau and Mui Ne. Hotel occupancy is high and some transport operators were fined for not maintaining social distance guidelines within their transport service. Savills Vietnam points out that tourism will fully recover within six months of the containment of the pandemic (Samuel, 2020).

In addition, Vietnam is heavily dependent on Chinese and South Korean tourists, who made up for 56 percent of international tourists in 2019. It also opens up the possibility, as China and South Korea are largely holding back the pandemic. After the resumption of international flights, it is likely that international arrivals from the mentioned countries will begin again, which will help tourism recover. If Vietnam succeeds in its fight against COVID-19 and is considered a safe country to travel, the number of tourists is likely to increase. The recovery is keeping pace with the opening of restaurants and cafes and customer service on the weekend (Samuel, 2020).

3.3 Impacts on import & export

According to the report of Ministry of Industry and Trade (2020), given some economic aspects, pandemic control measures actually affect the speed of movement of goods from the stage of export, transportation, customs clearance, storage, loading and unloading to consumption of goods; causing disruption or delaying the flow of economic - trade - services. Besides, a number of retail systems in Europe and the United States were closed due to the pandemic, which led to supply and demand in the market, the demand for exchange of goods, trading activities will also be somewhat limited. The demand for non-essential goods such as textiles, footwear, furniture, phones, etc. will decrease. In addition to the difficulty of exporting goods by sea, the forecasting of goods imported into countries by air can be significantly affected by the delay, cancellation or reduction of many flights. In addition, intra-regional transport is more or less

affected by some countries that tighten border control rules. Due to regulations related to pandemic control and weakening demand, some importers have announced to suspend the import of signed orders, the textile and footwear industries will face many difficulties and risks. Underemployment in April and May, which significantly affects the income and risk of losing employees.

3.3.1 Agricultural and aquatic industry

Many agricultural products, mainly agricultural and aquatic products, experienced difficulties in the first quarter of 2020 due to the Covid-19 pandemic, initially in China, then in Korea, Japan and from the beginning of March in the US, EU and ASEAN markets.

Agricultural and aquatic products are exported to various markets, but they are directly and explicitly affected by fresh vegetables, fruits and aquatic products, as they are fresh or semi-processed foods that are difficult to obtain during long-term storage. During the peak period of the pandemic, exports to these main markets were very slow, declining sharply, mainly due to the blockade, travel restrictions - trade, which led to the cancellation of a number of cases. On the other hand, with joint export, there is not enough labour and lengthy procedures due to compliance with the rules of disease control. Thus, the export turnover of agricultural and forest products decreased by 4.5 percent, aquatic products decreased by 11.2 percent in the first quarter of 2020 compared to the same period; many of which fell sharply, like rubber (-26.1 percent), vegetables (-11.5 percent), coffee (-6.4 percent).

The production of electronic products, computers and optical products in the first 3 months increased by 14.3% compared to the same period. At the beginning of the first quarter, the industry was also hit hard by a shortage of imported parts and components for production due to exposure to diseases from developing countries. Border control measures aimed at preventing pandemics will affect the source of input products for production, as well as consumer markets for the electronics industry in Vietnam. Recently, supplies of imported components for the electronics industry have been partially restored, as suppliers in China and Korea resume their work after a pandemic peak. However, imports still face many difficulties. Sources of components and spare parts imported from China by road need more time to go through customs than usual, since border gates still apply quarantine measures. Enterprises seek to diversify the transportation of imported components instead of roads, but this will lead to increased costs

(air) and time (by sea), as well as complicate the maintenance of parts and components, as well as the schedule of production capacities.

3.3.2 Steel industry

The Covid-19 pandemic caused many difficulties in handling goods, leading to the suspension of almost all construction sites, constructions projects using steel products as experts, engineers, workers, foreigners must conduct the pandemic isolation. In addition, the pandemic also led to a sharp drop in steel prices in the global and Chinese markets, while prices for some steelmaking materials tended to increase due to limited supplies from China, such as coke, iron ore, electrode coal, refractory brick, ferro, etc. The above factors make it difficult for enterprises in terms of production costs as well as consumption activities.

3.3.3 Chemical industry

The Covid-19 pandemic affected the supply of imported fertilizers, especially for fertilizers that Vietnam has not yet produced, such as potassium, SA. These fertilizers, in addition to imports from China, can be imported from many other countries, such as Russia, Belarus, Israel, Western Europe, but the price is higher. For domestically produced fertilizers such as Urea, NPK, DAP, Lan, etc., this is an opportunity for businesses to boost production and supply to the market. As for the main chemicals and cleaning products, before the outbreak of the pandemic, the demand for disinfectants increased, businesses mainly used domestic materials, so they suffered less from this disease. Enterprises are actively promoting the production and diversification of products for delivery to the market.

3.4 Impacts on employment

The General Statistics Office (GSO) (2020) said that the labour force participation rate in the first quarter of this year was at a record low of 10 years, with about 75.4 percent of the population aged 15 and over, lower than 1.2. -1.3 percent compared to the previous quarter and the same period of years.

Accordingly, non-contracted, low-income, young and elderly workers are vulnerable to the Covid-19 pandemic. The number of employees affected in the middle of this month increased to nearly 5 million. The processing and manufacturing industries, with 1.2 million employees, were most affected, followed by wholesale and retail trade with 1.1 million employees, food and catering services with 740,000 people.

Of the 5 million workers affected, 59 percent were temporarily laid off, 28 percent were terminated, and 13 percent were unemployed.

The unemployment increased as underemployment rate of labourers aged 15 years also reached the 5-year high. Accordingly, the rate was 2.22 percent in the first quarter, an increase of 0.07 percent compared to the previous quarter and 0.05 percent compared to the same period last year.

