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Crisis of Pandemic in tourism industry and their effects on attitudes of travelers in Vietnam

A case study of COVID-19

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ABSTRACT

The outbreak of COVID-19 caused an enormous damage on the world economy in general and Vietnam in specific. The travel restriction as well as the quarantine rules of Government in the efforts of saving human life has devasted global tourism industrial which is considered as the most voluntary sector. This paper aims to investigate the cognitive of traveler during the pandemic time in the context of before and after COVID-19 crisis by using the T-test to detect the changes in the traveler's attitude. The other tool to use in this study in order to find the correlation between the Gender, age, and traits of the tourists with variables which could be affected by the pandemic COVID-19. The initiatives and motivation of doing this paper is to support the tourism industry reinvent after this shocking period. At the end, the study gives some suggested solution to rebuild the tourism for the future.

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CHAPTER 1: INTRODUCTION

1.1 Pandemic and current background in tourism industry.

Unquestionably, the novel Virus name COVID-19 has frightened all of us recently with countless impacts in all aspects of our life. The spread of this pandemic makes border closing, restriction in travel across the country, and even at the national level. That results in significant effects in the global tourism industry, which is considered the most vulnerable sector. The impact of it is tremendous. The international tourism industry dropped by 70 percent to 75 percent in 2020 going back to the levels of 30 years ago.

A *Pandemic* is an epidemic that causes tremendous loss of lives, creating severe social distress. It could show a rapid spread on a large scale and cross over several countries and continents (Centers for Disease Control & Prevention). Humans witnessed several different types of epidemics in history; they also caused an enormous loss of life and a significant impact on our daily life. The below table show contains a list of past epidemics and related loss of human lives. The epidemic affects our physical health and is associated with our emotional and psychological distress due to quarantine and isolation in the effort of the government to mitigate the spread of infection or stress of losing a job and suffer an abnormal life. Those crises have a significant effect on the tourism industry due to their characteristic such as the uncertainty, travel restrictions, situation of the tourist economy, and so forth and it influences the decision making of tourists and also the ability to welcome tourist to the destination (Scott & Gössling, 2015; Timothy & Hall, 2019; Wilder-Smith, 2006). For instance, the SARS Pandemic in 2003 reduced by 12 million visitors the international tourism industry and also reduced 14% of Southeast Asia tourists during the Pandemic [i]

[i] The World tourism organization report 2005)

Table 1: A Timeline of historical Pandemics

NAME	TIME PERIOD	TYPE/PRE-HUMAN HOST	ESTIMATED DEATH TOLL
Antonine Plague	165-180	Believed to be either smallpox or measles	5 million
Japanese smallpox epidemic	735-737	Variola major virus	1 million
Plague of Justinian	542-542	Yersinia pestis bacteria/rats, fleas	30 to 50 million
Black Death	1347-1351	Yersinia pestis bacteria/rats, fleas	200 million
New World Smallpox outbreak	1520-onwards	Variola major virus	56 million
Great Plague of London	1665	Yersinia pestis bacteria/rats, fleas	100000
Italian Plague	1629-1631	Yersinia pestis bacteria/rats, Fleas	1 million
Cholera Pandemic 1-6	1817-1923	V. Cholerae bacteria	1 million
Third Plague	1885	Yersinia Pestis bacteria/rats, fleas	12 million (China & India)
Yellow Fever	Late 1800s	Virus/Mosquitoes	100,000-150,000 (US)

Russian Flu	1889-1890	H2N2 (avian origin)	1 million
Spanish Flu	1918-1919	H1N1 Virus/Pigs	40 to 50 Million
Asian Flu	1957-1958	H2N2 Virus	1.1 Million
Hong Kong Flu	1968-1970	H3N2 virus	1.1 Million
HIV/AIDS	1981-Present	Virus/ Chimpanzees	15 to 35 Million
Swine Flu	2009-2010	H1N1 Virus/ Pigs	200,000
SARS	2002-2003	Coronavirus/Bats, Civets	770
Ebola	2014-2016	Ebolavirus/ Wild animal	11,000
MERS	2015-present	Coronavirus/ Bats, Camels	850
COVID- 19	2019-Present	Coronavirus- Unknown (Possibly pangolins)	3.27 Million[ii]

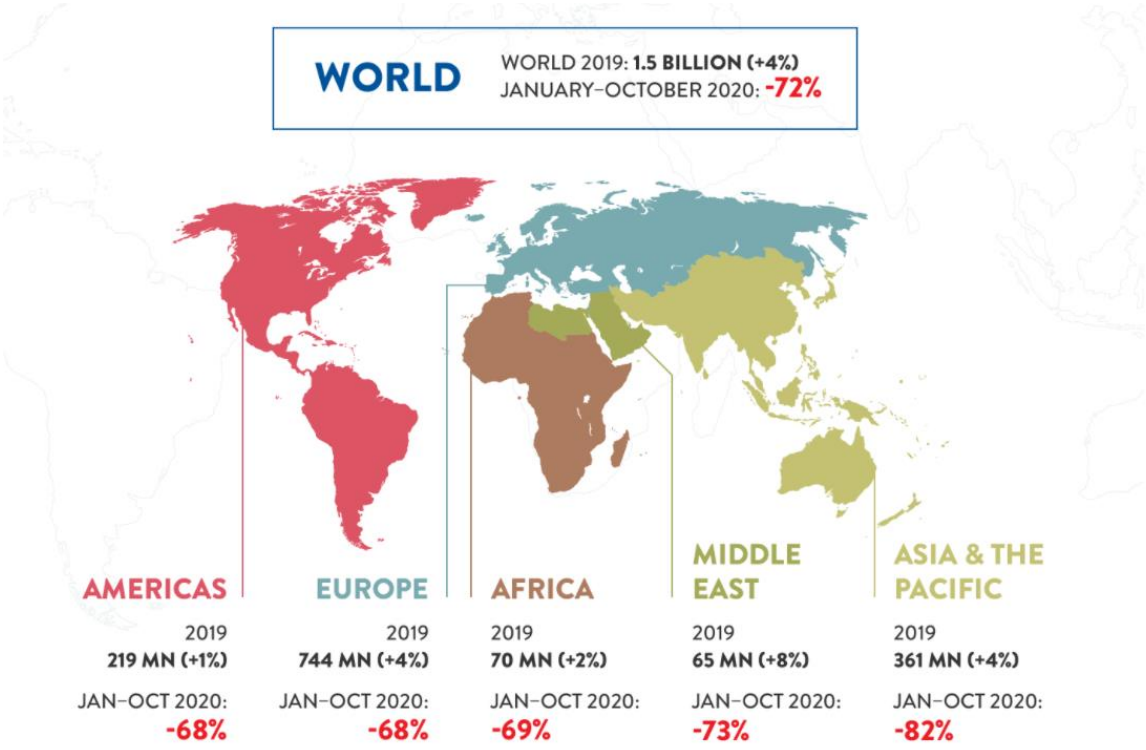
(source: 2020 Visual Capitalist)

The new novel coronavirus known as COVID-19 emerged in Wuhan, China, in mid-December 2019. This virus is considered the same as the severe acute respiratory syndrome SARS epidemic, which appeared in 2003. COVID-19 is transmitted rapidly between humans. This pandemic has spread 219 countries and Territories with over 100 million confirmed cases, according to the worldmeters.info website in February 2021. Despite the effort to mitigate its spread, this coronavirus still transmits rapidly, killed over 2 million people by

[ii] Data collected date was in May 7,2021

February 2021 and 3.27 million by the first someday of May 2021 and devasted the economy. It highly jeopardizes the tourism industry, which is the most affected sector because of travel restrictions. The below table shows us a general background of the decline of international tourists by continents. Asia and the Pacific show the greatest reduction in international tourist arrivals, which decreased over 80 percent in January-October 2020 compared to the same period of the previous year according to UNWTO statistics. This caused a massive drop in earnings from the tourism sector.

Figure 1: The international tourist arrivals by region.



(Source: UNWTO.ORG website)

1.2 The background of Vietnam tourism industry in Pandemic time.

According to the world bank report, before being hit hard by COVID-19, the Tourism industry in Vietnam was the most dynamic development sector. The tourism industry has contributed highly to GDP and created a significant share of job for citizens. General Statistics Offices announced a sharp decline by 68 percent of the number of international

visitors to Vietnam by October 2020, comparing the same period last year.

CHAPTER 2: LITERATURE REVIEW

2.1 Crisis and types of it in tourism.

First of all, we need to define the meaning of the word crisis, which could have various definitions. The word "crisis" was borrowed originally from the Greek word "Krisis," which means a disruption that physically affects a system as a whole and threatens its basic assumptions, subjective sense of self, and existential core (Pauchant & Mitroff,1992). In other words, crisis occurs when the essential values are unprotected, the measurement time is narrow, and the conditions are ambiguous and messy. Therefore, it demands an urgent decision to avoid the negative effect from the destination. According to Keown-McMullan, who analyzed the characteristic of crisis as a generated event that caused or had the probability of bringing essential changes. Its characteristics were defined as being undesirable, unique, dangerous, vital, and require attention. Other authors defined crisis as a condition or way of being that exists at a particular time

Glaesser identifies crises as a stage of growth. Crises can split into potential, latent, and extreme crises by using time pressure as a trait. A possible crisis is just a mythical construction, and it is both uncertain and non-existent. A latent crisis has already exploded in the latter stage, but it is not yet differentiated—a disruptive one in the stage of an extreme crisis.

Ritchie claimed that Crises could be classified according to their length. It is divided into three groups. An Instant crisis is considered putting into the first group, which contains crises that slightly or without an alert beforehand. For that reason, when a crisis attacks, systems are incapable to study an issue or formulate a strategy. Emerging crises are in the next group. These crises develop gradually and the activities of the organization can stop or restrict them. Last but not least, Crises that might weekly, monthly or even yearly remain are contained in the last group, sustaining crisis.

When it comes to Crisis in tourism, Glaesser said that it is important to distinguish if Crises are natural or human-made. There is a significant difference in the effects of natural crises and human-induced crises. The effects of human-induced crises are usually more long-

lasting than natural crises. This thesis mainly discusses the COVID-19 pandemic, which many researchers identify as a natural crisis until now. Many researchers have been working on researches and studies about the reason and how crises work and measure to control and manage them (Berke, 1998; Blaikie et al., 1994; Brammer, 1990; Burton et al.,1978; Donohue, 1982; Harmann & Standing, 1989; Rechardson, 1994; Richter, 2003).

It is also possible to divide the tourism crisis by its domains: economic, political, socio-cultural, technological, and commercial. Table 1 provides a list of crisis risks by domain which splits into an external or internal factor in the tourism industry. Economic crises are also, for instance, included in economic downturns and recessions. A political crisis like war and violence as a terrorist could also be considered. Environmental risks are synonymous with multiple natural events, such as hurricanes, floods, and erupting volcanoes. Computer system problems and vehicle crashes may be technological disasters. Regulation, competition, and political interventions are called commercial risks (Henderson).

Table 2. External and internal threats of crises by domains [iii]

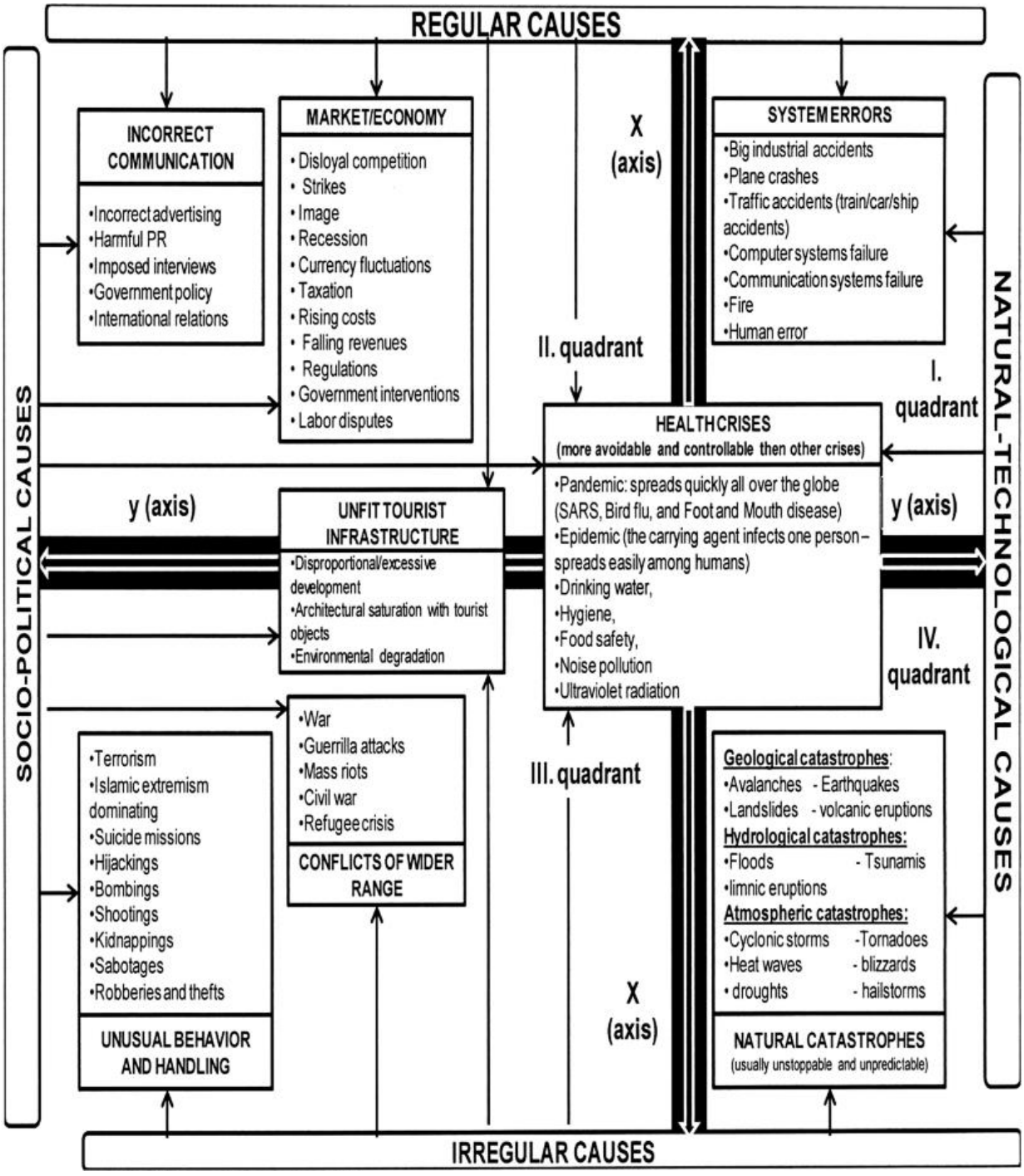
Domain	External	Internal
Economic	Recession Currency fluctuations Taxation	Rising cost Falling revenues Unprofitability
Political	Government policy International relations Instability Terrorism	

[iii] Source: Behavior of Serbian tourists during economic crisis: two empirical researches.

Socio-cultural	Unrest Crime	Staffing Cultural conflicts
Environmental	Natural phenomena Natural disasters Pollution Health scares	Environmental degradation
Technological	Computer systems failure Mechanical failure fire	
Commercial	Regulations Government intervention	Labor disputers Management decisions Human error

Simultaneously, according to Janez Mekinc and Helena Cvikl (table 2), there is a possibility of generic causes in the tourist industry with the same domain. They showed clearly the relationship between each factor of crisis causing to all domain. Those factors can have a direct or indirect impact on the tourism industry. By dividing into X-axis, Y-axis, Janez Mekinc, and Helena Cvikl wanted to illustrate the danger degree, their appearance and try to measure for preventing or eliminating the consequences of those risks in the tourism industry.

Table 3: The structure of generic causes for the crises in the tourist industry



(source: Journal of tourism and service)

While other crises only stay in just one corner of table 3, the health crisis is at the intersection of both the X and Y axis because all the domains influenced it. This crisis

includes a diverse type of disease like infection, Pandemic, and tropical diseases. It is mainly caused by environmental, food, or toxic, for instance, pollution, food safety, poisons, vaccines. (WHO 2010). Furthermore, the health crisis also includes the issue relevant to accident or injury, but this thesis focuses only on enormous infection and fast spreading as Pandemic.

There are another two terms that are closely related to Crisis. They could be overlapped significantly, but we can distinguish them by their meaning and implications: Emergency and disaster. An Emergency is "An imminent or actual event that threatens people, property or the environment and which requires a coordinated and rapid response. Emergencies are usually unanticipated, at least in terms of exactly what happens and when and where they take place. However, they can, and should, be planned for" (Alexander, 2005b, p. 159). If we compare Emergency with Crisis, we could see some overlapped parts that both Crisis and Emergency have. However, An Emergency is not required for added response measures (Eshghi & Larson, 2008, P. 63) and focuses on measuring (Alexander, 2004, p.118). While the emergency does not require a procedure change, Crisis need to change the public policy rapidly. The term "disaster "could be defined as an outcome of threat combinations, vulnerabilities, and lack of measurement. That affects society widely and could interrupt individuals and organizations in the long term. A disaster is a sudden unexpected event that causing damage or danger and cause by nature, technology, or society (Alexander, 2005b; Jorgustin, 2012; Iyer and Mastorakis, 2006). It has similar and standard features between Crisis and disaster. A Pandemic as COVID-19 is considered both Crisis and disaster but not consider an emergency. Taking into account the fact that because of Coronavirus governments forced companies to close, and how introducing restrictions had an enormous effect directly on our life, COVID-19 pandemic could be seen as a severe Crisis more than a regular disaster.

2.2 How crisis effect on the traveler's behavior.

As in previous studies of Mansfeld and Pizam, there is an impact on traveler's behavior and it leads to change their travel decision. Tourists seem to cancel their trip, avoid to travel or

book to an affected destination and for those who are already in the affected places, they would move to a safer place or come back to their home.

2.3 Gender and Age with the protection behavior.

2.3.1. Age.

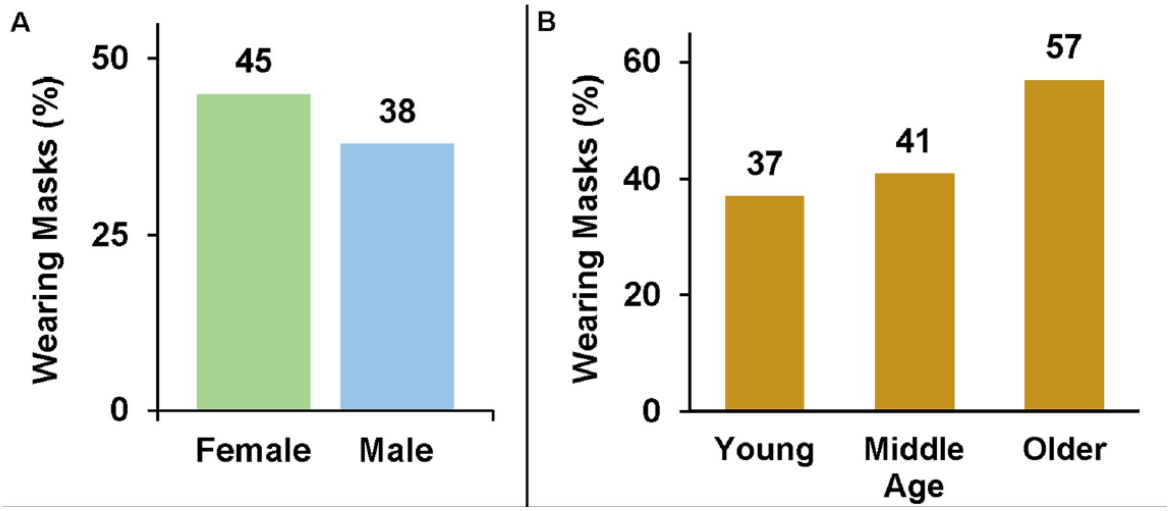
As in the previous studies of Singapore and Hongkong, they have indicated that older adults seem to accept the protection more than younger in the SARS Pandemic. This behavior mentioned washing hands, wearing the mask. Other studies performed in the H1N1 pandemic showed that the older people often washed their hands more than the younger people. The research conducted in 2009 with the swine flu epidemic found that people from 18 to 24 seem to wash their hands more than older people. Noteworthy studies of Wong and Tang, which performed in 2005, showed that the people around 10 to 14 years old wore masks more than the others during SARS in Hong Kong. Some studies reported in contrast, and According to Jones and Slate in 2009, the older people avoided gathering together with other people in swine Flu pandemic[3].

2.3.2. Gender.

Some studies have reported that women seem to take more precautions, such as wearing the mask and washing hands against the SARS virus in Hongkong and Singapore. According to Rubin, in the United Kingdom, Women also cleaned their hands more often than men did in the swine flu epidemic. According to the internet survey conducted in 2009 by Jone and Salathe, Women in the swine flu epidemic washed their hands more often than men. On the contrary, In one study by Barr in 2008, He showed no correlation between gender and behavior of wearing the mask in the Netherlands and Hong Kong. As in the previous studies of an Australian paper showed that Men less committed to quarantine restriction than women did.

It has been showed in the recent work which performed in June of 2020 about Corona Virus Pandemic demonstrated that older people and Female were more likely to wear mask than the others did as below table.

Figure 2: percentage of wearing mask in Gender and age.



Source: Who is wearing a mask? Gender-, age-, and location-related differences during the COVID-19 pandemic

One Research of Howard has proposed that there is equality between men and women about wearing the mask. But He found that Women felt uncomfortable while wearing a mask, and one of the reasons for that finding could be the one-size mask; Men seems against the face mask because of their liberation character.

> "face mask perception is a type of reflective motivation source, which involves evaluation and cognition in developing behavioral attitudes; reflective motivation sources are most closely associated with the intervention functions of education, persuasion, incentivization, and coercion; and these intervention functions are associated with each of the policy categories except environmental/ social planning"

2.3.3. Introvert, extrovert and ambivert.

Introversion is described as being preoccupied with one's mental self. Spending time individually with an introvert is likely to be more rewarding than time spent with large groups of people. Introverts are affected by excessive stimuli from community interactions and activity, with some also defining *introversion* as a desire for a calm, less stressful

external atmosphere. They tend to focus on a single task at a time.

Extraversion is described as a personality trait in which one seeks pleasure primarily from sources other than oneself. Extraverts are positive, talkative, proactive, and sociable people who enjoy human interactions. Extraverts are energized and flourish while people surround them. They enjoy events that include large numbers of people, such as celebrations, neighborhood activities, public marches, and business or political organizations. They seem good at working in communities.

Ambiverts are people who are neither extrovert nor introvert but the characteristic exists in two extremes.

More extroverted customers are likely to associate with service businesses. Furthermore, extraversion is positively linked to customer–employee engagement, contributing to customers' perceptions of more intrinsic and extrinsic values. In terms of customer references, information sharing, and social impact, all forms of value cause higher customer engagement behaviors.

CHAPTER 3: METHODOLOGY

3.1 Data collection background.

This thesis implemented quantitative research via online form.

Data were collected from November 4 to November 21, 2020. A survey was built with 35 questions directly on Vietnamese travelers on the google docs platform and spread via Facebook and directly link to all people I know and their friends. The survey link was also appearing in some Vietnamese travel groups on Facebook, so a small group of participants live worldwide but mainly in Vietnam. The analysis was conducted using Google docs and Excel. A questionnaire was chosen as the research method for this thesis with google docs online form is because of the popularity of Google Forms in surveying in Vietnam. The survey was translating into the Vietnamese language. The participants, especially young people, are active and familiar with the internet and Facebook. According to the Statista website, Vietnam has around 68 million Facebook users. Forty-seven percent of Facebook users use it more than three hours per day. Seventy-three percent of users have comments to post, and 66 percent share posts and 44% of users have more than 400 friends in their friend list. It could explain why within 17 days, the survey reached 530 participants, which could be considered a large sample size (over 500 respondents). The questionnaire included several different blocks of questions. At First, Demographic characteristic of participants- gender, age, city of currently living, character, experience (number of trips in last year in Vietnam and outside of Vietnam), Education, current job status. Secondly, Opinion of the participant about pre-and post-pandemic about travel motivation and preference: meet new friends, local food, sightseeing, cultural experience, accompany a person. Thirdly, the block of tourist perception of new hygiene, physical distance, and insurance. In the fourth group there are questions about travel intentions. Finally, some questions are included about how they evaluate the danger of some popular visiting places for Vietnamese at the current survey time.

3.2 Targeted participants.

The targeted research participants were Vietnamese travelers: Vietnamese travelers who live in Vietnam or outside of Vietnam. Typical responses were from students because the survey was shared on various travel groups and university student groups. The surveys had been spread primarily by numerous of my friends who are currently teaching in many universities and high schools and their bits of help.

3.3 Data analysis techniques.

In this quantitative research, the data is analyzed by using the google docs analysis function for the diagram and graphs. All the data result is run by excel.

3.3.1. T-test

A T-test is a sort of statistical test that is often used to compare the means of two groups to test the hypothesis in order to determine whether two groups are the same or different from each other. There are two different kinds of T-test. The independent t-test can be used where the two groups being compared are independent of one another, and the paired t-test can be used when the two groups being compared are dependent on one another. The T-test is often used to split the study samples into two sets, one receiving treatment X and the other receiving treatment Y. For each category (i.e., before and after treatment), researchers can obtain two forms of results: pre-X and post-X, and pre-Y and post-Y. For an intergroup comparison of post-X and post-Y, or an intergroup comparison of changes in pre-X to post-X (post-X-pre-X) and changes in pre-Y to post-Y (post-Y-pre-Y), an independent t-test may be used. Paired t-test, on the other hand, are used in different laboratory contexts. The experimental participants, for instance, are not separated into two groups and are all given X at the start. After that, the different gap between them (post-X-pre-X) is calculated for each subject. The subjects are treated with Y after the effects of X disappear and the volume of improvement (post-Y-pre-Y) is determined for all of the subjects. A paired t-test is used in such a crossover test to compare the gap between X and Y under the same subjects.

With the current data, the paired t-test is suitable because of the same type of question to compare before and after COVID-19.

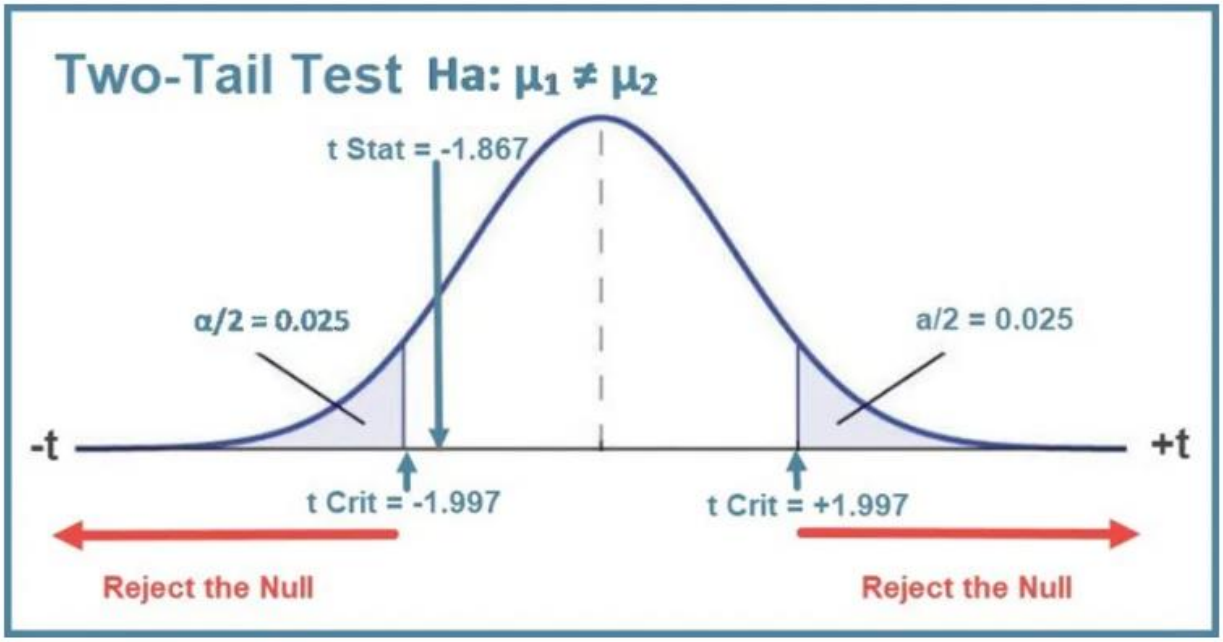
The two-tail test puts half of the significance level α of 5% in each tail to account for the possibility of the test statistic being either positive or negative; for example, the sample mean could be larger or smaller than the other. Putting 2.5 percent in each tail, Excel shows the Absolute Value of t Critical two-tail of 1.997. That means t Critical is -1.997 on the left side and +1.997 on the right side. (the graph below)

If the found data, the t-Stat, drops in either rejection area, less than – 1.997 or larger than + 1.997, we must reject the Null hypothesis. Another factor that let the two-tail test decide is to compare the two-tail p-value against the significance level (alpha of 0.05.). It is labeled "P(T<=t) two-tail." If P(T<=t) P(T<=t) less than the significance level which alpha of 0.05, The Null hypothesis is not rejected which means that there is difference in the ratings.

Variance is defined as the expectation of a random variable's squared deviation from its mean. It determines how much a group of numbers deviates from their average value, to put it another way. Descriptive statistics, statistical estimation, hypothesis testing, goodness of fit, and Monte Carlo simulations are only a few theories that use variance.

The arithmetic *mean,* also called average or arithmetic average, is the fundamental value of a finite range of numbers for a data set: precisely, the sum of the values divided by the number of values.

Figure 3: Two-tail test



Source: Tail of the Test: Interpreting Excel Data Analysis t-test output

A T-test model using in this thesis detects the changes in a traveler's attitude before and after COVID-19. It applies to Question 6 (Q6) to question 23 (Q23) with nine pairs of questions: Q6-Q7, Q8-Q9, Q10-Q11, Q12-Q13, Q14- Q15, Q16- Q17, Q18- Q19, Q20- Q21, Q22- Q23. The hypothesis to test as below with the level of significance was set at p=0.05. Excel made the running test.

Research Question: What is the difference, if any, between attitudes before and after COVID-19 toward travel motivation and preference: meet new friend, local foods, sightseeing, cultural experience; hygiene, physical distance, and insurant, as measured by the 530 candidate Survey?

HYPOTHESES:

1) Q-6-Q7, Null hypothesis: there is no difference of traveler's behavior about evaluating the importance of the health system in the tourist destination before and after COVID-19.

2) Q8-Q9, Null hypothesis: there is no difference of traveler's behavior about evaluating the importance wearing mask and using hand cleaning while travelling before and after COVID-19.

3) Q10-Q11, Null hypothesis: there is no difference of traveler's behavior about evaluate the important of flight quality and trip insurance coverage to traveler before and after COVID-19.

4) Q12-Q13, Null hypothesis: there is no difference of traveler's behavior about evaluating the important of getting together with other friends while travelling before and after COVID-19.

5) Q14-Q15, Null hypothesis: there is no difference of traveler's behavior about evaluating the important of meeting new people when travelling before and after COVID-19.

6) Q16-Q17, Null hypothesis: there is no difference of traveler's behavior about evaluating the important of experiencing the new culture before and after COVID-19.

7) Q18-Q19, null hypothesis: there is no difference of traveler's behavior about evaluating the important of seeing the natural scenery while travelling before and after COVID-19

8) Q20-Q21, null hypothesis: there is no difference of traveler's behavior about evaluating the important of eating local food in a famous restaurant even crowded with people before and after COVID-19.

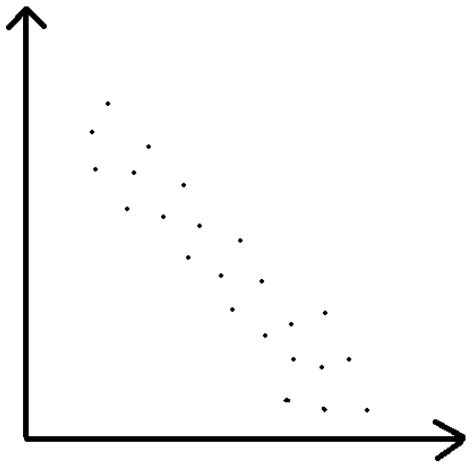
9) Q22-Q23, null hypothesis: there is no difference of traveler's behavior about evaluating the important of keeping distant with people while traveling people before and after COVID-19

3.3.2. Spearman Rank Correlation

The Spearman's rank correlation coefficient (R) value is known as a statistical. It measures how strong and the trend between two ordered variables. It is considered as a

nonparametric type of Pearson product-moment correlation; however, Spearman's correlation focuses more on the strength and movement of the monotonic relationship of two samples rather than their weakness and trend of the linear connection. The statistical significance of R value based on the critical probability value (p). To extend the concept of monotonic relationship, those below graph could explain us more:

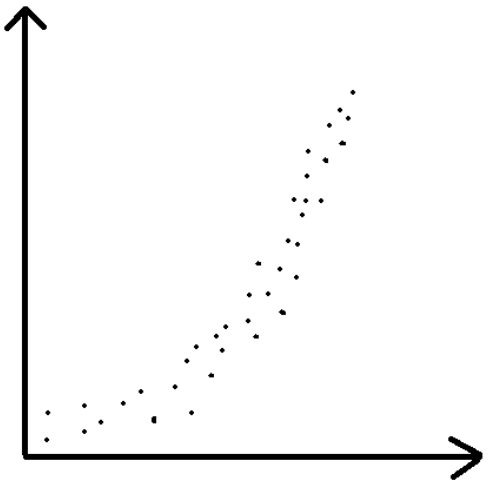
Figure 4: Monotonic negative relationship



Source: Spearman's Rank-Order Correlation statistical guild

The negative Monotonic shows that if the value of the variables decrease, the value of the other variable will increase.

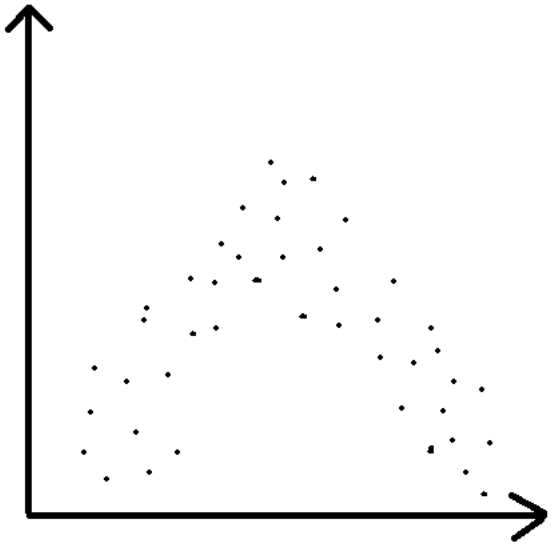
Figure 5: Monotonic positive relationship



Source: Spearman's Rank-Order Correlation statistical guild.

The positive Monotonic illustrates the opposite case of the negative one, which indicates that if there is an increase of one variable' value, there would be and another growing of the second variable value.

Figure 6: Non-monotonic.



Source: Spearman's Rank-Order Correlation statistical guild.

A Non-monotonic means that there is no clear trend between the two-variable value.

The formula applied to calculate the correlation depend on the type of ranking data (ties or not ties data) which could understand as if the same rank assigned for more than one observation.

For **no tied ranks**, the below simple caculation is applied:

$$R = 1 - \frac{6\sum d_i^2}{n(n^2-1)}$$

Where:

- d_i is the difference gap between a pair of ranks
- n is the number of samples.
- R is the value of coefficient

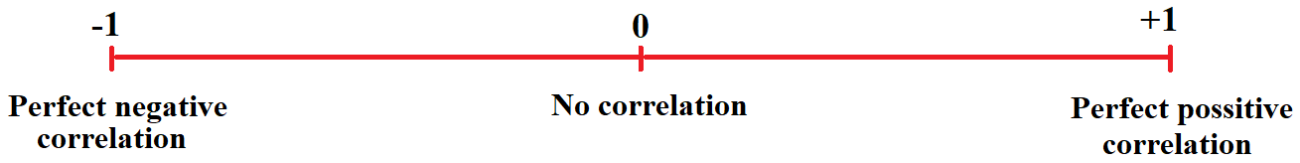
Facing with **tied ranks,** it comes to the full version formula of Spearman correlation:

$$R = \frac{\frac{1}{n}\sum_{i=1}^{n}\left(R(x_i) - \overline{R(x)}\right)\cdot\left(R(y_i) - \overline{R(y)}\right)}{\sqrt{\left(\frac{1}{n}\sum_{i=1}^{n}\left(R(x_i) - \overline{R(x)}\right)^2\right)\cdot\left(\frac{1}{n}\sum_{i=1}^{n}\left(R(y_i) - \overline{R(y)}\right)^2\right)}}$$

Where:

- R(x) and R(y) are considered as ranks of X and Y variables
- $\overline{R(x)}$ and $\overline{R(y)}$ are the mean ranks
- N is the number of observations.
- R is the value of coefficient

The Spearman's rank correlation coefficient (R) value is always between -1 and 1. It comes to a perfect negative or perfect positive when the sign of R value is respectively at -1 or 1. In another way, it can state that the more R is away from zero, the stronger correlation of those variables is.



The strength of correlation could be illustrated with value coefficient R (could be positive or negative) as meaning below:

- 0.00 to 0.19: An actual weak correlation.
- 0.20 to 0.39: A weak correlation
- 0.40 to 0.69: A moderate correlation
- 0.70 to 0.89: A strong correlation
- 0.90 to 1.00: An actual strong correlation

The significance of the data bases on another factor so calls **P-value** (or probability). It is a measure of how likely or probability of variable value by reason of the chance. P-value is a number and range between 0 (0%) and 1 (100%) and if it closes to 1, there is very weak or could be no correlation of mentioned data. Conversely, the small P-value (close to 0) is determined the strong evidence of the correlation between two observing pairs' values. **P-value** is calculated by observed correlation (R) and the sample size (N). P-value meaning is below:

- With P-value more than 0.1 (> 10%): a very weak to none evidence to show the correlation of data sets.
- With P-value between 0.1-0.05 (10%-5%): a weak evidence to show the correlation

of data sets.

- With P-value between 0.05-0.01 (5%-1%): a strong evidence to show the correlation of data sets.
- With P-value less than 0.01 (<1%): a very strong evidence to show the correlation of data sets.

In this thesis, Spearman Rank correlation has been used to explore the correlation factor behind travelers' attitudes. The examination was performed with Gender, Age, and characteristics of traveler. Since Excel does not allow to directly compute Spearman's correlation, I followed the procedure as suggested in the exact web page address is dataanalytics.org.uk; all steps are described as below:

❖ **<u>Step 1:</u> Code and rank data.**

Before the test running, a very first step is to change all the option of responder answer into number. The coding start as below:

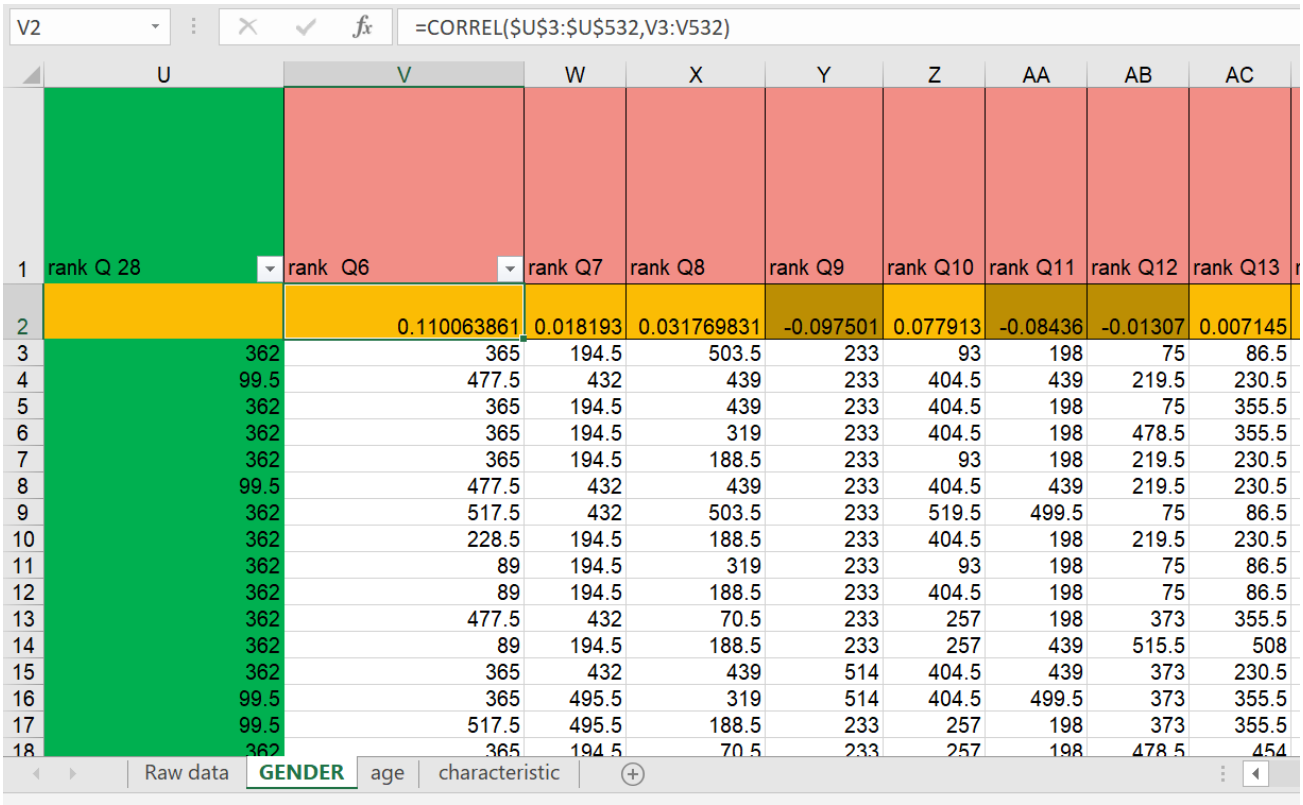
- For Gender, its codes as the number 1 for Female, 2 for male, 3 for LGBT (LGBT account for only 6%, so it seems not to affect too much for the final result)
- For age, it coded as number 1 is for under 18, number 2 for whose age from 18 to 25, number 3 for whose age from 26 to 35, number 4 for over 55-year-old.
- For characteristic, we code 1 as Introvert traveler, number 2 marks for ambivert traveler, and number 3 is coded for extrovert traveler.
- Five options followed statements on the scale, and it was applied to compare the correlation with Gender or Age or characteristic: Very unimportant (coding number 1), unimportant (coding number 2), average (coding number 3), important (coding number 4), very important (coding number 5).