Thus, the unemployment rate remains low even though millions of employees are affected. Director of the Department of Population and Labour Statistics, Vu Thi Thu Thuy, explained, this is because workers who were stopped working or lost their jobs temporarily were not included in the unemployment group.

In addition, unlike in developed countries, workers in Vietnam, although losing their jobs in factories, are not unemployed because they can work part-time jobs. This leads to the fact that the unemployment rate in Vietnam is low but the unemployment rate is higher than other countries.

4 SURVEY RESULTS

4.1 What is the survey about?

After the demonstration of economic impacts of Covid-19 on some aspects, a survey was planned to be conducted based on the recommendations. The aim of the survey was to gather the public opinions on Covid-19 such as how effected it is on the way of life, way of work life and behaviours after the pandemic. Also, it will assess the consumer habits such as buying habit, shopping habit and spending habit.

4.2 What needs to be created?

The present chapter presents a detailed analysis of the survey based on the questionnaire provided by the author. The questionnaire included three sections. In specific, the first section demonstrated the basic demographic information such as gender, age, occupation. Demographics give you a good understanding of a person's specific background characteristics, such as age, race, ethnicity, income, working conditions, and marital status. Current opinions can be gathered with the help of demographic information, and in turn, help you illustrate a better picture of the situation. Age groups are divided into 5 groups to get a wider result for the as follows:

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54

Second section displayed the general opinions as well as the behavioural changes of participants towards after Covid-19. Behavioural sections provide important information for the success of the initiative. Solving a problem can be very difficult without knowing exactly the extent of the problem in your community. Behavioural surveys help solve these questions by providing

data to help you move in the right direction for analysing your community. The last section will illustrate the consumer habits of participants. This section can be partly considered as consumer survey, it helps the author to have a knowledge of the people's perspective and keep track on their habit changes before and after the pandemic.

4.3 How the survey was created?

The title of the survey was "Opinion on the Covid-19 pandemic" and it was conducted in Google Docs. Getting access to the survey via a link that could be spread easier to a group of targeted people. The survey is completely anonymous and participants could do the survey without the need to share their private information.

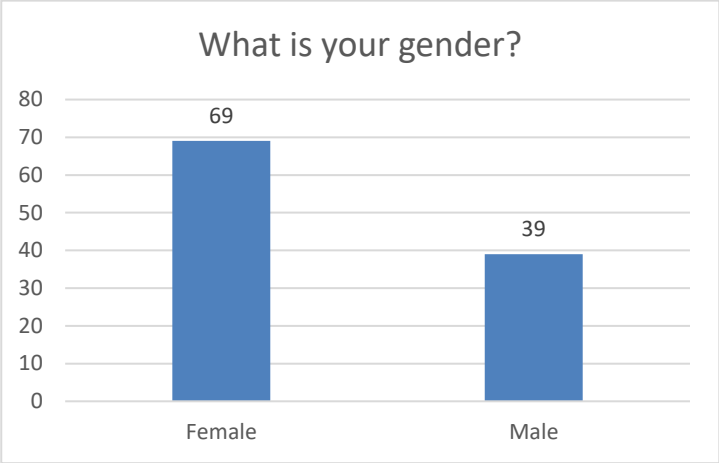
There are two sources used as a reference for the survey. In specific, the author made second section regarding behavioural changes centred on the journal "The impacts of SARS on the Consumer Behaviour of Chinese Domestic Tourists" (Zhang, et al., 2008), the article focused mostly on the Chinese consumer behaviour but the questions somehow reflected the general actions resulted from a pandemic. Moreover, the third section about consumer habits was modified based on the consumer behaviour survey made by Customer Communications Group (CCG Inc, 2020), the reason why the author decided to use it as a reference is because CCG is a popular marketing agency so their questions were carefully considered and selected.

4.4 Outcomes and recommendations

The survey was open within 5 days (15/5-19/5). During this time, the author collected the answers as much as possible with the help of Vietnamese friends and family. As a result, 108 responses have been received. This chapter will present the questions that were shown in the questionnaire, how they were answered by the participants and the outcomes from the survey.

4.4.1 Outcomes

Gender



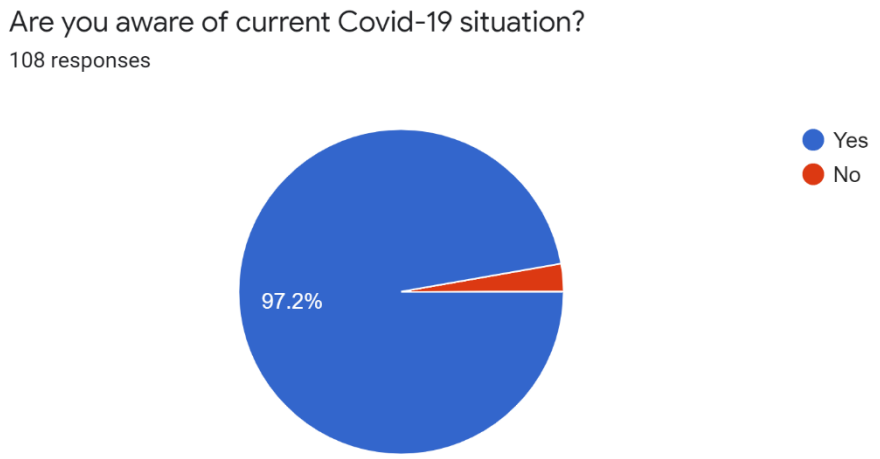
The demographic information indicates the basic information about participants. There are 69 females and 39 males took the survey. It can be shown that the percentage of female participants dominant that of male participants (63,89% vs. 36,11%).