To rank data, *Excel* ***RANK.AVG*** *function* is applied.

❖ **<u>Step 2:</u> Find Spearman correlation coefficient**

The second step is to make a table between the variables value that has to be tested and run the correlation of two variables. The detail showed in the table below with the Rank Q6 column is the ranked value start from cell V3, the yellow number shows the correlation of Gender to each question (for instance, Question 6- Q6 is the importance of the health system of the destination). The correlation value in the orange cell is calculated by using the *Excel **CORREL** function*.

Figure 7: result table of running correlation in excel



V2 | =CORREL($U$3:$U$532,V3:V532)

	U	V	W	X	Y	Z	AA	AB	AC
1	rank Q 28	rank Q6	rank Q7	rank Q8	rank Q9	rank Q10	rank Q11	rank Q12	rank Q13
2		0.110063861	0.018193	0.031769831	-0.097501	0.077913	-0.08436	-0.01307	0.007145
3	362	365	194.5	503.5	233	93	198	75	86.5
4	99.5	477.5	432	439	233	404.5	439	219.5	230.5
5	362	365	194.5	439	233	404.5	198	75	355.5
6	362	365	194.5	319	233	404.5	198	478.5	355.5
7	362	365	194.5	188.5	233	93	198	219.5	230.5
8	99.5	477.5	432	439	233	404.5	439	219.5	230.5
9	362	517.5	432	503.5	233	519.5	499.5	75	86.5
10	362	228.5	194.5	188.5	233	404.5	198	219.5	230.5
11	362	89	194.5	319	233	93	198	75	86.5
12	362	89	194.5	188.5	233	404.5	198	75	86.5
13	362	477.5	432	70.5	233	257	198	373	355.5
14	362	89	194.5	188.5	233	257	439	515.5	508
15	362	365	432	439	514	404.5	439	373	230.5
16	99.5	365	495.5	319	514	404.5	499.5	373	355.5
17	99.5	517.5	495.5	188.5	233	257	198	373	355.5
18	362	365	194.5	70.5	233	257	198	478.5	454

Raw data | GENDER | age | characteristic

Source: author

❖ **<u>Step 3:</u> Calculate the P-value.**

After calculate the coefficient R, the P-value determine by using the Excel TDIST function. However, to use the TDIST function we have to find T-statistic, degree of

freedom (df) and ***a2*** for two-tailed test *[TDIST (T-statistic, Df, a2)]*

T-statistic formula:

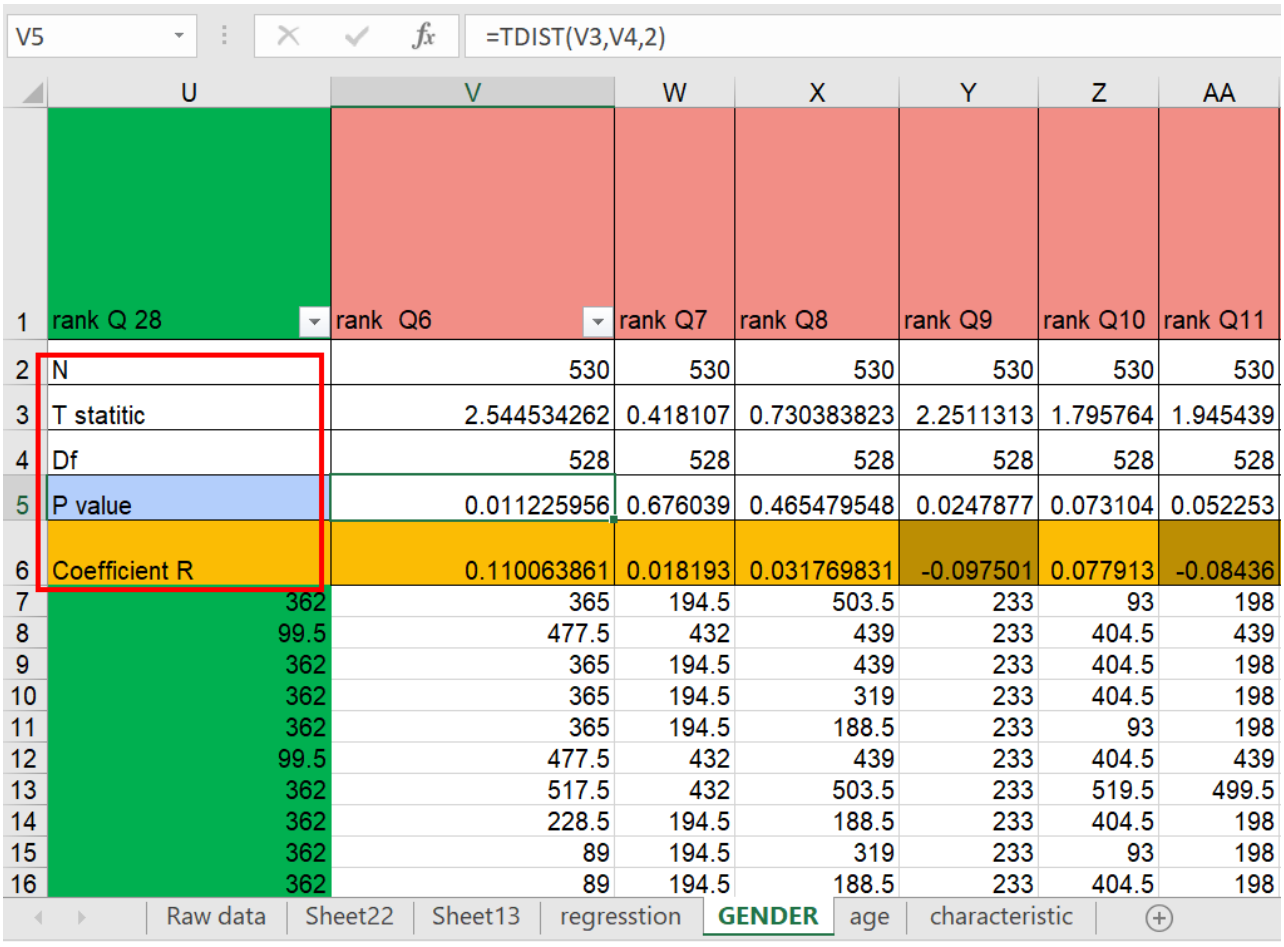
$$T = \frac{R*\sqrt{N-2}}{\sqrt{1-R^2}}$$

Degree of freedom (df)

$$Df = N-2$$

Where N is the number of observations (sample).

Figure 8: Result of running P-value



V5 | =TDIST(V3,V4,2)

	U	V	W	X	Y	Z	AA
1	rank Q 28	rank Q6	rank Q7	rank Q8	rank Q9	rank Q10	rank Q11
2	N	530	530	530	530	530	530
3	T statitic	2.544534262	0.418107	0.730383823	2.2511313	1.795764	1.945439
4	Df	528	528	528	528	528	528
5	P value	0.011225956	0.676039	0.465479548	0.0247877	0.073104	0.052253
6	Coefficient R	0.110063861	0.018193	0.031769831	-0.097501	0.077913	-0.08436
7	362	365	194.5	503.5	233	93	198
8	99.5	477.5	432	439	233	404.5	439
9	362	365	194.5	439	233	404.5	198
10	362	365	194.5	319	233	404.5	198
11	362	365	194.5	188.5	233	93	198
12	99.5	477.5	432	439	233	404.5	439
13	362	517.5	432	503.5	233	519.5	499.5
14	362	228.5	194.5	188.5	233	404.5	198
15	362	89	194.5	319	233	93	198
16	362	89	194.5	188.5	233	404.5	198

Raw data | Sheet22 | Sheet13 | regresstion | GENDER | age | characteristic

Source: Author

CHAPTER 4: RESULT AND DISCUSSION.

4.1 Descriptive survey.

Below is my *survey (italic type)* and its detail, and the reason behind choosing it. This is the primary data that I have collected via a questionnaire survey and a first-hand-experience. I choose the questionnaire because this is the most common survey method. The advantage of a questionnaire is that the large sample could collect in a short period at a cheap cost and simple way. After collecting, the material could be helpful and analyzed fast, simple, and scientifically with accessible software. Besides the advantages, there are some drawbacks of this method such as the truthfulness of the participant, the thinking time of respondent or forget the context during the whole survey.

The qualitative research method would not have been suitable for this paper because I stayed in Italy, and the target responder is Vietnamese. Most of them stay in Vietnam at that time. I wanted to collect data as much as possible and use the software to build or test the theory. It could not be done if I use the qualitative method even though this method could bring the deeper and more reliable via interview which let us understand more about the emotions of interviewees when face to face with the interviewer.

Survey questionnaire

Dear participants,

I am a student of International management course at Ca' Foscari University. I am conducting research about COGNITION OF TRAVELERS IN VIETNAM AFTER CORONAVIRUS PANDEMIC.

It will take only 7-10 minutes of your time. A Thesis should be produced once the survey is completed.

Every answer is important to us! If you have any further question accordingly to this thesis survey, do not hesitate to contact me. Thank you so much for your valuable time!

Warmest regards,

This is the cover letter at the beginning of my survey to explain this survey's purpose and give the participant motivation to answer. I tested this survey to around ten friends of mine before running it officially to make sure the survey time is not too long and therefore limiting the dropping out of responders while answering.

Below each or a couple of question, I will explain the aim of it and the outlining the topic that I attempt to show

1. ***When you travelled BEFORE the coronavirus crisis, what would you do if any Pandemic (SARS, Ebola,) happen in your travel destination or on your travel Route?***

   ☐Cancel trip

   ☐change travel destination to a safer one

   ☐change travelling date

   ☐change travel route

   ☐Travel anyway.

2. ***When you will travel AFTER the coronavirus crisis, what would you do if Coronavirus is happening in your travel destination or on your travel Route?***

   ☐Cancel trip

   ☐change travel destination to a safer one

   ☐change travelling date

   ☐change travel route

   ☐Travel anyway.

Starting with the first two questions, I want to let the participants be aware of the survey topic and understand if their choices are affected by their travel destination. Furthermore,

those questions also show us the attitude of the traveler when they face the pandemic (before and after)

3. ***BEFORE Coronavirus Pandemic, where did you look for safety information about travel destinations?***

   ☐*not search*

   ☐*travel agency*

   ☐*news, magazine*

   ☐*Friends, relatives*

   ☐*Government announcement.*

   ☐*somewhere else, where?*

4. ***AFTER Coronavirus Pandemic, where will you look for safety information about travel destinations?***

   ☐*not search*

   ☐*travel agency*

   ☐*news*

   ☐*Friends, relatives*

   ☐*Government announcement.*

   ☐*somewhere else, where?*

The next two following questions show which channel of the media influences the traveler. Moreover, how travel changes their choice before and after the pandemic.

5. ***How dangerous do you think the following countries are at the current time:***

Table: 4: Countries list that need to evaluate.

	I don't know (0)	*Very safe (1)*	*Quite safe (2)*	*Quite dangerous (3)*	*Very dangerous (4)*
Vietnam					
Thailand					
South Korea					
Japan					
Singapore					
China					
England					
Australia					
US					
Italy					

This section indicates the perception of danger in most ten visited countries by Vietnamese in the world.

I choose different levels of danger to understand what is the actual perception of the Vietnamese travelers. First, start with "I don't know" because not everyone has news or attention to find the information about those countries, and then there is a scale of awareness of the threat from "very safe" to "very dangerous" in four steps.

6. ***BEFORE the COVID-19 pandemic, how important was it of the health system in the tourist destination which you choose.***

☐*Very unimportant*

☐*Unimportant*

☐*Average*

☐*Important*

☐*Very important*

7. ***AFTER the COVID-19 pandemic, how will you rate the importance of the health system in the tourist destination which you choose.***

☐*Very unimportant*

☐*Unimportant*

☐*Average*

☐*Important*

☐*Very important*

Questions 6 and 7 shows how traveler evaluates the importance of the destination's health system.

Those questions' scale starts from "very unimportant" to "very important" to understand if the people consider their health during a pandemic and examine if the destination's health system will affect the traveler's decision.

We need to know their perception before and after COVID to find out some suggest solutions for the current tourism industry and for the future to come.

8. ***BEFORE the Coronavirus, how important was to you to wear mask and to use hand cleaning while travelling***

   ☐*Very unimportant*

   ☐*Unimportant*

   ☐*Average*

   ☐*Important*

   ☐*Very important*

9. ***AFTER the Coronavirus, how important it is to wear the mask and use hand-cleaning did you think while traveling.***

   ☐*Very unimportant*

   ☐*Unimportant*

   ☐*Average*

   ☐*Important*

   ☐*Very important*

Question 8 and 9: These indicate question present how important of personal hygiene during a pandemic.

According to advice by WHO, to keep yourself and other people safe from pandemics, wearing a mask and clean hands are the necessary actions. ***BEFORE the Coronavirus, how important was the flight and trip insurance coverage to you***

   ☐*Very unimportant*

   ☐*Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

10. ***When you travel AFTER the Coronavirus, how important is the flight and trip insurance coverage to you***

☐ *Very unimportant*

☐ *Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

Question 10 and 11 determine the significance of the flight and the insurance coverage in the travel trip.

Air travel seems necessary and unavoidable in this day and age because of its speed and convenience, especially for travelers who want to go as far as possible and as soon as possible to enjoy their leisure time.

Trip insurance is one of the most crucial investments for the traveler trip because it could save the tourist from the risks of some emergency happened such as medical risks, travel risks, or flight disruptions.

The above reasons explain why I put those factors in the list to evaluate if it matters to the tourist.

11. ***When you travelled before the Coronavirus broke out how important it was to get together with other friends?***

☐ *Very unimportant*

☐ *Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

12. ***AFTER the Coronavirus broke out, how important it is to get together with other friends when you travel***

☐ *Very unimportant*

☐ *Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

Question 12 and 13:

Travel with other friends is almost the first preference choice of Vietnam young generation. The two questions above help explain the effect of the pandemic on travelers' decisions and investigate if they feel safer being with their friends during the pandemic.

Travel with friend also bring traveler the incredible fun and strengthen their friendship. Furthermore, they also can learn and share time with each other. It is also a great chance to discover the roll of this factor to tourist decision making.

13. ***Before the Coronavirus broke out how important it was to meet new people When you were travelling***

☐ *Very unimportant*

☐ *Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

14. ***AFTER the Coronavirus broke out, how important it is to meet new people when you travel?***

☐ *Very unimportant*

☐ *Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

Question 14 and 15:

One of the greatest pleasures of traveling is the ability to meet a diverse range of people. When people at home or around their workplace, they might have their group of allies and people, so they might not need anyone's news. In contrast, while traveling, people would like to know someone to accompany during their trip to share or to learn from those new people. Nevertheless, with a pandemic, it could be risky to be gathering together because of the safe distance needed.

Therefore, questions 14 and 15 examine the changing of the tripper's perception in meeting new people.

15. ***When you travelled before the Coronavirus broke out, how important it was to you to have new cultural experience?***

☐ *Very unimportant*

☐ *Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

16. ***When you travel AFTER the Coronavirus broke out, how important it is to you to have new cultural experience?***

☐ *Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

Culture defines as the social behavior and norms that a *group* of people shares. It could be a set of ideas, rules, the knowledge, beliefs, art, law, customs, rituals, common characteristics or habit. Humans acquire culture by learning and socialization. It could represent through a myriad of mediums such as food, language, politics, arts and architecture, and how people treat each other.

Experience and witness a new different culture are some of the benefits of travel, bringing travelers the cultural shock and skills of adapting or facing it during the trips.

Question 16 and 17 show how the pandemic affects the traveler about their willingness to experience the new culture during the pandemic.

17. ***When you travelled before the Coronavirus broke out, how important it was to you to see natural scenery?***

☐ *Very unimportant*

☐ *Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

18. ***When you travel AFTER the Coronavirus broke out, how important it is to you to see natural scenery?***

☐ *Very unimportant*

☐ *Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

Question 18 and question 19:

The natural scenery is one of the common reasons to travel because nature might vary according to geography and weather. It is also one of the vital factors that could affect the traveler's decision.

The two above questions examine the change of traveler's perception during the COVID-19 pandemic and review how vital the natural scenery is.

19. ***When you travelled before the Coronavirus broke out, how important it was to you to eat local food in a famous restaurant even crowed with people?***

☐ *Very unimportant*

☐ *Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

20. ***When you travel AFTER the Coronavirus broke out, how important it is to you to eat local food in a famous restaurant even crowed with people?***

☐ *Very unimportant*

☐ *Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

Food is one of the essential parts of culture. Food shows about countries' history, traditions, and societal norms. It is not only a cultural activity but also is recognized as an entertainment. Furthermore, Food also brings the pleasurable sensual experience that fulfills the traveler's pleasure and pulls them to the destination.

This section was thought to illustrate if people will scarify their safety to experience the food in the break-out period.

21. ***When you travelled before the Coronavirus broke out, how important it was to you to keep distant from people?***

☐ *Very unimportant*

☐ *Unimportant*

☐ *Average*

☐ *Important*

☐ *Very important*

22. When you travel AFTER the Coronavirus broke out, how important it is to you to keep distant from people?

☐*Very unimportant*

☐*Unimportant*

☐*Average*

☐*Important*

☐*Very important*

Since people can spread the virus Corona before they know they are sick, keeping the inevitable distance between them safe is essential.

Those two questions investigate how important to keep distance between people while they travel.

23. Which way will you prefer to have the next travel?

☐*Alone*

☐*with family*

☐*friends*

☐*group tour*

☐*other*

This question has the purpose of investigating how explorer prefers to accompany with them while travel and the different gap between prior and later the pandemic breaks out.

24. Which way is your preference for the next trip?

☐*No Travel until Pandemic end*

☐ *travel in your City only*

☐ *travel around Vietnam*

☐ *travel outside Vietnam*

The following question presents How much impact of the pandemic awareness to let the tourists decide when they can travel.

25. Where do you want to stay during the next travel trip?

☐ *private house rental*

☐ *relative's/friend's house*

☐ *homestays*

☐ *hotel/hostel*

☐ *camping*

☐ *other*

Accommodation is a fundamental base of the tourism industry, and it plays an essential part in tourism. Tourists need a location where they can take rest and revive during their trip.

This question examines how tourist will choose their accommodation for their next trip under the pandemic break-out.

26. How is your next trip length?

☐ *less than 3 days*

☐ *3-5 days*

☐ *1-2 weeks*

☐ *over 2 weeks*

The length of the trip is considered as one of the most crucial decision-making for tourists. It is sharply related to the traveler experience and characterized by their interdependence.

The above question shows how travel take decision when they can travel again.