Age vs. Occupation

Row Labels	18-24	25-34	35-44	45-54	Under 18	Grand Total
A homemaker	1					1
A student	36	1			1	38
Employed for wages	25	15	8	5		53
Retired				1		1
Self-employed	1	1	3	6		11
Unemployed	4					4
Grand Total	**67**	**17**	**11**	**12**	**1**	**108**

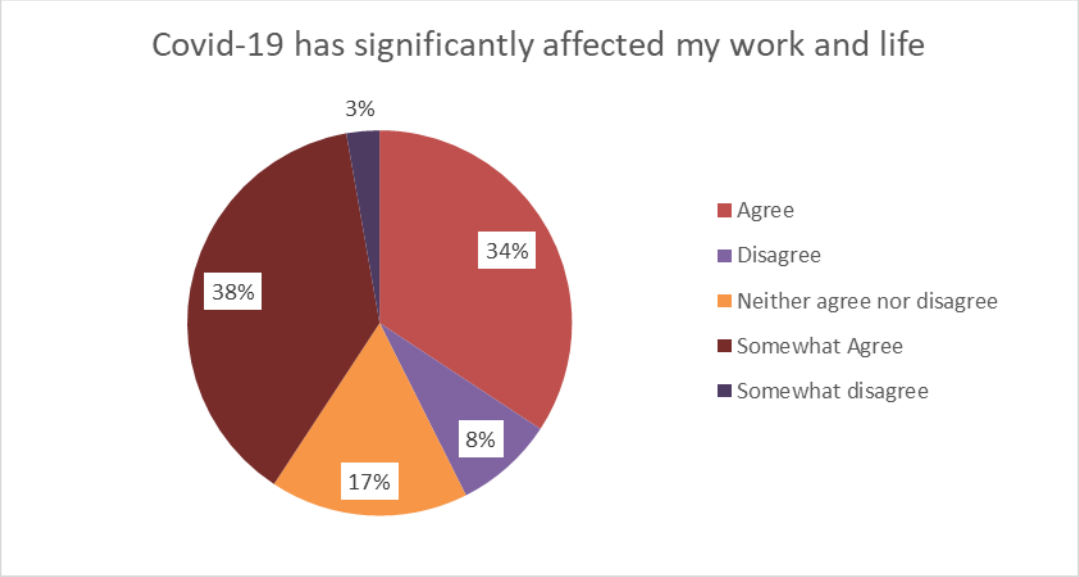
The age group consists of 5 groups: under 18, 18-24, 25-34, 35-44 and 45-54. In details, the age ranges from 18 to 24 accounts for most taken participants (67 participants) whose occupation is student. Moreover, people from 4 age groups (18-24, 25-34, 35-44, 45-54) are currently employee. Therefore, this survey can reflect partly the current situation in Vietnam from the labour force's point of views. The lowest number of participants falls to the age from 45-54.

Are you aware of current Covid-19 situation?



According to the pie chart above, 97,2% of the respondents had awareness of current Covid-19 situation. However, there was still 2,8% of them had a lack of awareness towards the situation. It can somehow be stated that Covid-19 situation is not likely to have a full impact on some people thus they don't have much awareness about it.

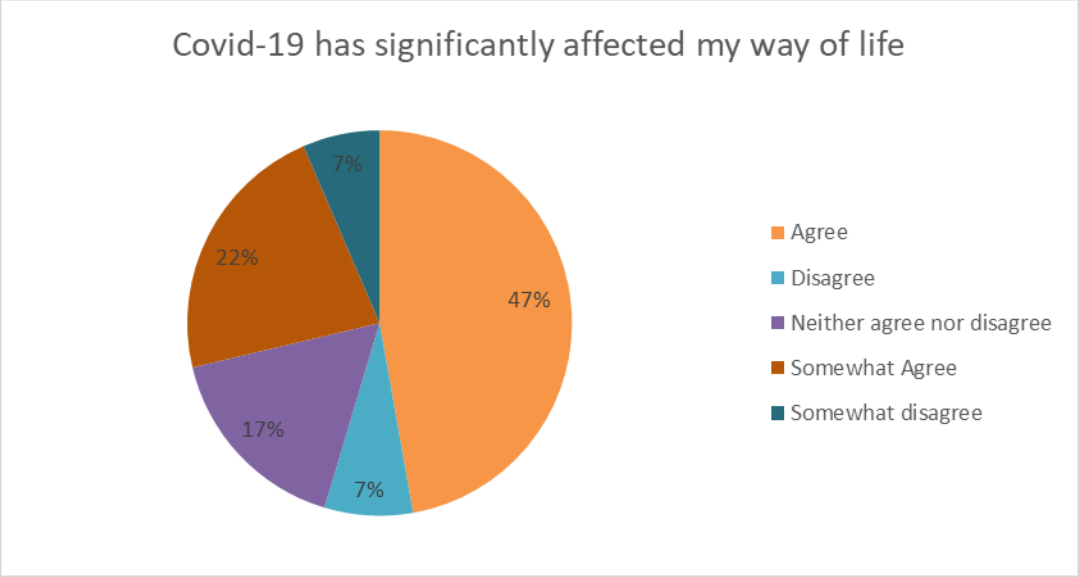
Covid-19 has significantly affected my work and life



As it can be seen from the pie chart, Covid-19 has a significant effect on the work and life of participants. The majority of participants agreed (55%) and somewhat agreed (27%) that Covid-19 has considerably affected their work and life. Moreover, there was still low percentage

of people who disagreed (2%) and somewhat disagreed (2%) that their work and life are not under the impact of Covid-19

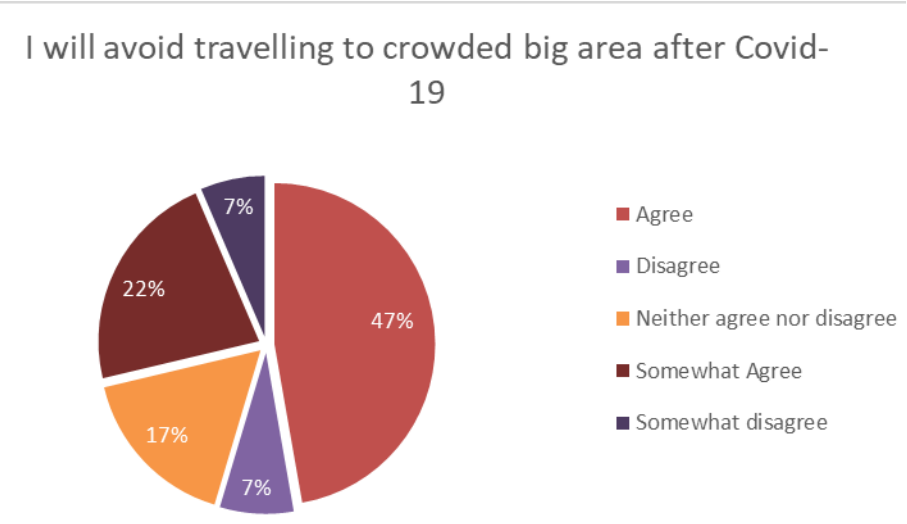
Covid-19 has significantly affected my way of life



From the questionnaire, the percentage of participants who admitted (agreed & somewhat agreed) their way of life has been affected by Covid-19 accounted for 72% while 11% of participants didn't agree with the idea of Covid-19 affected their way of life

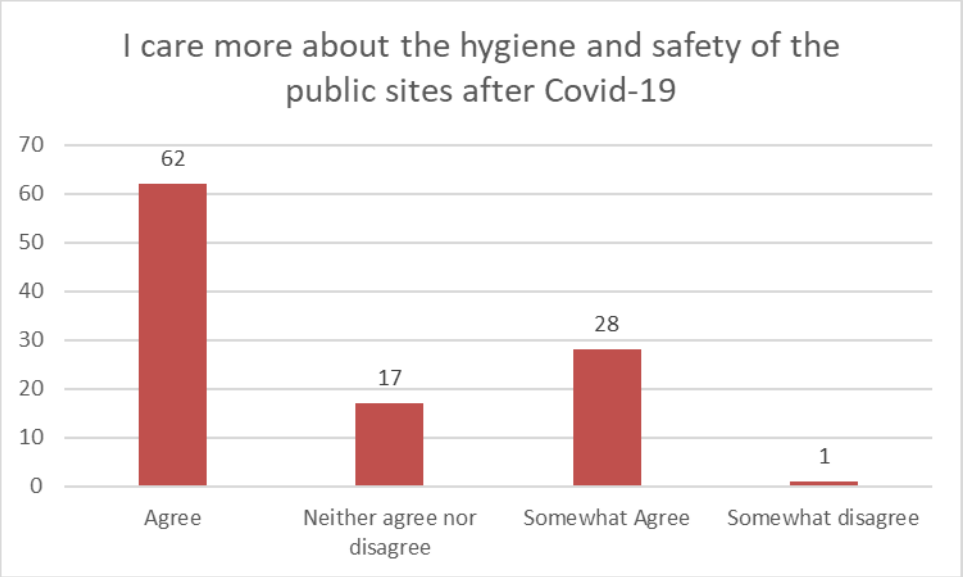
The next three questions will be about the responsive actions of the participants after Covid-19 was contained.

I will avoid travelling to crowded big area after Covid-19



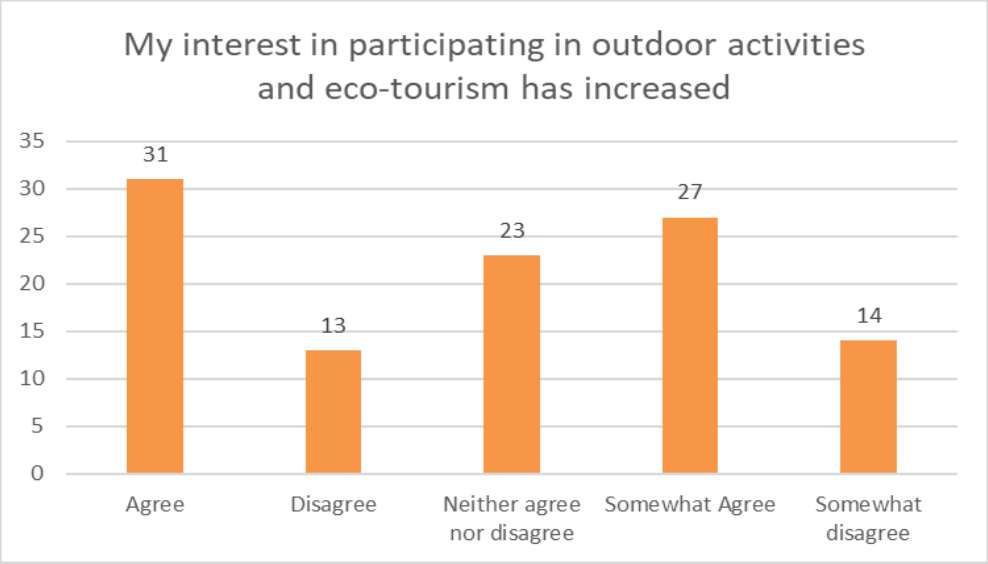
Although Covid-19 seems to be contained in Vietnam, people are still reluctant to travel to crowded big area which can be seen from the chart with 47% (agreed) and (22%) somewhat agreed with the idea. Moreover, 17% of the respondents stayed neutral with the mentioned idea and the rest of them (14%) were still willing to travel to busy area.