DEMOGRAPHICS

27. Please choose your gender:

☐Female ☐Male ☐other

28. Which age group are you?

☐under 18 ☐18-25 ☐26-35 ☐36-55 ☐over 55

29. Please, name your City of residence:

……

30. Your Characteristic:

☐introvert ☐extrovert ☐ambivert

31. How many times did you travel in your country 2019?

☐none ☐1-3 times ☐4-6 times ☐7-10 times ☐more than 11 times

32. How many times did you travel outside your country 2019?

☐none ☐1-3 times ☐4-6 times ☐7-10 times ☐more than 11 times

33. What is your level of study?

☐under high school

☐high school

☐university

☐*after university*

34. What is your job?

☐*Student* ☐*Unemployed*

☐*Employed* ☐*Self-employed.* ☐*Retired / Renter.*

. ☐*Other (please specify) ……*

This section collects all the necessary data about the demographic of participants to allow the author to understand better certain background characteristics of audience. The main questions are about asking their gender, age, education, characteristic, work situation and some information about their travel history.

In this part, my purpose is to compare and investigate which factor could affect to traveler choice.

I also put this demographic part at the end of the survey because it is the easiest part and could get all the energy of the responder at the beginning. Another reason is that it all about their personal information, so they might feel better if they know all the questions before dropping their information down.

Thank you for taking the time to answer this survey.

You just helped me a lot on my way to graduate!

Have a really great day! 😊

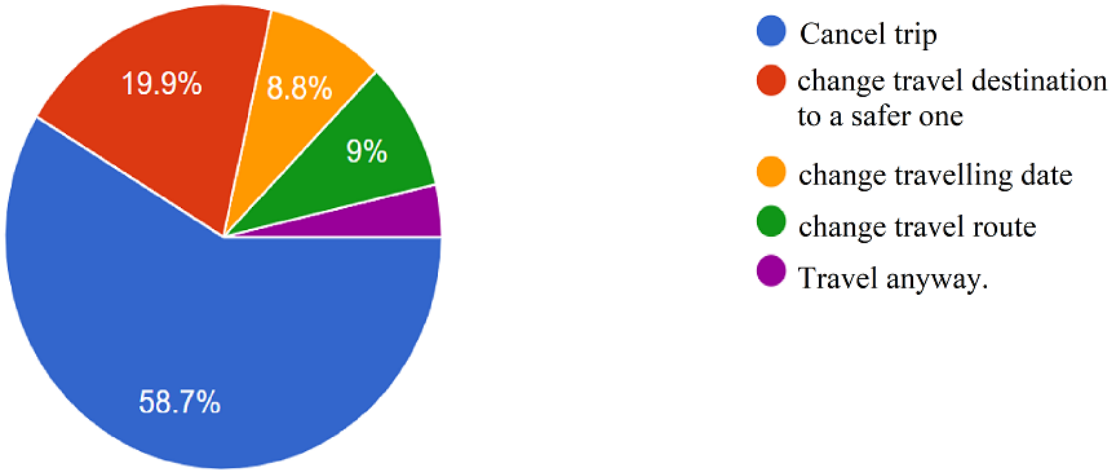
Last but not least, I put again the quick thanks to express my appreciation to the participant for their time.

4.2 Survey results with T-test.

The author will explain the results base on the figure produce by google docs' result.

1. *When you travelled BEFORE the coronavirus crisis, what would you do if any Pandemic (SARS, Ebola,) happen in your travel destination or on your travel Route*

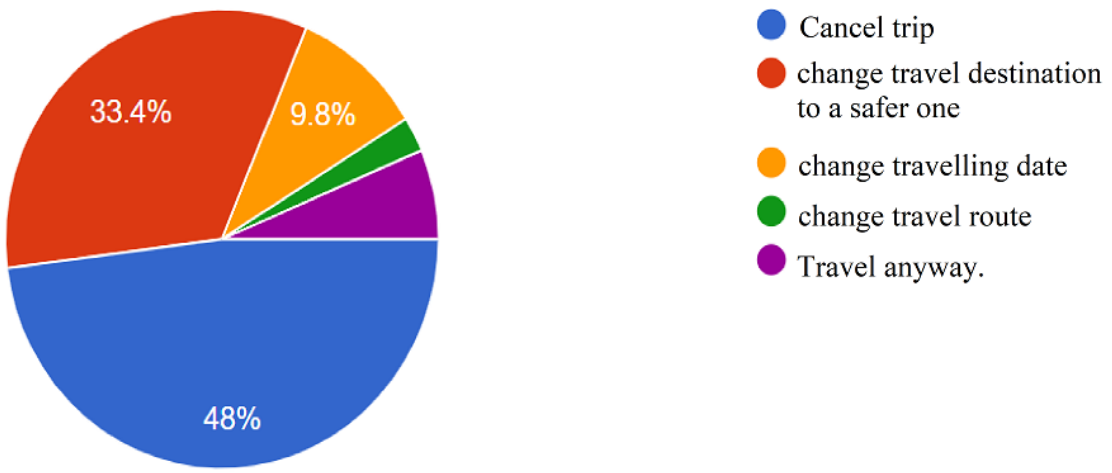
figure 9: Impacts of crisis situations on young travelers' travel behaviors Before COVID-19.



Source: Author

2. *When you will travel AFTER the coronavirus crisis, what would you do if Coronavirus is happening in your travel destination or on your travel Route?*

figure 10: Impacts of crisis situations on young travelers' travel behaviors After COVID-19.



Source: Author.

About question 1 and question 2:

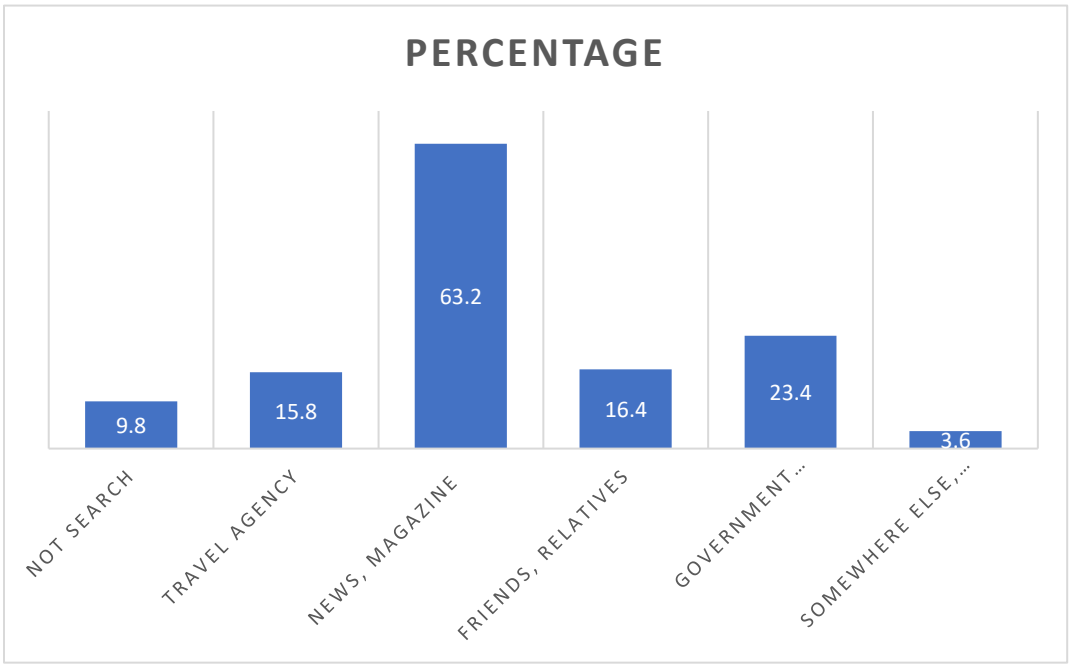
Before the pandemic break-out, the traveler mostly chooses to cancel their trip or change the travel destination to a safer one, with respectively by 48 percent and 33.4 percent. Approximately more than 6 percent of travelers choose the "travel anyway" option.

After the pandemic reveals, increasing more than 10 percent of participants choose the "cancel their trip" option, other 13.5 percent of participants opt for the "change travel destination to a safer one" option, and more than 3 percent of travelers choose the "travel anyway" option has changed their minds.

The coronavirus is a global health crisis, and travelers are well informed about how dangerous it is in the destination, so they have more information to decide whether take a risk or not. It could be a reason to explain the different gap of decision-making of a traveler before and after the pandemic.

3. *BEFORE Coronavirus Pandemic, where did you look for safety information about travel destinations?*

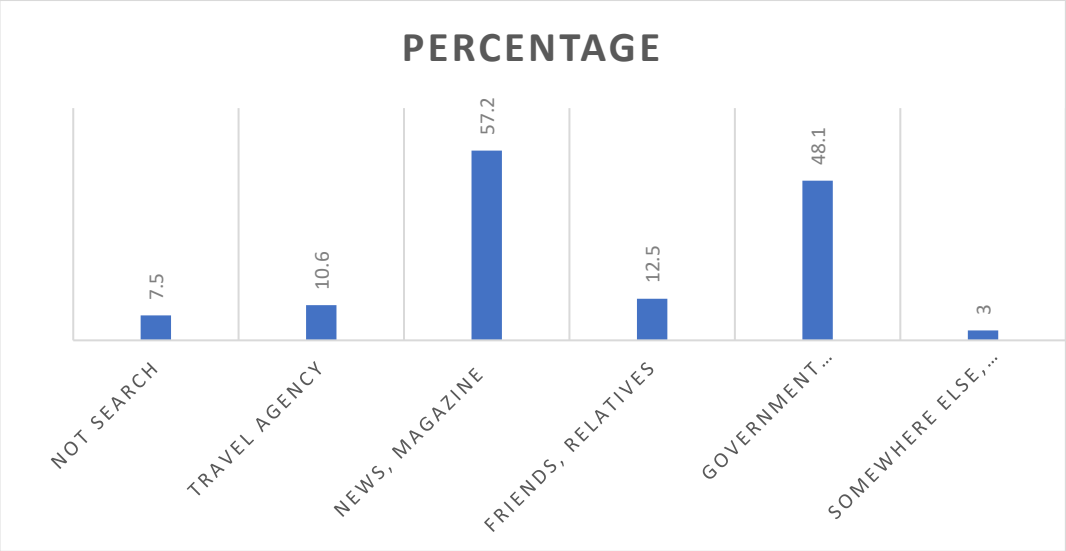
Figure 11: Main source of travel safety before COVID-19



Source: Author

4. *AFTER Coronavirus Pandemic, where will you look for safety information about travel destinations?*

Figure 11: Main source of travel safety before COVID-19



Source: Author

About question 3 and 4:

Before the pandemic, the responders nearly get travel information from News and magazines, which account for 63.2 percent. The following 23 percent of participants choose to trust the government announcement.

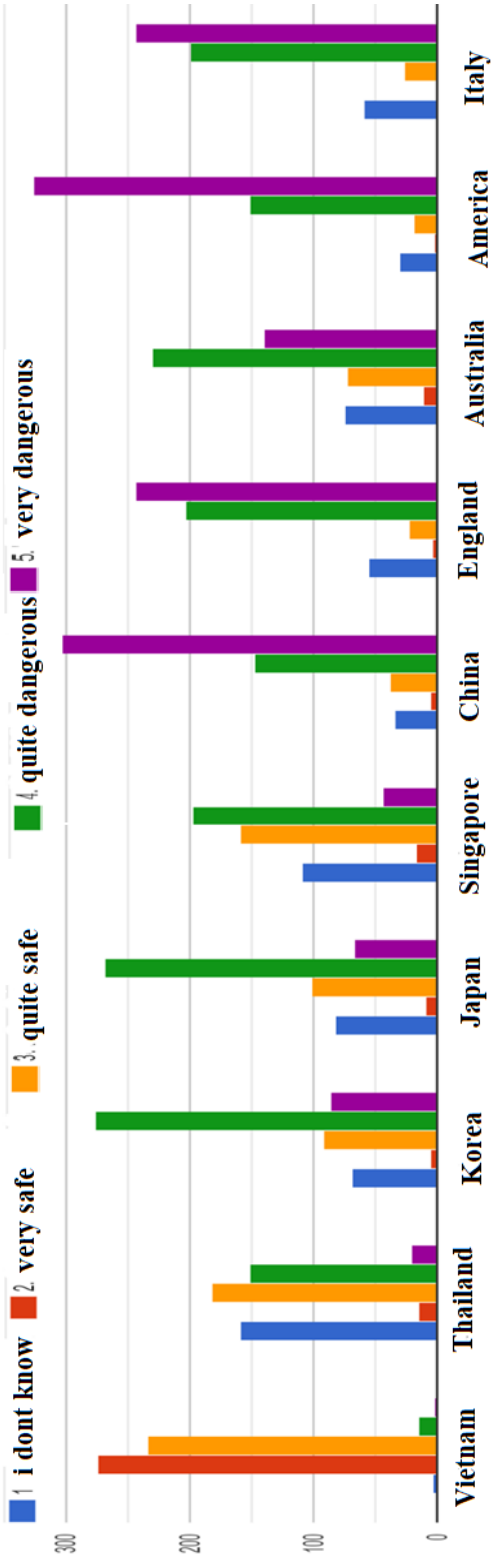
After the pandemic break-out, traveler switches to choose the government announcement as their second primary reference, with an increase of 20 percent more than before the crisis. Moreover, News and magazine are the primary means to search for journey information.

One of the fundamental reasons could explain is that the Vietnamese government has frequently applied the law on cybersecurity to stop Fake News during the pandemic. The Vietnamese government also use the primary social media, and phone message to send all the urgent information about COVID-19, they updated all citizen for how is the situation and what the citizen should do.

Most responders add channel Facebook into their choice when mentioning in somewhere else option.

5. *How dangerous do you think the following countries are at the current time:*

Figure 12: countries list for traveler to evaluate. (source: author)



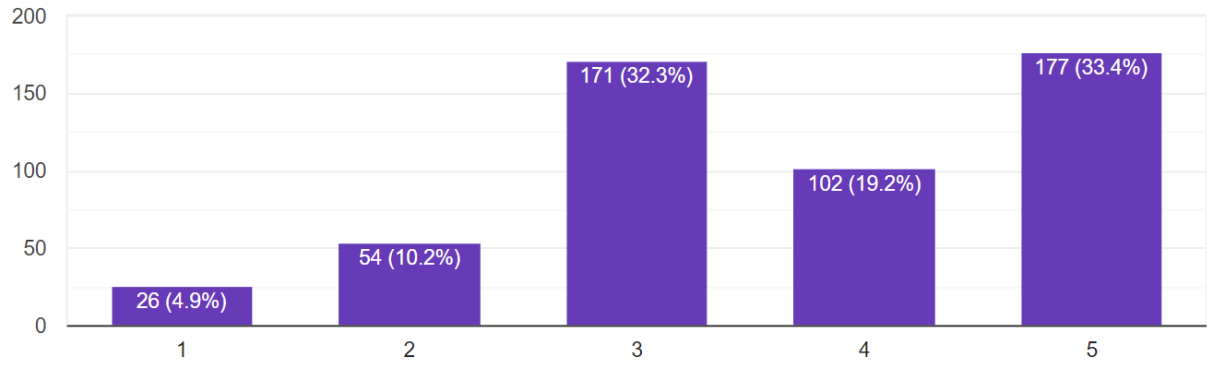
Question 5:

The survey was performed in November 2020; typical responders evaluate the most dangerous country belongs to America, the second one is China and Italy was accounts for the third one. In contrast, Vietnam is the safest country on the list, as the participant stated.

One of the primary references to evaluate that information could be the data on casualties updated daily and appears almost every day in Vietnamese newspapers.

6. *BEFORE the COVID-19 pandemic, how important was it of the health system in the tourist destination which you choose.*

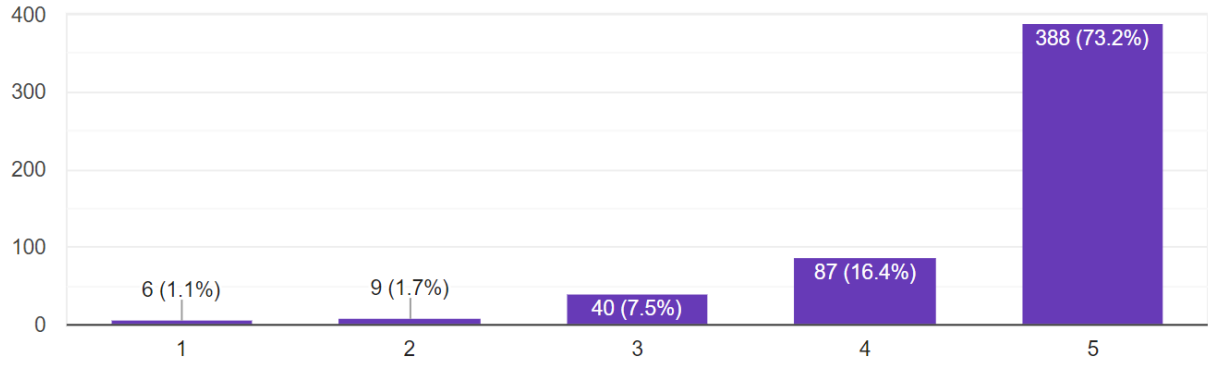
Figure 12: Traveler's concern about health system destination before COVID-19.



Source: author

7. *AFTER the COVID-19 pandemic, how will you rate the importance of the health system in the tourist destination which you choose.*

Figure 13: Traveler's concern about health system destination before COVID-19.



Source: Author.

About question 6 and question 7:

As observing through the result of two above graphs, it shows that before COVID-19, most responders evaluate the less importance of the destination's health system (only 33 percent of participants choose "very important" option). Nonetheless, more than 73 percent of people choose the "very important" option. It could show that the Vietnamese traveler put great attention to their health.

To test the result of question 6 and question 7 to see if it is different from the accepted proof, the T-test of the table below is considered.

Table 5: Result T-test about destination health system.

t-Test: Two-Sample Assuming Unequal Variances		
	6. BEFORE the COVID-19 pandemic, how important was it of the health system in the tourist destination which you choose.	*7. AFTER the COVID-19 pandemic, how will you rate the importance of the health system in the tourist destination which you choose.*

Mean	3.660377358	4.588679245
Variance	1.392945037	0.632007704
Observations	530	530
Hypothesized Mean Difference	0	
df	927	
t Stat	-15.01826357	
P(T<=t) one-tail	4.28569E-46	
t Critical one-tail	1.646499045	
P(T<=t) two-tail	8.57138E-46	
t Critical two-tail	1.962526357	

The Null hypothesis of question 6 and question 7: there is no difference in traveler's behavior about evaluating the importance of the health system in the tourist destination before and after COVID-19.

The result of running T-test as the above table show that

P(T<=t) two-tail of $8.57x10^{-46}$ is less than the significant value 0.05 which means the null hypothesis is rejected. That is also mean the difference between means is statistically significant which mean there is different behavior before and after COVID.

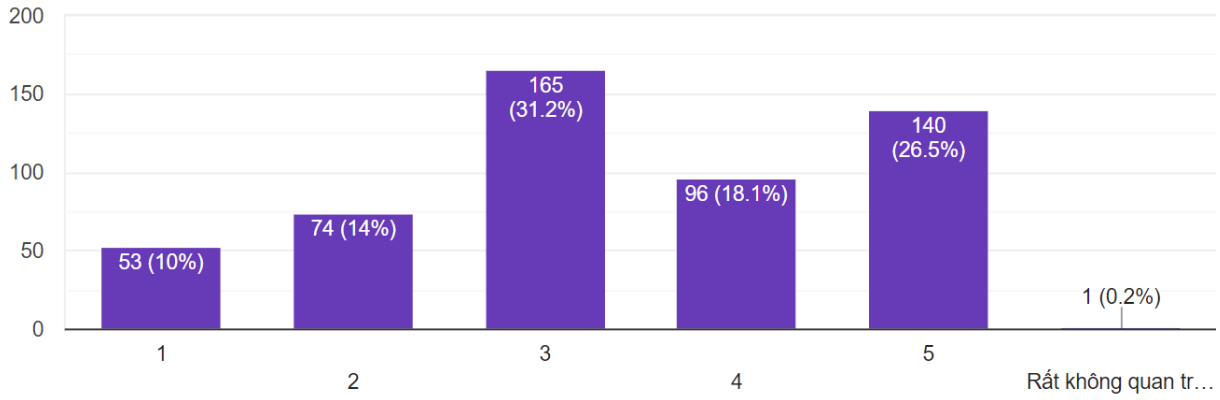
The means of question 6(before COVID-19) equal 3.67, and the variance equal to 1.39 show that the participant answer has an enormous range of the option; there is no clear evidence to say which option the responder chooses the most.