I care more about the hygiene and safety of the public sites after Covid-19



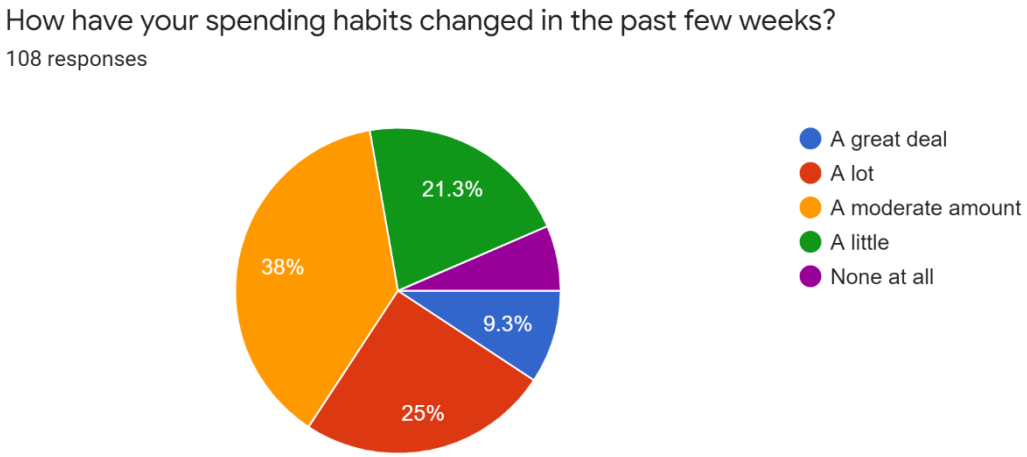
After Covid-19, people pay more attention on the hygiene and safety of the public sites than before. More than half of the collected answers (62 & 28 out of 108) acknowledged the idea of it while 17 people remained indifferent with the action of hygiene-oriented and the safety of open spaces.

My interest in participating in outdoor activities and eco-tourism has increased



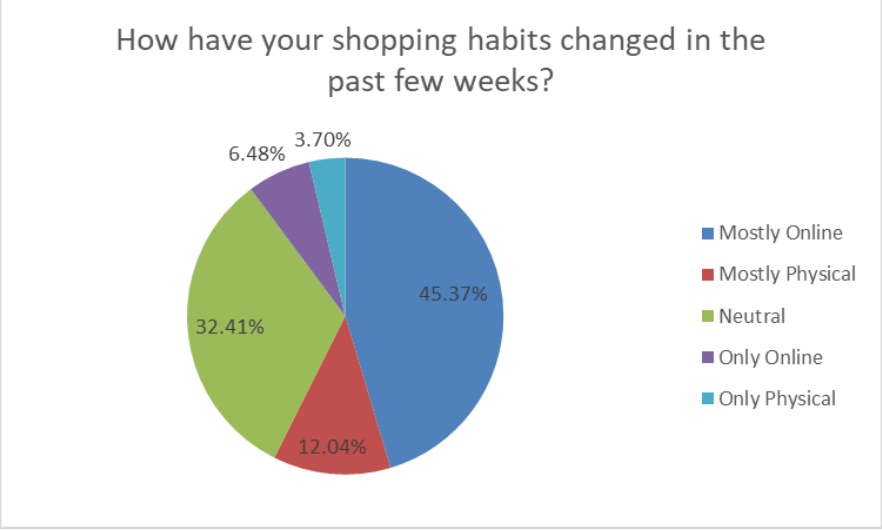
Outdoor activities and eco-tourism seem to be more interesting to participants due to Covid-19. It may be the results of many days staying indoor, practicing social distancing, unabling to travel around. In specific, 31 (agree) and 27 (somewhat agree) of participants respectively concurred the idea of participating in outdoor activities while 13 (disagree) and 14 (somewhat disagree) were still hesitant to the idea. The rest of the respondents still held the neutral opinions towards the idea.

Changes in spending habits



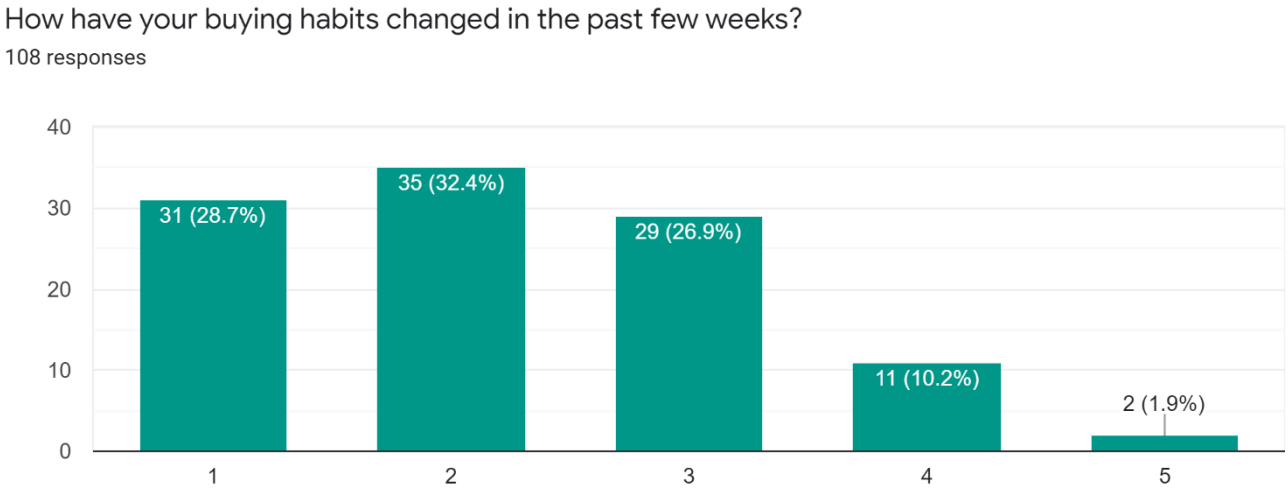
Regarding spending habit, only 27.3% think that it hasn't been changed much while the rest can feel the impact Covid-19 has brought to their spending habit (72,7%). This can be a result of people saving up their money for essentials only and the social isolation measures in April also prevented them from spending the money.

Changes in shopping habits



When it comes to shopping habits, it is obvious that people are in higher favour of shopping online rather than shopping physical for so many reasons such as social distancing, social isolation, etc. However, 32,41% of participants still chose to balance their shopping habits between online and offline, it clearly shows that people still manage to shop physical despite the fear of Covid-19.

Changes in buying habits



The question was rating from 1 to 5, in specific, 1 is buying essential only and 5 is buying whatever I want. People had the tendency to buy the essentials such as sanitizer, surgical masks, personal protection equipment, etc. instead of whatever they want.

In conclusion, it is inevitable that Covid-19 has had significant impacts on the work life as well as personal life of people. For the past few weeks, they have changed their habits in terms of shopping, buying and spending significantly compared to the life “pre-Covid-19”

4.4.2 Recommendations

Over the past three months, the complex Covid-19 pandemic has changed not only the trading of goods, but also the habits of consumers, with a major impact on consumer demand. Therefore, Covid-19 is believed to provide an opportunity for businesses to utilize e-commerce. E-commerce activity is getting very exciting as many people prefer buying essential and medical

products online because they are hesitant to go to the physical market or to purchase products due to the fear of being infected.

E-commerce in Vietnam is currently developing primarily through the digital transformation of users. With young people wishing to use social networks, e-commerce is popular on social media platforms and on existing e-commerce platforms with online sales forms for individuals and businesses. Small business growth is increasing. The number of Internet users is about 70 million, most of which use social networks and smartphones, which is an important prerequisite for e-commerce, mobile commerce, electronic payments, etc.

Before the pandemic, there was a wave of investment transition, as global companies worried about trade war between the US and China. Many enterprises prefer Vietnam due to stable economic and political transformations. Facilitating the development of e-commerce in Vietnam during and after a pandemic is an important strategy when conditions are favourable. Therefore, there must be many solutions to actively encourage companies to focus on e-commerce and digital transformation activities. There are many solutions that Vietnam can deploy according to Minh (2020):

Firstly, expanding e-commerce in Vietnam, supporting the consolidation of some trading floors could form an e-commerce business worth more than $1 billion. At the same time, it helps to improve the quality of small businesses in the field of e-commerce in a minimal e-commerce environment, helping to provide more benefits for consumers.

Secondly, quickly improving the legal corridor, such as the Electronic Transactions Act, the E-Commerce Decree and updating important changes in order to better manage e-commerce. It is necessary to develop and adjust e-commerce development programs for the period 2020–2025, taking into account factors ready to fight diseases, in accordance with new provisions on the protection of user data and compliance with the Law on Cybersecurity. Therefore, businesses can be ensuring that e-commerce systems work reliably, protect personal information and control errors.

Thirdly, supporting innovative and creative enterprises towards further large investments in the development of e-commerce. Moreover, it is encouraged for business and investment funds to invest in technology start-ups, especially in e-commerce in Vietnam.

However, businesses need to be more active in developing quality human resources for e-commerce. They should actively collaborate with universities and colleges to provide e-commerce human resources as needed. Also, promoting collaboration in the training and development of accessible human resources within the enterprise is necessary.

Fourth, creating favourable conditions for individuals to continue to actively participate in e-commerce transactions in all areas of life, in specific, orienting citizens to the use of electronic identification services of government and business, ensuring information security of electronic transactions, creating a high-quality trading environment for participants, and reducing the number of violations. and building people's confidence in e-commerce.

Fifth, the CoVID-19 pandemic is a good opportunity for users and enterprises to actively collaborate, participate in digital transformation and e-commerce applications. Agencies and enterprises should open opportunities for people to continue to actively participate in e-commerce transactions in all areas of life.

5 CONCLUSION & RECOMMENDATIONS

5.1 General description of main results

This research aimed to identify economic impacts of Covid-19 on Vietnam. Based on descriptive research, it has pointed out the economic situation of Vietnam during Covid-19 pandemic based on the available resource by far. It can be concluded that a pandemic can have significant impacts on the economy of a country. The results indicate that the impacts will become worse if the country doesn't encounter them. The research also answered the two questions that are stated at the beginning as follows:

First question: How does a pandemic effect on Vietnam in terms of economy?

The accelerated spread of COVID-19 has stalled the global economy. Forecasts of the potential impact of the COVID-19 strike on the national economy vary widely. It is believed to have a serious influence on local consumption, tourism & travel, import & export and unemployment. On local consumption,

Second question: How can Vietnam deal with economic challenge caused by Covid-19?

Vietnam had its first two cases on January 28 on flights from China, then on February 1 it suspended all flights from mainland China, and on March 25 all international flights. All of this seems to have paid off, as Vietnam learned from its experience in fighting against the SARS virus in 2003. Given that other countries, including Singapore and Malaysia, report thousands of cases and multiple types of lockdowns continue, Vietnam has done a good job compared to its peers and other developed countries.