The mean of question 7(after COVID-19) equal to 4.59, and the variance equal 0.63 (relatively small) show that the Participant's answer has a small range of options, mainly is option four and option five, which mean "important" and "very important."

To sum up, the traveler's attitude seems to change after COVID-19; in particular, participants focus more on the destination's health system after the pandemic.

8. *BEFORE the Coronavirus, how important was to you to wear a mask and to use hand cleaning while travelling*

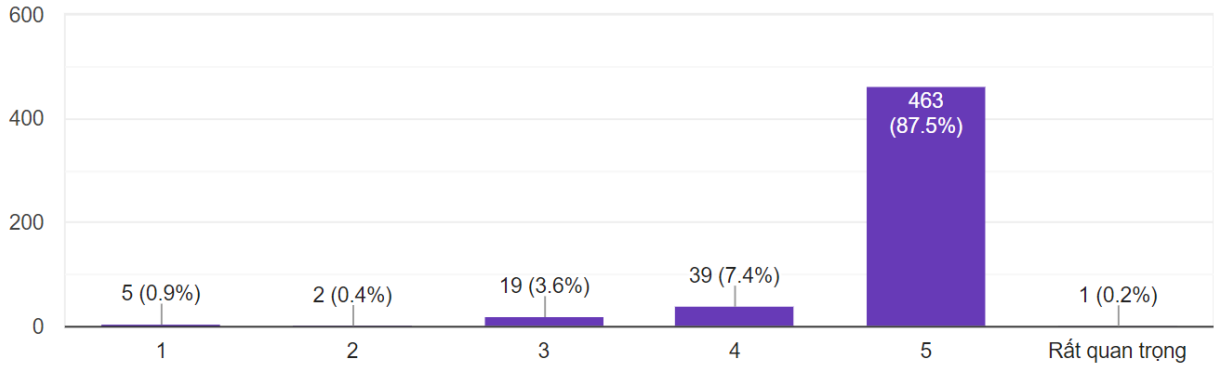
Figure 14: traveler's concern about cleaning hygiene before COVID-19.



Source: Author.

9. *AFTER the Coronavirus, how important it is to wear the mask and use hand-cleaning did you think while traveling.*

Figure 15: traveler's concern about cleaning higiene after COVID-19.



Source: Author.

About question 8 and question 9:

It is relatively easy to describe the result of two above graphs, it reveals that before COVID-19, most responders evaluate the less importance of the role of wearing mask and cleaning hand (the most answer is average). But after pandemic, approximately 90 percent of responder's option is "very important"

the T-test of the table below is to test the different between question 8 and question 9.

Table 6: Result T-test about personal hygiene

	8. BEFORE the Coronavirus, how important was to you to wear mask and to use hand cleaning while travelling	*9. AFTER the Coronavirus, how important it is to wear the mask and use hand-cleaning did you think while traveling*
Mean	3.364150943	4.805660377
Variance	1.65731355	0.364807219

Observations	530	530
Pearson Correlation	0.156826989	
Hypothesized Mean Difference	0	
df	529	
t Stat	-24.88632317	
P(T<=t) one-tail	2.18185E-91	
t Critical one-tail	1.64773918	
P(T<=t) two-tail	4.36371E-91	
t Critical two-tail	1.964458533	

Q8-Q9, the Null hypothesis to test is “there is no different of traveler’s behavior about evaluating the importance wearing mask and using hand cleaning while travelling before and after COVID-19”.

P(T<=t) two-tail of $4.36x10^{-91}$ is apparently less than the significant value 0.05, which means the null hypothesis is rejected. It can also say that the difference between means is statistically significant, which means the different attitude of a traveler about mask-wearing and hand cleaning before and after COVID-19 is found.

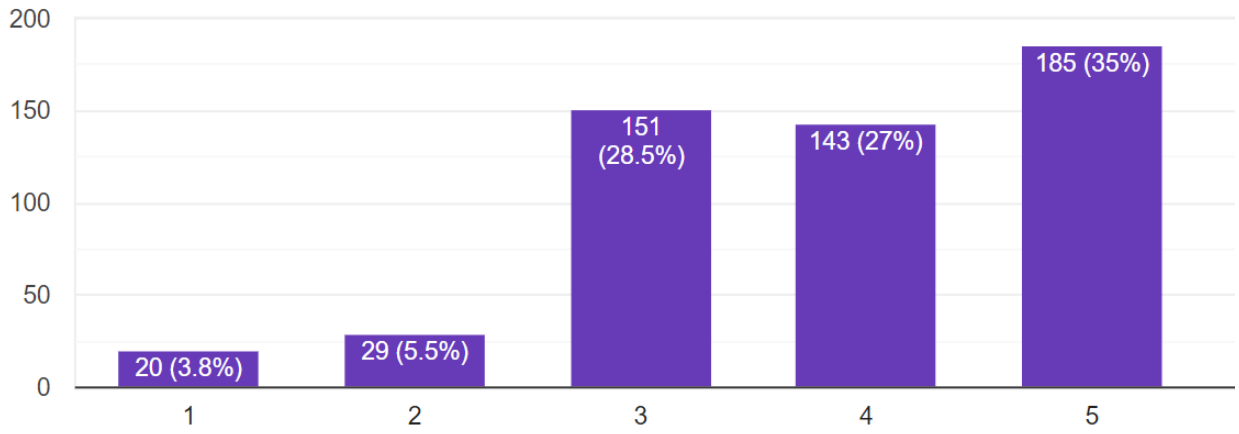
The means of question 8(before COVID-19) equal 3.36, and the variance equal to 1.65 could understand that the participant answer has a massive range of the option; there is no clear evidence to conclude which option the responder chooses the most.

On the opposite, the mean of question 9(after COVID-19) equal to 4.8, and the variance equal to 0.36 (somewhat minor), illustrate that the Participant's answer has a slight range of options, mainly is option Five, which means "very important."

The preceding discussion has shown that the traveler's attitude looks to switch after COVID-19; unsurprisingly, participants take more responsibility for personal hygiene (wear a mask and use hand-cleaning) after the Pandemic break-out.

10. *BEFORE the Coronavirus, how important was the flight and trip insurance coverage to you*

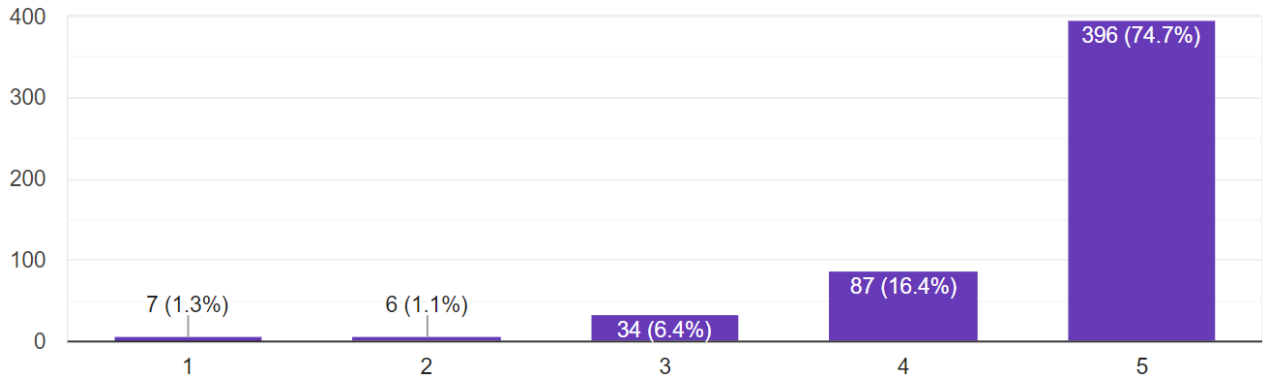
Figure 16: traveler's concern about flight and insurance before COVID-19.



Source: author.

11. *When you travel AFTER the Coronavirus, how important is the flight and trip insurance coverage to you*

Figure 17: traveler's concern about cleaning higiene after COVID-19.



Source: author.

About question 10 and 11:

Based on the two above graphs, which result from question 10 and question 11, before COVID 19, the responder's answer was not inclined to either option. Nevertheless, after the pandemic, approximately 75 percent of the responder's option is "very important" when evaluating how significant light and trip insurance coverage is.

the T-test of the table below is to test the different between question 10 and question 11.

Table 7: T-test result about filight and insurrance.

	10. BEFORE the Coronavirus, how important was the flight and trip insurance coverage to you	*11. When you travel AFTER the Coronavirus, how important is the flight and trip insurance coverage to you*
Mean	3.841509434	4.620754717
Variance	1.173320969	0.591250847

Observations	530	530
Pearson Correlation	0.476942222	
Hypothesized Mean Difference	0	
df	529	
t Stat	-18.21413724	
P(T<=t) one-tail	3.33522E-58	
t Critical one-tail	1.64773918	
P(T<=t) two-tail	6.67043E-58	
t Critical two-tail	1.964458533	

Source: author

Null hypothesis of question 10 and 11 is "there is no different of traveler's behavior about evaluate the important of flight quality and trip insurance coverage to traveler before and after COVID-19".

P(T<=t) two-tail of $6.67x10^{-58}$, which showed in the table is clearly less than the significant value (alpha of 0.05). The hypothesis base of this result is rejected. Frankly speaking, there is a different attitude of tourist about the importance of flight and insurance coverage after severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)

On the one hand, the means of question 10 (before COVID-19) equal 3.8, and the variance equal to 1.17 might explain that the response of traveler has a wide range of the option; there is no clear evidence to conclude which option the responder chooses the most, although option 3 (average), 4 (important) and 5 (very important) are the most selected as evidence provided definitively. On the other hand, the mean of question 11 (after COVID-19) equal to 4.6, and the variance equal to 0.59 (somewhat insignificant), demonstrate that the Participant's answer falls into a narrow range, mainly in option Five (nearly 75 percent),

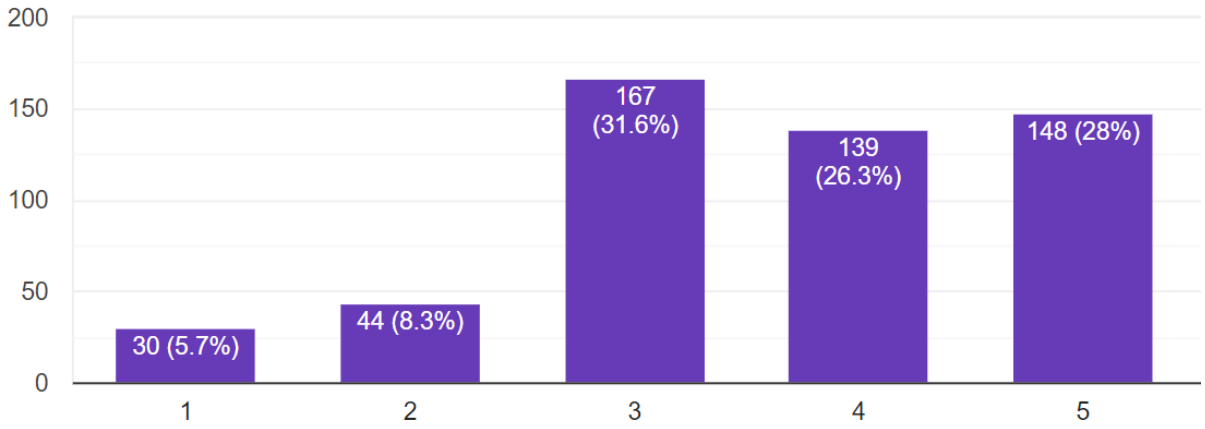
which is "very important."

It has shown that the flight and insurance coverage included seems to get a higher evaluation from tourists without jumping to conclusions. Unquestionably, participants might raise more awareness of their flight quality and the insurance to follow after the coronavirus outbreak.

In summary, the first three pairs of the question as above mentioned, we can state that people seem to pay more attention and have more appreciation on the importance of the destination health system, insurance coverage, mask-wearing and cleaning-hand which also can say that they might want to feel safer before taking the trip or during the traveling.

12. *When you travelled BEFORE the Coronavirus broke out how important it was to get together with other friends?*

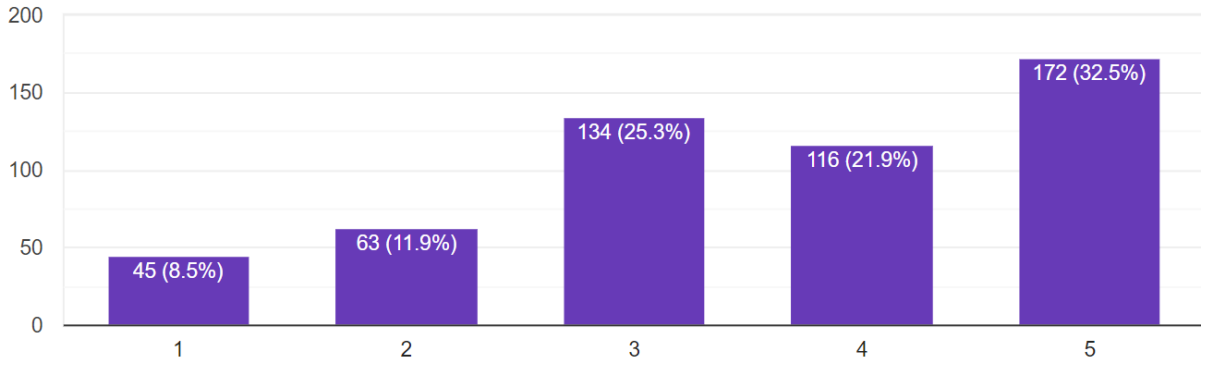
Figure 18: traveler's concern about getting together with friends before COVID-19.



Source: Author.

13. *AFTER the Coronavirus broke out, how important it is to get together with other friends when you travel*

Figure 19: traveler's concern about getting together with friends after COVID-19.



Source: Author

About question 12 and 13:

As the figure illustrated above two graphs, the answer of responders does not follow any specific trend for both before and after the Coronavirus pandemic when mention meeting new friends while traveling. In particular, it noticeable that there seems to be no significant difference in the responder option when comparing before and after a pandemic.

T-test results in the below table could finger out how is the actual effect of COVID-19 on the attitude of travelers about the term of being together in their travel trip.

Table 8: T-test result of getting together with friends

	12. When you travelled before the Coronavirus broke out how important it was to get together with other friends?	*13. AFTER the Coronavirus broke out, how important it is to get together with other friends when you travel*
Mean	3.630188679	3.579245283
Variance	1.303434747	1.643046688

Observations	530	530
Pearson Correlation	0.548384584	
Hypothesized Mean Difference	0	
df	529	
t Stat	1.012603341	
P(T<=t) one-tail	0.155856291	
t Critical one-tail	1.64773918	
P(T<=t) two-tail	0.311712582	
t Critical two-tail	1.964458533	

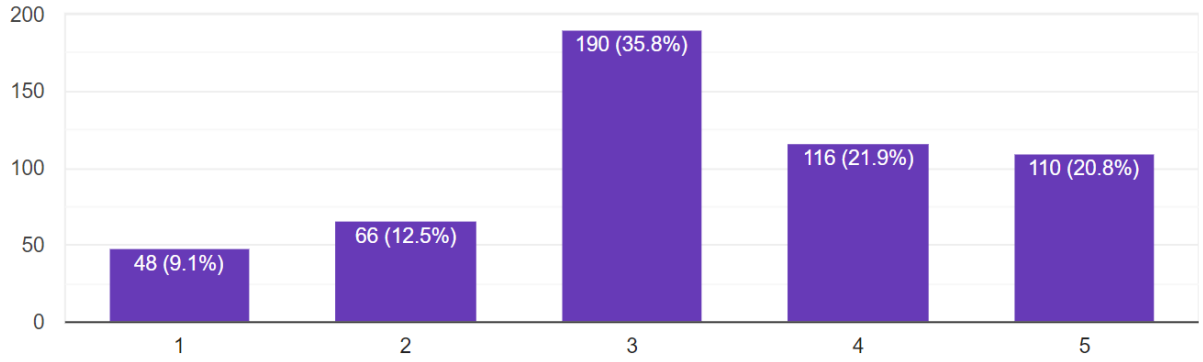
Source: Author.

Null hypothesis for question 12 and question 13 is "there is no different of traveler's behavior about evaluating the important of getting together with other friends while travelling before and after COVID-19".

P(T<=t) two-tail of 0.311, which showed in the table, is more remarkable than the significant value (alpha of 0.05). This borderline case result as the hypothesis base of this result is accepted. In particular, there is no different tourist attitude about the importance of getting along with friends while they travel. notably, it seems to be essential for Vietnamese travelers to travel with their friends according to with more than 50 percent of responders choose the option "important" to "very important." In other words, Travel with a friend seems not to affect so much before and after the pandemic.

14. *BEFORE the Coronavirus broke out how important it was to meet new people When you were travelling*

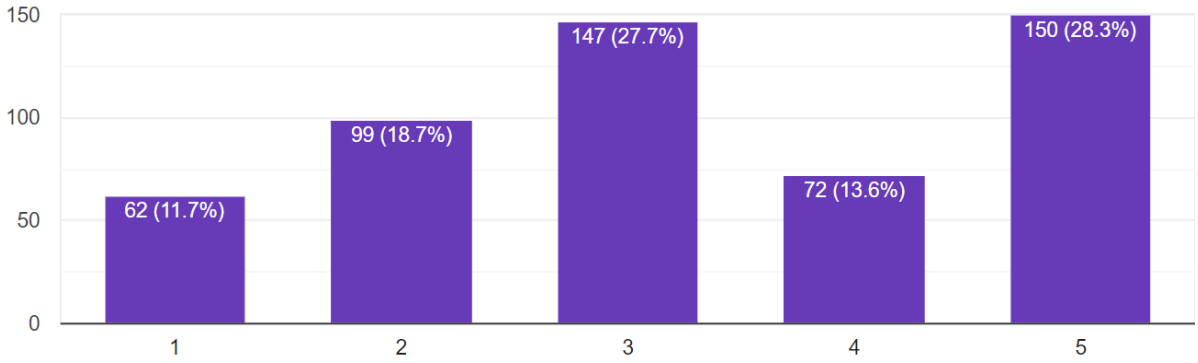
Figure 20: traveler's concern about meeting new people before COVID-19.



Source: author

15. *AFTER the Coronavirus broke out, how important it is to meet new people when you travel?*

Figure 21: traveler's concern about meeting new people after COVID-19.



Source: Author.

Question 14 and question 15:

Observing through the result of the two above graphs shows that before COVID 19, 20 percent choose "very important" to meet someone during travel. After the pandemic broke out, around 28 percent of the responder's answer is "very important" to meet someone during travel.

the T-test of the table below is to test the result of question 14 and question 15 to see if it is different from the accepted proof.

Table 9: T-test result of meeting new people.

	14. Before the Coronavirus broke out how important it was to meet new people When you were travelling	*15. AFTER the Coronavirus broke out, how important it is to meet new people when you travel?*
Mean	3.328301887	3.281132075
Variance	1.430766487	1.847091344
Observations	530	530
Pearson Correlation	0.386155683	
Hypothesized Mean Difference	0	
df	529	
t Stat	0.763614911	
P(T<=t) one-tail	0.222718593	
t Critical one-tail	1.64773918	
P(T<=t) two-tail	0.445437186	
t Critical two-tail	1.964458533	

Source: Author.

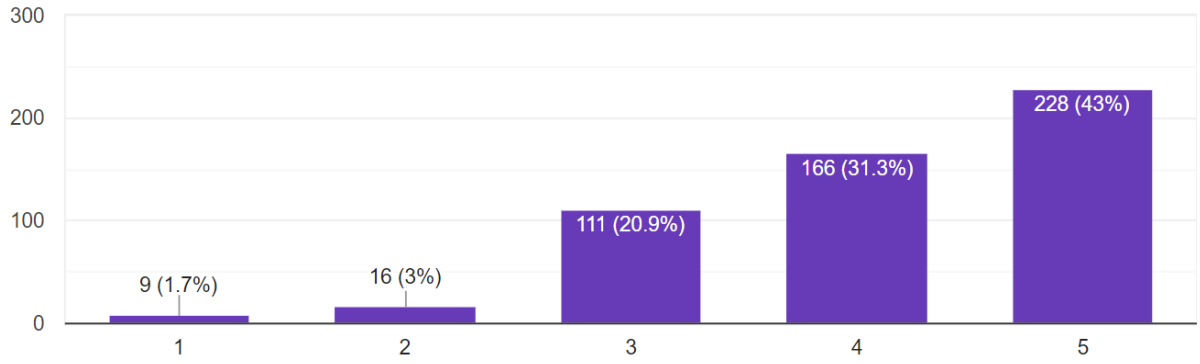
P value >0.05, we reject the null hypothesis which mean there is no different between before and after COVID-19 time about meeting new people while traveling. It is also not important so much for people to see new friends during their trip (Mean= 3.3)

The result from table shows that P(T<=t) two-tail of 0.445 is grander than the significant value (alpha of 0.05). in this case, the null hypothesis is accepted. In specific, there seem no correlation between pandemic and Vietnamese tripper's decision to meet new friend while traveling and Pandemic.

From the author's perspective, Vietnamese and have experience in traveling in Vietnam could explain as follows: Vietnamese people travel to see new things, taste new food, or enjoy with their friends. Usually, Vietnamese people seem not interested in meeting new friends because they would like to spend time with their family or friends instead.

16. *When you travelled BEFORE the Coronavirus broke out, how important it was to you to have new cultural experience?*

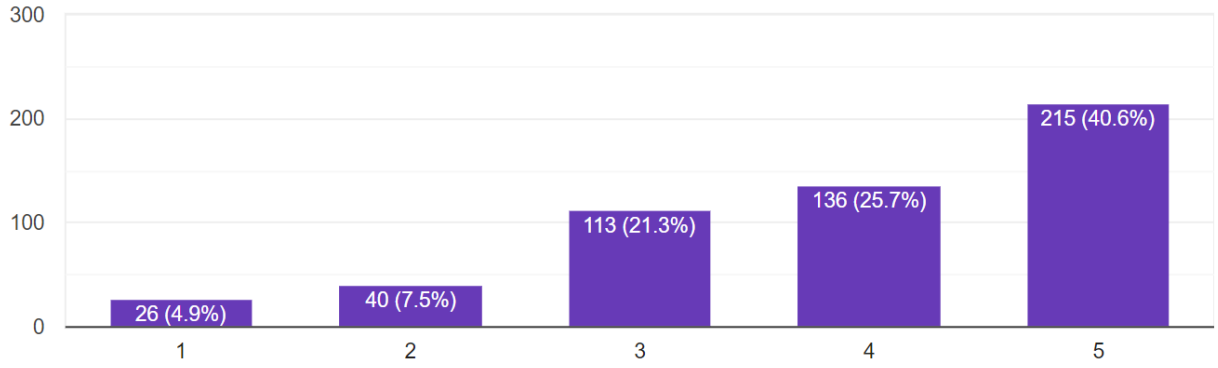
Figure 22: traveler's concern about culture experience before COVID-19.



source: Author.

17. *When you travel AFTER the Coronavirus broke out, how important it is to you to have new cultural experience?*

Figure 23: traveler's concern about culture experience after COVID-19.



Source: Author.

Question 16 and question 17:

One immediately noticeable feature of the two above graphs shows that before COVID 19, most responders evaluate it is important to have a new cultural experience; in fact, 43 percent of people answer as "very important." A similar answer result was performed by a responder with 43 percent choose "very important" after COVID-19. There is only a slight difference between before and after for this case.

To confirm the result again and compare if there is no different traveler choice before and after COVID-19, the t-test below will show us.

Table 10: T-test result of new culturel experience.

	16. When you travelled before the Coronavirus broke out, how important it was to you to have new cultural experience?	*17. When you travel AFTER the Coronavirus broke out, how important it is to you to have new cultural experience?*
Mean	4.109433962	3.894339623

Variance	0.902935407	1.3536541
Observations	530	530
Pearson Correlation	0.51659898	
Hypothesized Mean Difference	0	
df	529	
t Stat	4.690946643	
P(T<=t) one-tail	1.73324E-06	
t Critical one-tail	1.64773918	
P(T<=t) two-tail	3.46648E-06	
t Critical two-tail	1.964458533	

Source: Author

The Null hypothesis of question 16 and question 17: there is no different of traveler's behavior about evaluating the important of experiencing the new culture before and after COVID-19.

The result of running the T-test as the above table shows that P(T<=t) two-tail of $6.47x10^{-6}$ is less than the significant value 0.05, which means the null hypothesis is rejected. That also shows that the difference between means is statistically significant, illustrating different traveler behavior about how they evaluate the importance of experiencing the new culture before and after COVID-19.

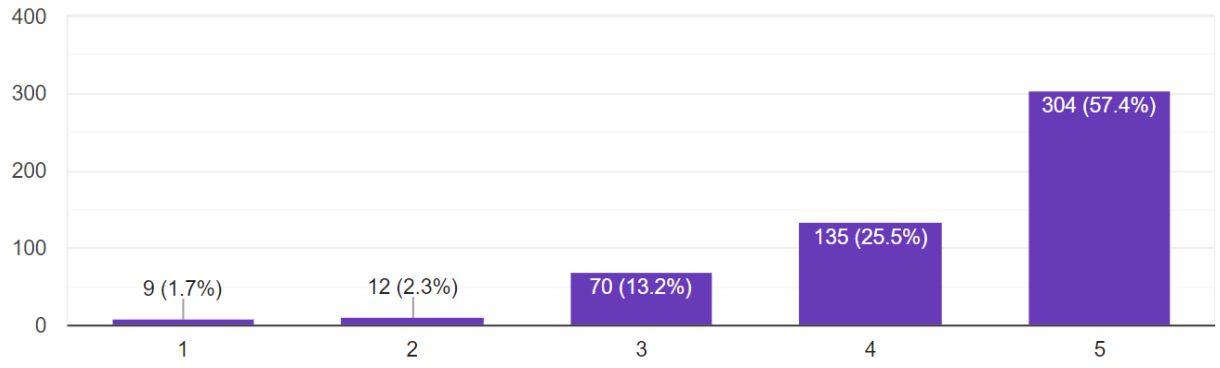
Taking a glance at the means of question 16(before COVID-19), which is equal to 4.11, and the variance which equals 0.90 show that the participant answer has not a narrow range of the option; there is no clear evidence to say which option that the responder chooses the

most, although we could state that the responder looks have higher evaluation the importance of experience the new culture.

The means of question 17 (after COVID-19) equal 3.89, and the variance equal to 1.35 shows that the participant does not opt for only one or two options but more. Nevertheless, compared with the answer before COVID-19, the importance of experiencing new cultures is not higher appreciated as before.

18. *When you travelled BEFORE the Coronavirus broke out, how important it was to you to see natural scenery?*

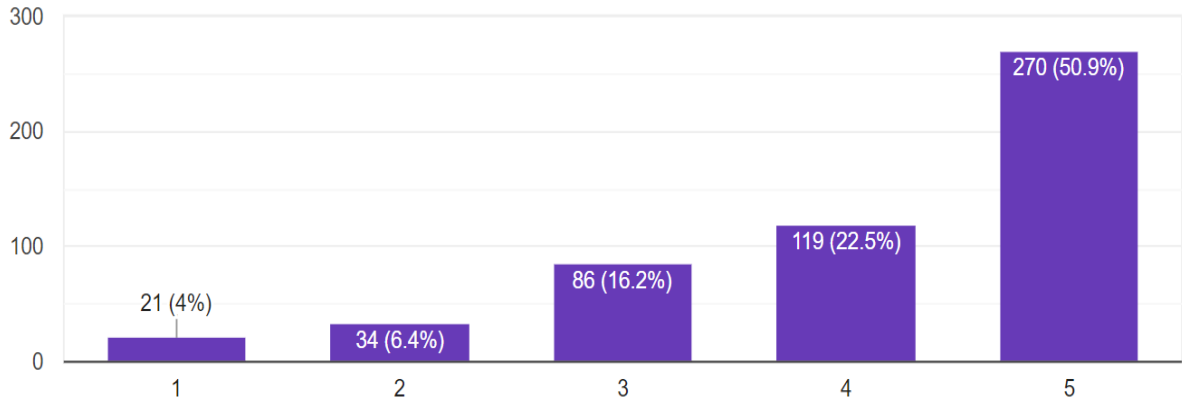
Figure 24: traveler's concern about natural scenery before COVID-19.



Source: Author

19. *When you travel AFTER the Coronavirus broke out, how important it is to you to see natural scenery?*

Figure 25: traveler's concern about natural scenery after COVID-19.



Source: Author

Observing through the two above graphs shows that before COVID 19, more than 50 percent choose "very important" to see the natural scenery during travel. After the pandemic broke out, around half of the responder's answer it "very important" to see sightseeing, this seems almost nothing change comparing between before and after the pandemic.

the T-test of the table below is to test the result of question 18 and question 19 to see if it is different from the accepted proof.

Table 11: T-test result of natural scenery.

	18. When you travelled before the Coronavirus broke out, how important it was to you to see natural scenery?	*19. When you travel AFTER the Coronavirus broke out, how important it is to you to see natural scenery?*
Mean	4.345283019	4.1
Variance	0.831404929	1.27731569

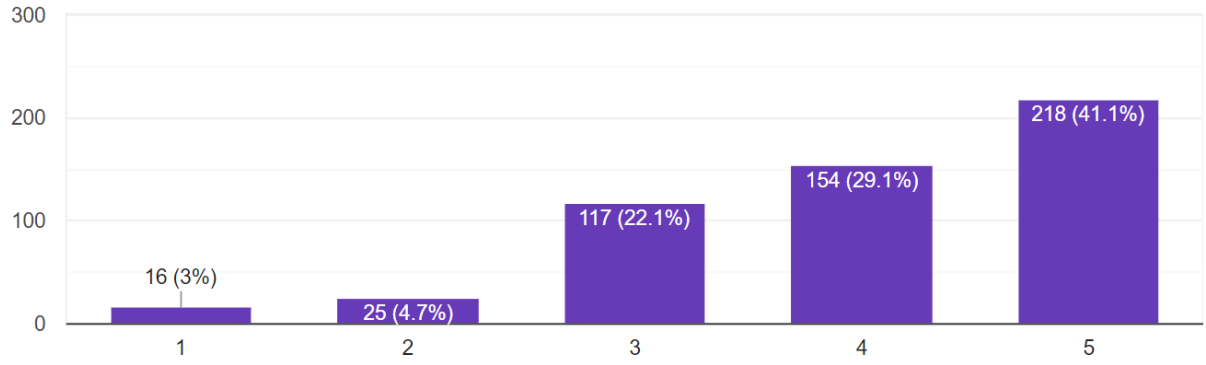
Observations	530	530
Pearson Correlation	0.558935072	
Hypothesized Mean Difference	0	
df	529	
t Stat	5.773104491	
P(T<=t) one-tail	6.63783E-09	
t Critical one-tail	1.64773918	
P(T<=t) two-tail	1.32757E-08	
t Critical two-tail	1.964458533	

Source: Author.

P value is small more than 0.05, there is a different of participant's option before and after COVID-19 but in general Natural scenery is play an important role (more than 50% choose option very important) for participant even have slightly decrease in number of people who evaluate the important of the natural scenery.

20. *When you travelled BEFORE the Coronavirus broke out, how important it was to you to eat local food in the famous restaurant even with crowed people?*

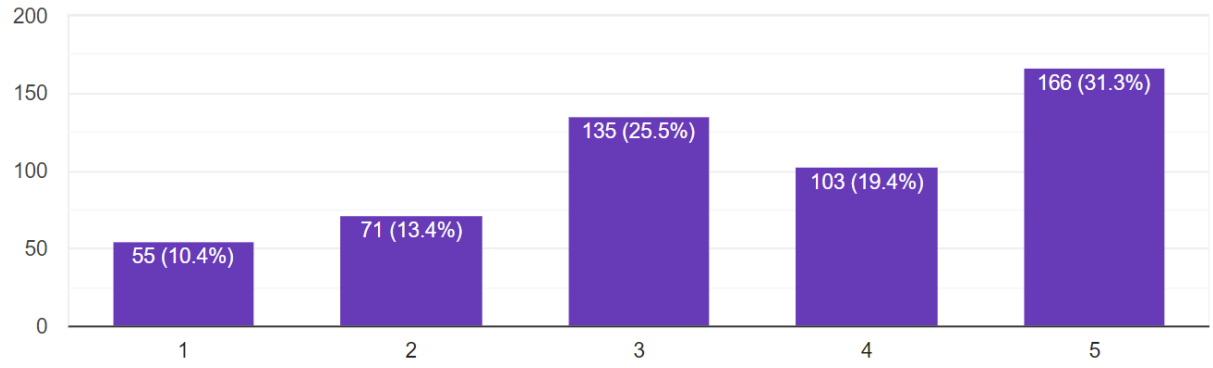
Figure 26: traveler's concern local food before COVID-19.



Source: Author

21. *When you travel AFTER the Coronavirus broke out, how important it is to you to eat local food in a famous restaurant even with crowed people?*

Figure 27: traveler's concern local food after COVID-19.



Source: Author

Question 20 and question 21:

A quick glance at the result of the two above graphs shows that before COVID-19, people seem to have a higher appreciation for the food even if it was a crowded place (41 percent of participants choose "very important" option and 29 percent choose "important" option) This could assume that before the pandemic broke out, nearly almost people have no fear to the crowded places when they want to enjoy the food with figures is only around 7

percent of people evaluate that it is “unimportant” and “very unimportant” to enjoy the food during their travel.

With the post-pandemic, more than 23 percent of responder choose the option “very unimportant” and “unimportant” to try the local food in the famous restaurant. It points out that travelers feel afraid to enter the crowded restaurant comparing with pre-pandemic; however, there is still the tendency to enjoy food in the well-known local restaurant even if it was crowded places.

Testing the result of question 20 and question 21 to see if there is an actual change between pre-pandemic and post-pandemic to traveler choice, the T-test of the table below is considered.

Table 12: T-test result of traveler’s concern about local food.

	20. When you travelled before the Coronavirus broke out, how important it was to you to eat local food in a famous restaurant even crowed with people?	*21. When you travel AFTER the Coronavirus broke out, how important it is to you to eat local food in a famous restaurant even crowed with people?*
Mean	4.005660377	3.479245283
Variance	1.094485858	1.769889788
Observations	530	530
Pearson Correlation	0.485643765	
Hypothesized Mean Difference	0	
df	529	

t Stat	9.854027643	
P(T<=t) one-tail	1.90881E-21	
t Critical one-tail	1.64773918	
P(T<=t) two-tail	3.81762E-21	
t Critical two-tail	1.964458533	

Source: Author.

The Null hypothesis of question 20 and question 21: there is no difference in traveler's behavior about evaluating crowded places before and after COVID-19.

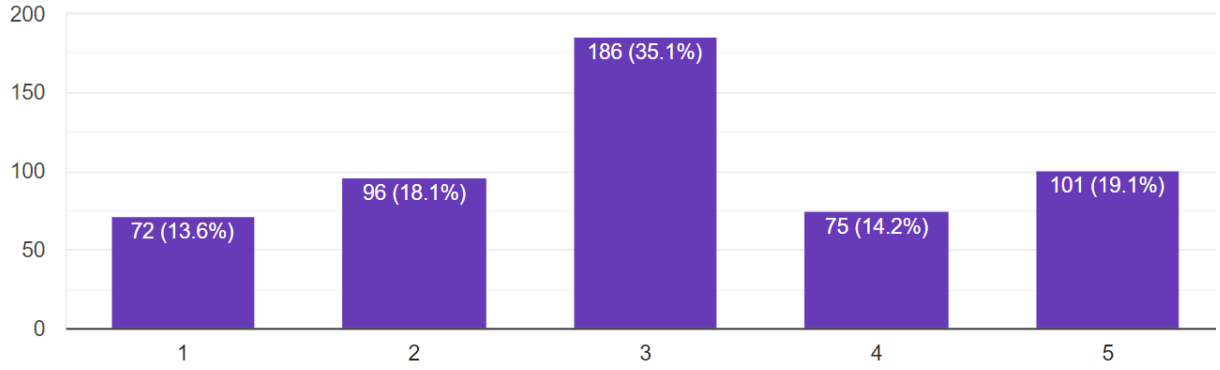
An analysis of the data revealed that P(T<=t) two-tail of $3.82x10^{-21}$ is less than the significant value 0.05 which means the null hypothesis is rejected. It similarly to state that there is a difference behavior of travelers about estimate of how important to try the local food in the restaurant during their journey before and after COVID.

The means of question 20(before COVID-19) equal 4.01, and the variance equal to 1.09 show that the participant answer has an enormous range of the option; there is no explicit confirmation to announce which option the responder picks the most, but it seems food is fundamental to Participant (41.1 %).

The mean of question 21(after COVID-19) equal to 3.48, and the variance equal 1.77 show that the Participant's answer has an enormous range of options; there is no conclusion in this case.

22. *When you travelled before the Coronavirus broke out, how important it was to you to keep distant with people?*

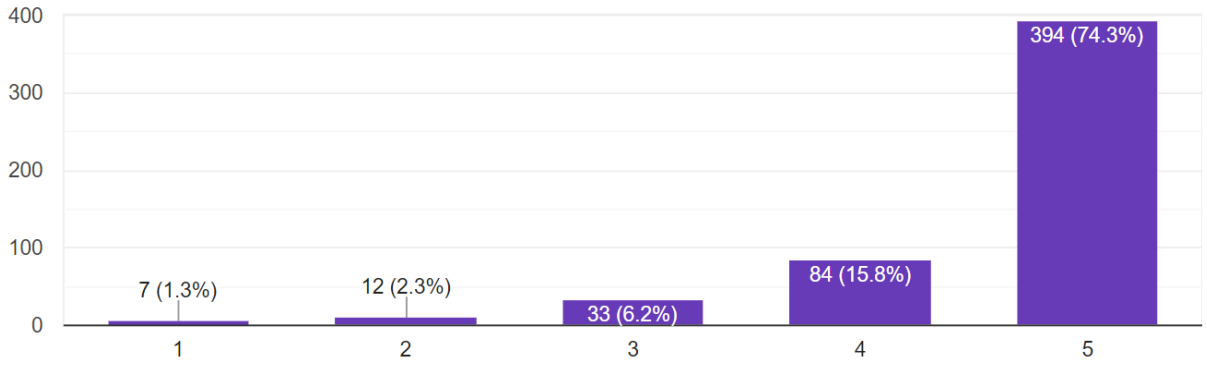
Figure 28: traveler's concern social distance before COVID-19.



Source: Author

23. *When you travel AFTER the Coronavirus broke out, how important it is to you to keep distant with people?*

Figure 29: traveler's concern social distance after COVID-19



Source: Author.

Question 22 and 23:

Observations of two overhead graphs suggest that travelers seem not even to notice the role of keeping distance from people while traveling, with the proof that approximately more than 35 percent of responders pick the "average" as their answer.

Not surprisingly, when the survey outcome shows that more than 74.3 percent of the interviewees evaluate it "very important" to keep distance from people while making their trip. Alternatively, in another way, we could agree in some particular perspective of the consequence that Vietnamese travelers put great attention to their health after experience COVID-19.

For concluding an actual change in the attitude of the tripper pre-pandemic and post-pandemic, the t-test table below could reveal us to jump to the conclusion.

Table 13: T-test result of traveler's concern about social distance.

	22. When you travelled before the Coronavirus broke out, how important it was to you to keep distant with people?	*23. When you travel AFTER the Coronavirus broke out, how important it is to you to keep distant with people?*
Mean	3.069811321	4.596226415
Variance	1.626497129	0.660855298
Observations	530	530
Pearson Correlation	0.127522781	
Hypothesized Mean Difference	0	
df	529	
t Stat	-24.70700567	
P(T<=t) one-tail	1.71128E-90	
t Critical one-tail	1.64773918	

P(T<=t) two-tail	3.42255E-90	
t Critical two-tail	1.964458533	

Source: Author.

The Null hypothesis of question 22 and question 23: there is no difference in traveler's behavior about evaluating the importance of keep distance before and after COVID-19.

The experiment's outcome of running the T-test as the above table shows that P(T<=t) two-tail of $3.427x10^{-90}$ is much tinier than the significant value 0.05, which means the null hypothesis is rejected. That also means the difference between means is statistically significant, illustrating a different behavior about keeping distant while traveling before and after COVID-19.

On the one hand, the means of question 22(before COVID-19) equal 3.07, and the variance equal to 1.63 show that the participant answer has an enormous range of the option; there is no clear evidence to say which option the responder chooses the most.