In order to solve difficulties for production and business, promote economic growth in the remaining months, it is necessary to focus on closely following developments and respond promptly and effectively to newly arising fluctuations and possible incidents.

Promote industrial production

- Support domestic industry enterprises, especially those are producing input materials for a number of industries such as textiles, leather and footwear (which are highly de-

pendent on raw materials, imported materials), enhance production, connect with enterprises producing complete products (especially FDI enterprises) to meet a part of domestic demand.

- Maintain a stable range of raw materials for production in Vietnam with advantages such as rubber, fiber, etc. and focus on developing basic materials such as steel, stainless steel, fabric, new types of materials to ensure the autonomy of domestic raw materials, partially replacing imported sources.

Support import & export

- Create and improve a customer relationship management (CRM) software system for integrating a database of Vietnamese import-export enterprises (by product group, geographical area, size, type of enterprise, production capacity of export, import needs) and share access rights systems for the trading office system, Vietnam Center for Foreign Trade Promotion, to expand connectivity between business opportunities and investment.

- Rapidly restructure of export markets in the direction of diversification of markets independent of the single market, meet high product standards of origin of goods and geographical indications. Take full advantage of signed and effective FTAs, including the Comprehensive and Progressive Trans-Pacific Partnership Agreement (CPTPP) that has been put into practice, and the EVFTA is about to be ratified to increase exports.

Develop domestic trade

- Ensure adequate food and essential goods for people. Coordinate with local residents to closely monitor the movement of supply and demand, prices of raw materials in the domestic market, especially those goods that may be unbalanced due to sudden demand from the pandemic in order to take timely measures.

- Introduce measures to promote the use of information technology in commercial activities, link e-commerce with traditional types of commercial activities. Deployment to build an e-commerce services axis, to help online service providers present their services in this system.

5.2 Usefulness analysis

In reference to the study, the author realized that Covid-19 has brought tremendous effects to the global economy, but at the same time, it has also opened considerable opportunities to the digital transformation of commerce. In addition, based on the theoretical framework that was mentioned in section 2, Vietnam has done a great job in fighting against the Covid-19 with effective measures. In particular, section 2.7.1 mentioned situational awareness, meaning to have a latest visual representation of infectious disease threats. Regarding to this, when the first reports of COVID-19 infection came from China, Vietnam made a quick response. Familiar with recent pandemics such as SARS and H5N1, it carefully monitored border areas to rule out the virus's spread. When COVID-19 was later discovered, it isolated the communities where the infection was detected. January 11, after China announced the first death from a coronavirus, Vietnam conducted health checks at airports. All visitors were measured body temperature, and those who had a temperature, cough, chest pain or breathing problems were put in isolation for testing. Confirmed cases, fellow travellers and crew and all their contacts were quarantined for 14 days. The Ministry of Health met with WHO and the US Centers for Disease Control and Prevention (CDC) as early as January 15, a few weeks before many other countries even began to develop the strategy. These combined efforts of rapid action and effective testing could delay the spread of the virus at an early stage.

Moreover, section 2.7.2 was about preventing and extinguishing pandemic sparks, in this case, due to the global spread of the virus, Vietnam obliged quarantine for 14 days and cancelled all international flights. Persons with COVID-19 symptoms were closely monitored in a medical facility and contact was tracked. COVID-19 infections can be tracked on a large scale using "health professionals, public safety personnel, rapid mobilization of military and civil servants" using Ministry of Health records of suspected and exposed cases. It may not be popular in some countries, but it encourages neighbours to report if they know someone coming back from a foreign country. Vietnam has also successfully implemented contact tracking using technology. NCOVI, a mobile app, was developed by the Ministry of Information and Communications (MIC) in Vietnam. This allows the public to update their daily health status. It also shares "hot spots" of new case and provide "best practices" to the users to stay healthy.

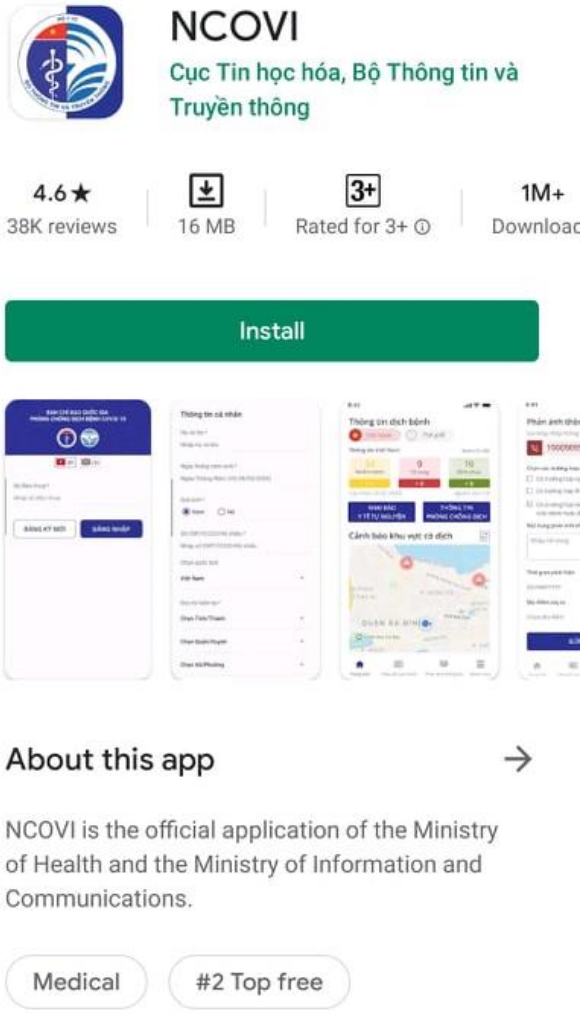


Figure 9: NCOVI app (Appstore, 2020)

In addition, risk communication was mentioned in section 2.7.3, Vietnam did not hesitate to broadcast the seriousness of COVID-19. It even created a pop music music video on the virus later it became viral as shown in figure 9. This state-sponsored video demonstrates the importance of handwashing with interesting songs. It was memorable and effective, and shared passionately with people from all over the world.