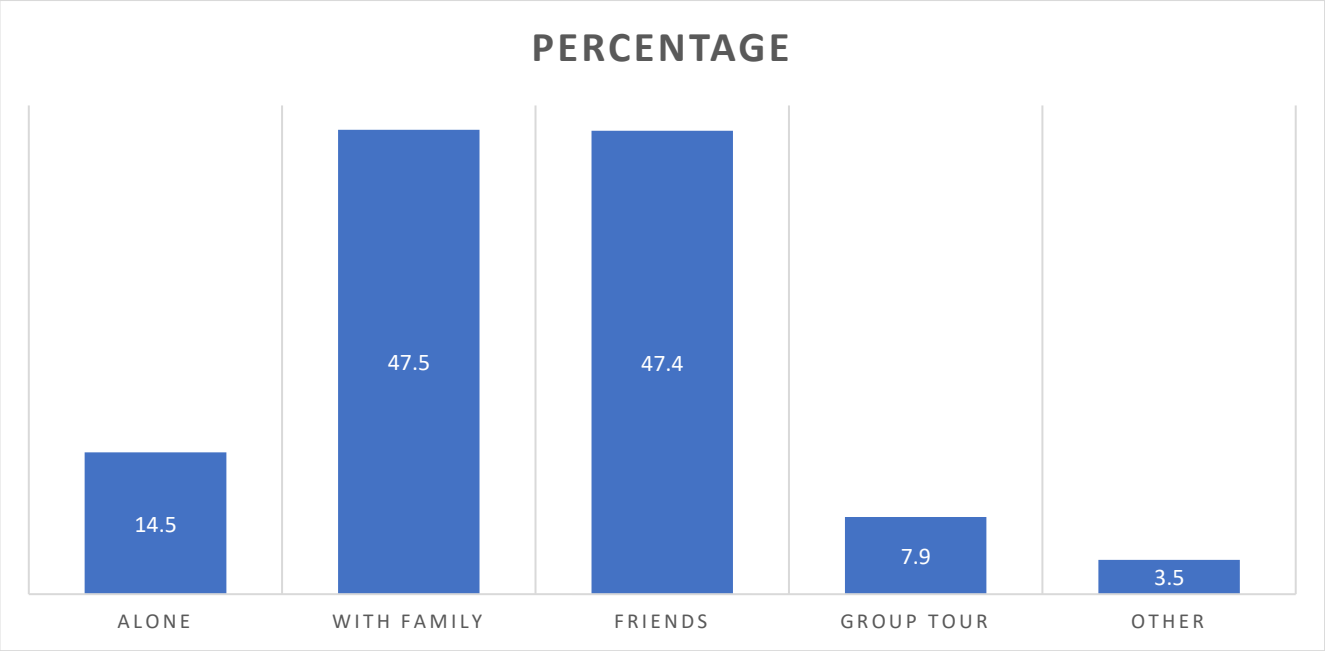
On the other hand, the mean of question 23(after COVID-19) equal to 4.60, and the variance equal 0.66 (relatively small) show that the Participant's answer has a small range of options, mainly is option four and option five, which mean "important" and "very important."

The importance of the above results lends strong support to the argument that the traveler's attitude seems to change after COVID-19; in precisely, the Participant is aware of the importance of keeping distant while traveling.

Comparison of theoretical from t-test results with actual observations confirms that Vietnamese traveler takes their health into account before deciding to travel.

24. *Which way will you prefer to have the next travel?*

Figure 30: traveler's accompany preference for next trip



Source: Author.

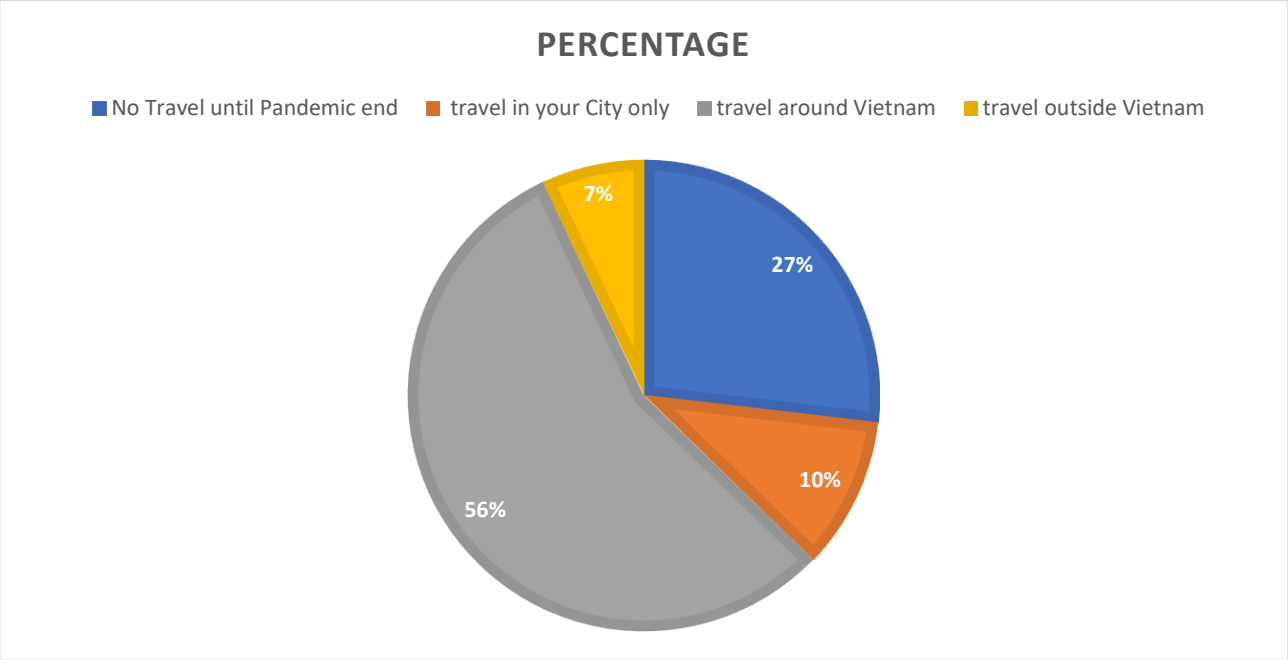
There is a notice that the result has more than 100% if we sum up the answer as above graphs since some participant chooses more than one option.

The responder's answer has identified general trends as Most of them want to travel with their family or friend. With the other options, some sightseers chose not to have any plan to travel in recently.

comparing with previous results mentioned above, it is possible to say that Vietnamese tourists would like to travel with their friends even though COVID-19.

25. *Which way is your preference for the next trip?*

Figure 31: traveler's preference for next trip



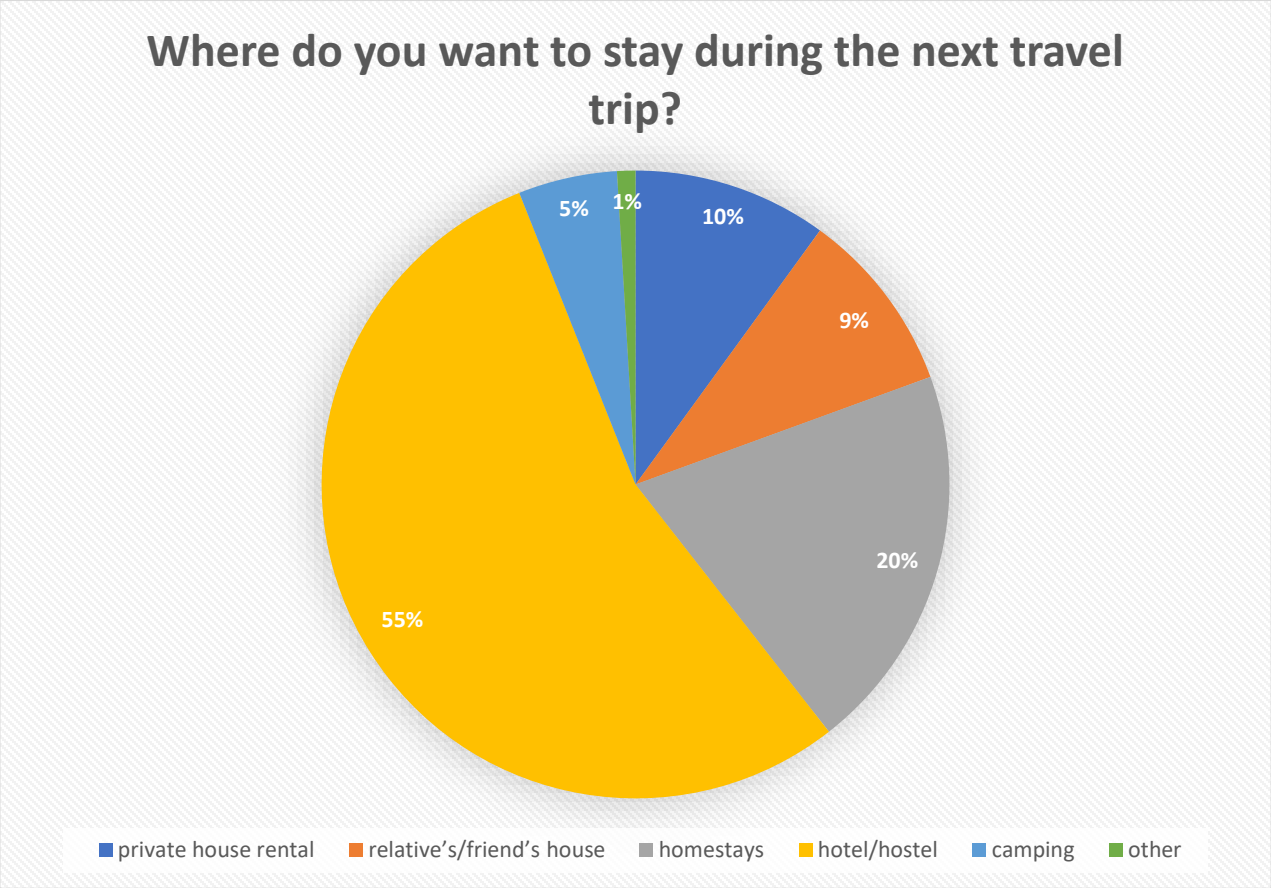
Source: Author.

The result that emerges from the above pie chart shows that more than half of the participants choose to travel within Vietnam for their next journey and one-third of them opt for the option "no travel until the pandemic end."

Interestingly, people would like to travel at least around their place instead of waiting until the pandemic ends. The pleasure of traveling might not stop the willingness of travelers to explore their journey.

26. *Where do you want to stay during the next travel trip?*

Figure 32: traveler's stay place preference for next trip

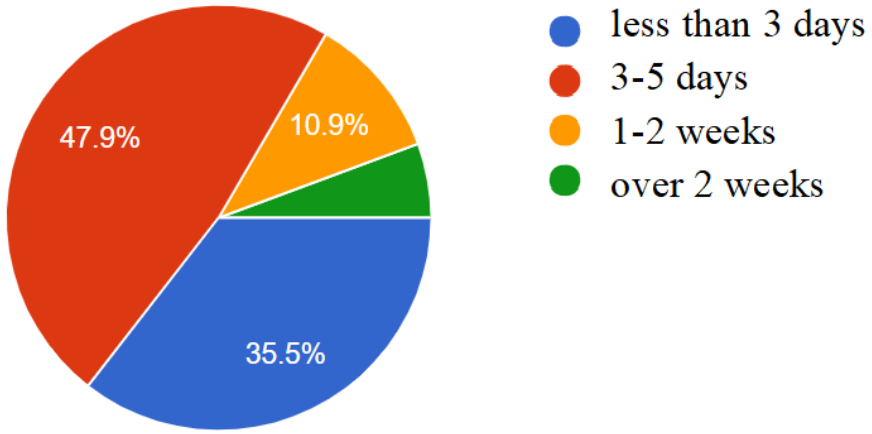


Source: Author.

Most of participant choose hotel to stay (more than 50%) and homestay account for 20%.

27. *How is your next trip length*

Figure 33: traveler's length trip preference for next travel



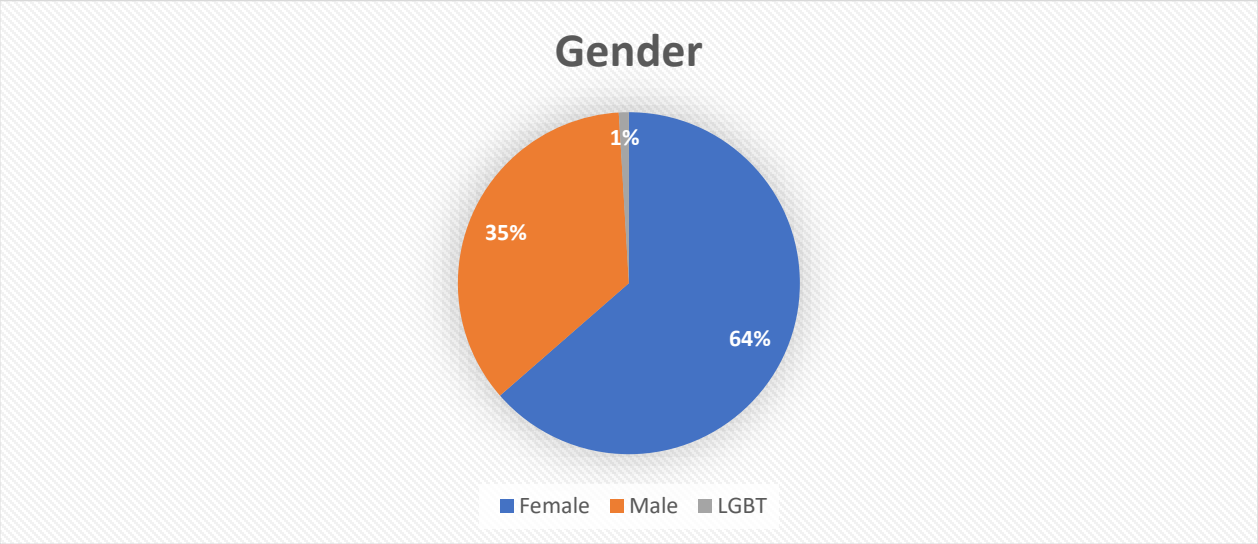
Source: Author.

Most of participants would like to have their trip lengh less than a week.

DEMOGRAPHICS PART:

28. *Please choose your gender:*

Figure 34: traveler's gender.

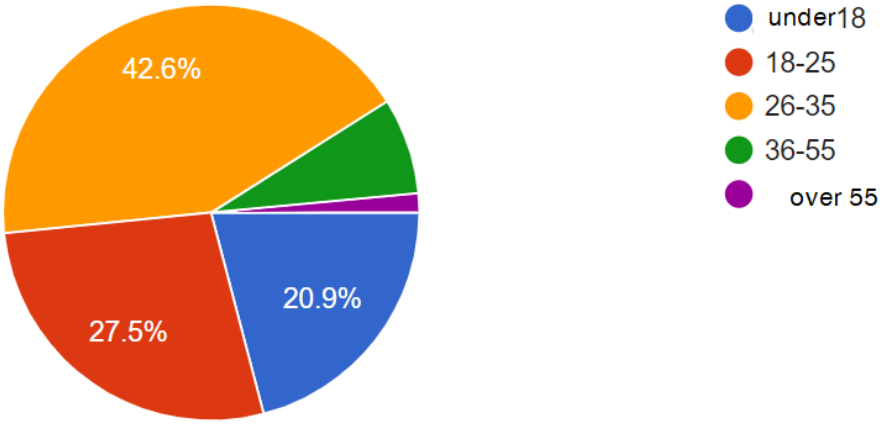


Source: Author.

Females are the main respondents which account for 63.7 percent, male account for 35.7% and 0.6% is belong to LGBT (lesbian, gay, bisexual and transgender) group.

29. *Which age group are you?*

Figure 35: traveler's age.



Source: Author.

The age group 26-35 are strong majority of participant which accounts for nearly a half of 530 responders while under 18 and 18-25 are nearly account for the same portion which respectively 27.5% and 20.9%.

***30.**. Please, name your City of residence:*

Table 14: traveler's cities and countries.

NUMBER	CITY	COUNTRY
1	Copenhagen	DENMARK
2	Paris	FRANCE
3	Leipzig	GERMANY
4	Soest	GERMANY
5	Ascoli Piceno	ITALY
6	Calabria	ITALY
7	Este	ITALY
8	Firenze	ITALY
9	Foggia	ITALY
10	Grado	ITALY
11	Messina	ITALY
12	Milan	ITALY
13	Modena	ITALY
14	Padova	ITALY
15	Perugia	ITALY
16	Rende	ITALY
17	Turin	ITALY
18	Venezia	ITALY
19	tokyo	JAPAN
20	Lisboa	PORTUGAL
21	Barcelona	SPAIN
22	Mallorca	SPAIN
23	Taipei	TAIWAN
24	Bangkok	THAILAND
25	An Giang	VIETNAM
26	Bà Rịa- Vũng Tàu	VIETNAM
27	Bắc Giang	VIETNAM
28	Bắc Ninh	VIETNAM
29	Buôn Ma Thuột	VIETNAM
30	Cần Thơ	VIETNAM
31	Đà lạt	VIETNAM
32	Đà Nẵng	VIETNAM

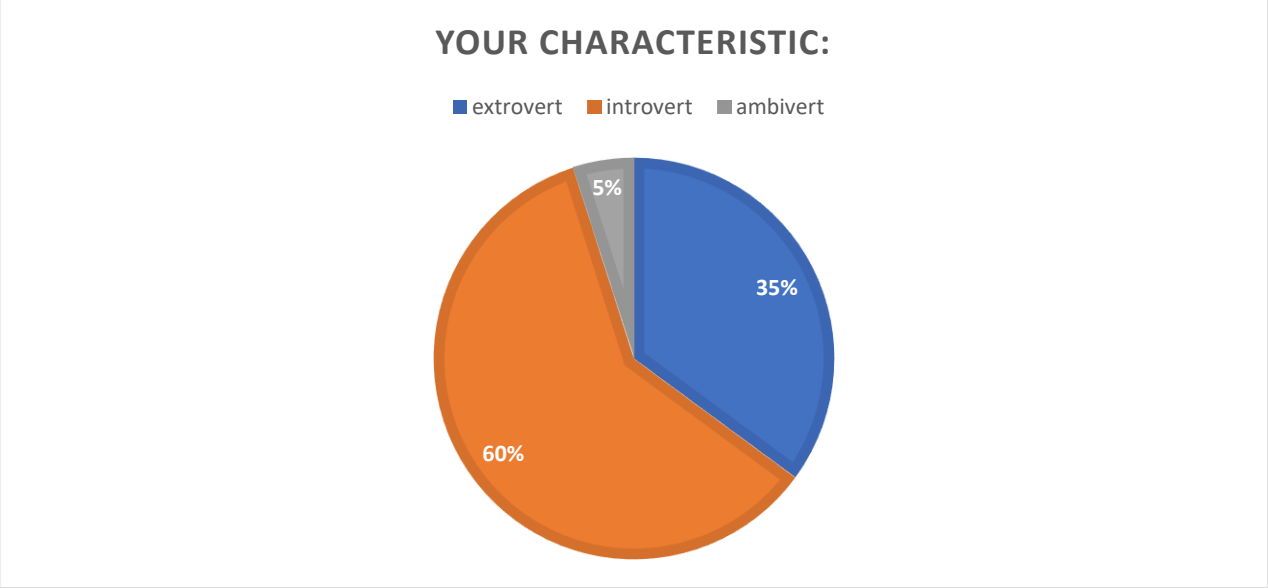
33	Đồng Nai	VIETNAM
34	Đồng tháp	VIETNAM
35	Gia Lai	VIETNAM
36	Hà Nội	VIETNAM
37	Hồ Chí Minh	VIETNAM
38	Quảng Trị	VIETNAM
39	Quy Nhơn	VIETNAM
40	Thành phố Hội An	VIETNAM
41	Thành phố Huế	VIETNAM

Source: Author.

According to the data collected, all responders are Vietnamese, and 45 over 530 are currently living outside of Vietnam (in 10 countries following by 41 cities) and are students. The rest of them mostly live in Ho Chi Minh city and Ha Noi city, the two biggest cities in Vietnam.