Figure 10: A snapshot of the viral video (Erik, 2020)

On March 19, Vietnam started a fundraiser to purchase medical and protective equipment for those who work closely with COVID-19 patients. By April 5, over 2.1 million donations were sent via the text messaging platform. Both of these two public campaigns have increased awareness and controlled spread of coronavirus infections.

These three factors are an important part of Vietnam's COVID-19 success story. Whether or not these measures keep the number of infected people under control will be known over time, but it is likely. Vietnam has proven that sometimes less is more during the COVID-19 period.

5.3 Validity and Reliability

The author used two sources of collected data while writing the thesis that are primary data and secondary data. In specific, primary data was conducted by the survey mentioned in section 4 (Opinions on the Covid-19 situation). The advantage of using primary data is that the author collects information for the specific purposes of his research, opinions on Covid-19 and its consequences. In fact, the questions posed by the author were designed in such a way as to draw out data that will help her in the study. Regarding secondary data, most of the research of the thesis was done as a desk study. The author collected the data with the help of books, journals, statistics, online articles and websites. Each source was taken into great account to ensure the reliability of the study. However, as Covid-19 is a recent issue so there were no historical source about it, it is not considered adequate enough to describe the full situation of Covid-19.

However, the author has gathered the information efficiently; citation was used properly for each source, the used resources were validated during the writing phase. The author carefully selected unbiased sources so the final study can turn out to be reliable and legitimate.

5.4 Process – what you have learned

The author has gained several skills including time management, research skills, reading as well as writing skills while working on this thesis. Due to the shortage of time, the author still managed to deliver a decent thesis as much as possible. In the beginning, the author only had a basic knowledge so-called fundamental understanding when it comes to economic impact of an influenza on a country. Therefore, it was somehow difficult to find a right information to paraphrase and put it in the thesis as economic impact especially due to a pandemic was quite a wide topic. Nevertheless, the author was eventually able to narrow it down to some economic aspects such as local consumption, tourism, import & export. In addition, she also had a chance to broaden her horizon about pandemic risks and its consequence as well as the potential mitigation strategies towards pandemic. With the help of the survey, the collected data was informative and useful to analyze the opinions of a small audience, thus, drew a short assumption of what habits might undergo changes after the pandemic. During the period of writing a thesis, the author was encouraged to advance her career path when it comes to economy.

5.5 Future research

To begin with, Covid-19 is a new strain of virus and it undoubtedly had a great impact on the economic aspects. However, it is still occurring now so long-term consequence of this kind of virus is yet to be discovered. Other researchers who are greatly attracted to this topic can also pay attention to other affected aspects such as financial, supply chains, currency, etc.

Moreover, the author only mentioned the economic impacts of a single country – Vietnam so a topic about the economic impact on a region (eg. Asian, Europe, etc.) or an intergovernmental organization (eg. ASEAN, Schengen, G7, etc.) would be suitable for further research.

Lastly, many countries are now requesting for a detailed investigation into the spread of the virus. This might result in serious trade wars between countries especially US-China. Therefore, a study on this can help illustrate a big picture on global economic impacts from this.

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APPENDICES

Appendix 1 Survey form

Opinions on the Covid-19 pandemic

Dear sir/madam,

Thank you for agreeing to take part in this important survey measuring public opinions on Covid-19.

For this purpose, I have prepared a very short survey, which will take you 2-3 minutes to complete. Your opinions are very much appreciated.

Be assured that this survey is completely anonymous.

Thank you very much for your time!
* Required

1. What is your gender? *

   Mark only one oval.

   - ◯ Male
   - ◯ Female

2. What is your age? *

   Mark only one oval.

   - ◯ Under 18
   - ◯ 18-24
   - ◯ 25-34
   - ◯ 35-44
   - ◯ 45-54

3. Are you currently...? *

Mark only one oval.

- ◯ Employed for wages
- ◯ Self-employed
- ◯ A homemaker
- ◯ A student
- ◯ Retired
- ◯ Other: _____

4. Are you aware of current Covid-19 situation? *

Mark only one oval.

- ◯ Yes
- ◯ No

5. Please rate the following statements: *

Mark only one oval per row.

	Agree	Somewhat Agree	Neither agree nor disagree	Somewhat disagree	Disagree
Covid-19 has significantly affected my work and life.	◯	◯	◯	◯	◯
Covid-19 has greatly affected my attitude towards life and my way of life.	◯	◯	◯	◯	◯
I will avoid travelling to crowded big area after Covid-19	◯	◯	◯	◯	◯
I care more about the hygiene and safety of the public sites after Covid-19	◯	◯	◯	◯	◯
Because of Covid-19, my interest in participating in outdoor activities and eco-tourism has increased	◯	◯	◯	◯	◯

6. How have your spending habits changed in the past few weeks? *

Mark only one oval.

- ◯ A great deal
- ◯ A lot
- ◯ A moderate amount
- ◯ A little
- ◯ None at all

7. How have your shopping habits changed in the past few weeks? *

Mark only one oval.

- Only Online
- Mostly Online
- Neutral
- Mostly Physical
- Only Physical

8. How have your buying habits changed in the past few weeks? *

Mark only one oval.

	1	2	3	4	5	
Buying essentials only						Buying whatever i want

9. Do you believe that the economy will be recovered within the next 6 months? *

Mark only one oval.

- Yes
- No