31. *Your Characteristic:*

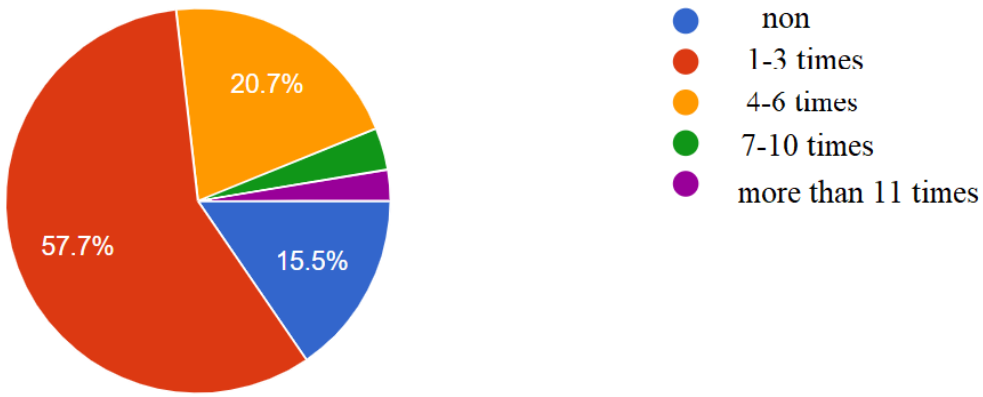
Figure 36: traveler's trait.



Source: Author.

32.*. How many times did you travel in your country 2019?*

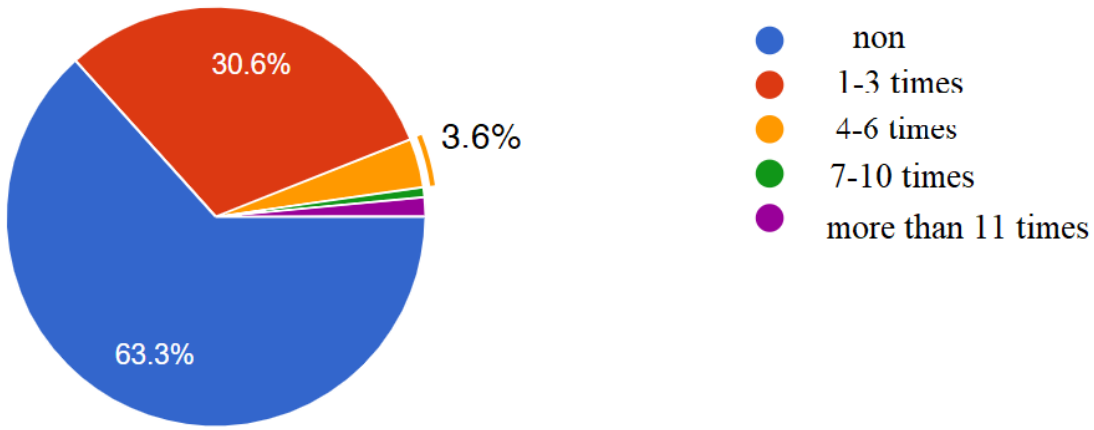
Figure 37: traveler's history inside country.



Source: Author.

33. *How many times did you travel outside your country 2019?*

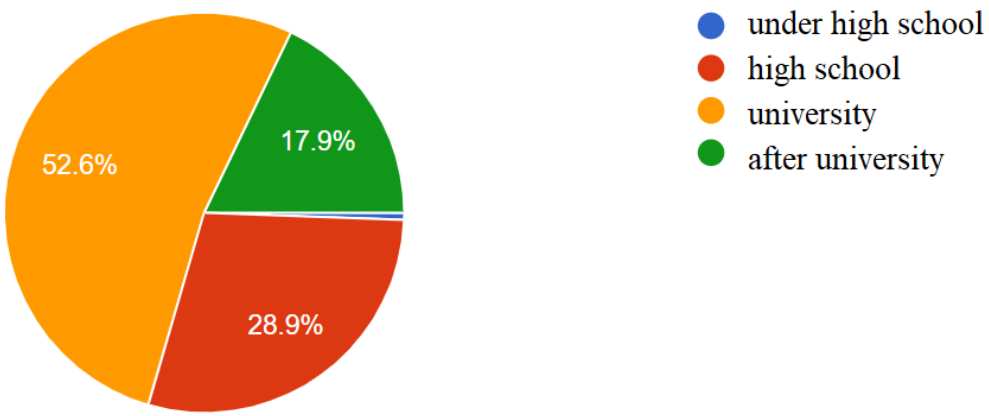
Figure 38: traveler's history outside country.



Source: Author.

34. *What is your level of study?*

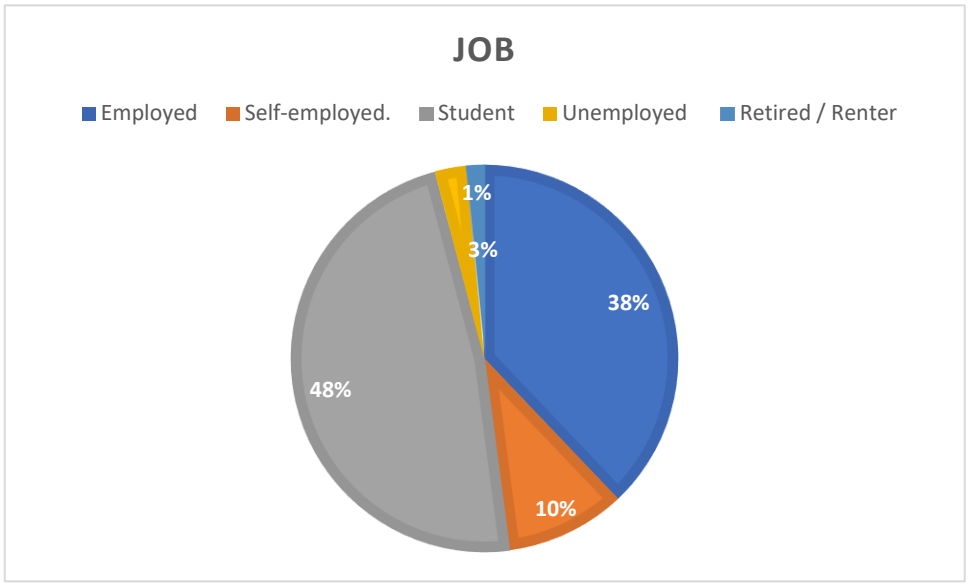
Figure 39: traveler's study level.



Source: Author.

35. What is your job?

Figure 40: traveler's job status.



Source: Author.

Data were collected from November 4 to November 21, 2020. A survey was built with 35 questions directly on Vietnamese travelers on the google docs platform and spread via Facebook and directly linked to all people I know and their friends. The survey link was also appearing in some Vietnamese travel groups on Facebook, so a small group of participants live worldwide but mainly in Vietnam. The analysis was conducted using Google docs and Excel. A questionnaire was chosen as the research method for this thesis with google docs online form is because of the popularity of Google Forms in surveying in Vietnam. The survey was translating into the Vietnamese language. The participants, especially young people, are active and familiar with the internet and Facebook. According to Statista website, Vietnam has around 68 million Facebook users. Forty-seven percent of Facebook users use it more than three hours per day. Seventy-three percent of the user has comments to post and 66 percent share posts. 44% of the user has more than 400 friends in their friend list. This could explain why within 17 days, the survey reached 530 participants, which could be considered the large sample size (over 500 respondents). The questionnaire included several different blocks of questions. At First, Demographic characteristic of participants- gender, age, city of currently living, character, experience (number of trips in last year in Vietnam and outside of Vietnam), Education, current job status. Secondly, Opinion of the participant about pre-and post-pandemic about travel motivation and preference: meet new friend, local foods, sightseeing, culture experience, accompany the person. Thirdly, the block of tourist perception of new hygiene, physical distance, and insurant. The four groups are about travel intention. Last but not least, some questions about how they evaluate the danger of some popular visiting place for Vietnamese at the current survey time.

26-35, the age group is a substantial majority of participants, which accounts for nearly a half of 530 responders while under 18 and 18-25 account for the same portion, respectively, 27.5% and 20.9%. Around 70 percent of participants have university or master's degrees, and these also travel the most. The travel experience in the past could be valuable to demonstrate if the Coronavirus pandemic has any impact on the regular travel habit of responders or not. More than 26.8 percent of responders have traveled more than four times, and 57.7% have traveled (from 1 to 3 times in 2019) within Vietnam. Furthermore,

36.7 percent of them have been traveled outside Vietnam. This proved that the responders belong to the active travel group. Talking about characteristics, around 60% of them confirmed that they are introverts,35% thought they are extroverts, and 5% are ambivert. By observing from data, the Extrovert group shows that they are more active travel comparing to Introvert one with more than 40 percent of them have been traveled more than four times per year within Vietnam and 45 percent of them has already traveled outside Vietnam while respectively only 19 percent and 31 percent for the introvert group.

4.3 Spearman rank correlation

We have:

- Question 6 (Q6): BEFORE the COVID-19 pandemic, how important was it of the health system in the tourist destination which you choose.
- Question 7 (Q7): AFTER the COVID-19 pandemic, how will you rate the importance of the health system in the tourist destination which you choose?
- Question 8 (Q8): BEFORE the Coronavirus, how important was to you to wear mask and to use hand cleaning while travelling?
- Question 9 (Q9): AFTER the Coronavirus, how important it is to wear the mask and use hand-cleaning did you think while traveling?
- Question 10 (Q10): BEFORE the Coronavirus, how important was the flight and trip insurance coverage to you?
- Question 11 (Q11): When you travel AFTER the Coronavirus, how important is the flight and trip insurance coverage to you?
- Question 12 (Q12): When you travelled before the Coronavirus broke out how important it was to get together with other friends?
- Question 13 (Q13): AFTER the Coronavirus broke out, how important it is to get together with other friends when you travel?
- Question 14 (Q14): Before the Coronavirus broke out how important it was to meet new people When you were travelling
- Question 15 (Q15): AFTER the Coronavirus broke out, how important it is to meet new people when you travel?
- Question 16 (Q16): When you travelled before the Coronavirus broke out, how important it was to you to have new cultural experience?

- Question 17 (Q17): When you travel AFTER the Coronavirus broke out, how important it is to you to have new cultural experience?
- Question 18 (Q18): When you travelled before the Coronavirus broke out, how important it was to you to see natural scenery?
- Question 19 (Q19): When you travel AFTER the Coronavirus broke out, how important it is to you to see natural scenery?
- Question 20 (Q20): When you travelled before the Coronavirus broke out, how important it was to you to eat local food in the famous restaurant even with crowed people?
- Question 21 (Q21): When you travel AFTER the Coronavirus broke out, how important it is to you to eat local food in the famous restaurant even with crowed people?
- Question 22 (Q22): When you travelled before the Coronavirus broke out, how important it was to you to keep distant with people?
- Question 23 (Q23): When you travel AFTER the Coronavirus broke out, how important it is to you to keep distant with people?
- Question 27 (Q27): How is your next trip length?

By Running the Correlation with calculation by excel, we are finding the correlation of all the above nineteen question with:

- Gender
- Age
- Characteristic.

Accordingly, with the previous analysis, a statistically significant correlation (|R| value near to 1) might not illustrate the strength of observing data is strong. The P-value demonstrates if the probability of this strength happens by chance. Therefore, only select the data

containing P-value less than 0.05iv (if P-value is more than 0.05, we could not have enough evidence to conclude whether it is a correlation or not) to identify how strong the correlation is the variables that are examining.

4.3.1. Gender with variables that could be affected by COVID-19.

The correlation number R and p-value which is selected in the yellow square of table illustrate there is an existing correlation between two variables that are examining.

Table15: correlation of gender to 19 mentioned question.

QUESTION	CORRELATION OF GENDER (R) (Female-Male-LGBT)	P-VALUE
question 6 (Q6)	0.110064	0.011
question 7 (Q7)	0.018193	0.676
question 8 (Q8)	0.031770	0.465
question 9 (Q9)	-0.097500	0.025
question 10 (Q10)	0.077913	0.073
question 11 (Q11)	-0.084360	0.052
question 12 (Q12)	-0.013070	0.764
question 13 (Q13)	0.007145	0.870
question 14 (Q14)	0.031813	0.464
question 15 (Q15)	-0.000620	0.989
question 16 (Q16)	-0.042823	0.324
question 17 (Q17)	-0.034590	0.425
question 18 (Q18)	-0.032290	0.456
question 19 (Q19)	-0.071630	0.098
question 20 (Q20)	0.004304	0.921
question 21 (Q21)	-0.014550	0.736
question 22 (Q22)	0.025720	0.551
question 23 (Q23)	-0.118510	0.006
question 27 (Q27)	0.090780	0.035

Source: Author.

As observing from above table 15, it shows that there is correlation between Q6, Q9, Q23 and Q27 and gender. In specific,

[iv] Check the analysis on Methodology part b again.

- In the row of question 6, With the Correlation of R equal 0.110064, we can state a positive correlation between gender and the importance of the destination's health system. Although, this correlation coefficient is very weak. Thereby demonstrating that male tends to give more importance to the destination's health system than women do before COVID-19 even though it is a weak one. Furthermore, the correlation substantially disappears after the COVID-19 breakout (question 7).
- In the row of question 9 of the table, as the tested result in the table, Spearman's correlation coefficient equal to -0.097. It could state that there is a negative relationship between gender and the importance of wearing the mask and using hand-cleaning after COVID-19, although this correlation is very weak. Particularly, Females tend to evaluate more significance of personal hygiene than men do.
- In the row of question 23, the correlation coefficient is -0.118, which illustrates a negative relationship between gender and the importance of keeping distance with people while traveling in the post-pandemic. However, it is a very weak relationship. Furthermore, it demonstrates that females tend to evaluate as more important the distance between people when they travel than males.
- Last but not least, in the final row of the above table, with Spearman's correlation coefficient equal to -0.097, it shows a negative relationship between gender and the length of the trip after COVID-19. However, this correlation seems very weak. In particular, male travel tends to shorter than female trip post-pandemic time.

To summarize, after COVID-19, women are more careful about personal protection, but men tend to shorten their trip duration (and they were more concerned about the Destination health system before COVID-19). Nevertheless, those correlation are weak.

4.3.2. Age with variables that could be affected by COVID-19.

In the case of P-value, if it is smaller than 0.05, then exist the correlation between the two examined variables. In this situation, the value of the blue square of the below table could show that there is an existing correlation between two variables that are examining (could be negative or positive)

Table 16: correlation of Age with 19 mentioned questions. (source: Author)

QUESTION	CORRELATION OF AGE		P-V
question 6 (Q6)	-0.1060		
question 7 (Q7)	0.0077		
question 8 (Q8)	-0.1731		
question 9 (Q9)	0.0672		
question 10 (Q10)	-0.1067		
question 11 (Q11)	0.0046		
question 12 (Q12)	-0.0742		
question 13 (Q13)	-0.0250		
question 14 (Q14)	-0.1451		
question 15 (Q15)	-0.0632		
question 16 (Q16)	0.1054		
question 17 (Q17)	0.0961		
question 18 (Q18)	0.1021		
question 19 (Q19)	0.1303		
question 20 (Q20)	0.0008		
question 21 (Q21)	-0.0170		
question 22 (Q22)	-0.2997		
question 23 (Q23)	0.0073		
question 27 (Q27)	-0.0474		

As seen in figure of above table 16, it reveals the correlation between Q6, Q8, Q10, Q14, Q16, Q17, Q18, Q19, Q22 and age. In specific,

- In the line of question six, with the correlation number R equal -0.1060, It illustrates that there is a very weak, negative relationship between age and the importance of the health system before the Pandemic. In other words, we could jump to the conclusion as the Younger traveler tends to evaluate more significance of the health system before COVID-19 than an elderly one.
- In question eight, we could clearly understand the negative relationship between age and the importance of wearing the mask and using hand cleaning Before COVID-19 because the significant number of the correlation number R equal -0.173. Specifically, the Younger traveler tends to evaluate more importance of personal

hygiene than the older one. Eventually, with a high statistical significance where P-value is much less than 0.0001, it is still a very weak correlation (R is too close to 0).

- In the line of question 10, the value -0.1067 of the correlation number shows that there is a very weak and negative relationship between age and the importance of the flight and trip insurance cover pre-pandemic. Specifically, the young traveler tends to give a higher expectation to the safety of flight and the benefit of insurance the older traveler.
- Come to question 14, and there is similar to the above result, it is not a surprise to see the correlation number equal to -0.1451. It means a negative and a very weak relationship between age and the importance of meeting new people while traveling Before COVID-19. Younger travelers again show their intention to meet new people while traveling before COVID-19 than the older ones do.
- When it comes to questioning 16 with the correlation R equal 0.1054, the result Surprised us with the exciting change. The exciting thing mentioned is that there is a very weak, positive relationship between age and the importance of experience the culture while they have a journey. More specifically, the older people seem to have more intention to discover the local knowledge before the pandemic break-out.
- Come to question 17, and the correlation number still shows the positive relationship between age and the importance of discovering local culture. Although this number equals 0.0961, it shows that the correlation seems weaker before the COVID-19 turn erupts the world. But we could not deny that the elderly traveler still has local culture intention more than the younger do in the post-pandemic time.
- With questions 18 and 19, the correlation number of those mentioned questions is respected at 0.1021 and 0.1303, showing a positive but very weak relationship between the importance of seeing natural view with age. Generally, there is a weak, positive relationship between age and the importance of having the trip's natural scenery while traveling before and after COVID-19. Younger traveler tends to evaluate less critical of this issue than an older one.
- The result of question 22 shows that there is a substantial negative correlation between age and the importance of keeping the distance of people while having a trip with the period before COVID-19 occur (R equal -0.2997). In this case, the

correlation is still weak but not weaker than the previous analysis case. In other words, we could say that the younger traveler feels more unsafe with the crowded than how older people could handle.

The main point of this section has been to summarized as there were differences due to age before the pandemic; the COVID-19 breakout seems to have created more even attitudes across age cohorts. However, older travelers consistently appreciate more the Destination cultural and natural assets than the younger ones.

4.3.3. Traits with variables that could be affected by COVID-19.

As we are looking for a correlation coefficient between traits and other variables, we select the value with a P-value of less than 0.05. In this situation, the value of the green square of the below table is correlated (could be negative or positive)

Table 17: the correlation of Characteristic with 19 mentioned questions. (Source: Author)

QUESTION	CORRELATION OF CHARACTERISTIC (INTROVERT-AMBIVERT-EXTROVER)	P-VALUE
question 6 (Q6)	-1.0000	0
question 7 (Q7)	-0.3796	1.2E-19
question 8 (Q8)	-0.4718	7.7E-31
question 9 (Q9)	-0.1104	0.0108
question 10 (Q10)	-0.5171	7.7E-38
question 11 (Q11)	-0.2635	6.0E-10
question 12 (Q12)	-0.1365	0.0015
question 13 (Q13)	-0.1302	0.0025
question 14 (Q14)	-0.1983	3.6E-06
question 15 (Q15)	-0.1771	3.5E-05
question 16 (Q16)	-0.0782	0.0692
question 17 (Q17)	-0.0795	0.0645
question 18 (Q18)	-0.0746	0.0826
question 19 (Q19)	-0.1144	0.0076
question 20 (Q20)	-0.1023	0.0170
question 21 (Q21)	-0.1793	2.6E-05
question 22 (Q22)	-0.3645	1.3E-18
question 23 (Q23)	-0.0953	0.0259
question 27 (Q27)	-0.0235	0.5839

The result of a Spearman's correlation was run to define the relationship between the characteristic (Introvert, Ambivert and Extrovert) and variables that could be affected by the Corona pandemic. What shows in the table 3 is illustrated the correlation between Q6, Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q19, Q20, Q21, Q22, Q23 and traveler's traits. In specific,

- In the content of question 6: We detected there is a perfect negative correlation with an absolute statistical significance (p-value equal 0) between character and the importance of the destination's health system before COVID-19 breakout (R=-1). The extremely low P-value level shows us that the correlation is perfect 100% of the time. In specific, extrovert traveler tends to evaluate less important of the destination's health care system than introvert ones.
- When it comes to questioning number 7, this could be formally reported as follows: the correlation coefficient of traits and the important destination health system is -0.37963. There is a weak, negative correlation between the importance of the health system in the tourist destination and traveler's traits after COVID-19. It seems likely that the Extrovert tripper considers the importance of the health system more than the introvert.
- Talking about question 8 and question 9: We also found a negative relationship between the importance of wearing a mask and using hand cleaning while traveling and characteristic of a tourist before and after COVID-19 (R= -0.47178 and R= -0.11037 respectably). However, the correlation coefficient of variables before the pandemic is moderate; instead, the correlation coefficient of variables after COVID-19 is considered a very weak relationship. It also seems likely that the Extrovert tripper considers the importance of wearing a mask and using hand cleaning while traveling more than the introvert before or after the COVID-19 period.
- Question 10 and question 11: Similar negative results have been found in the relationship between traveler trait and quality of flight and insurant follow by before and after Coronavirus Pandemic with R= -0.5171 and R= -0.26351, respectively. But, with R of -0.5171, this correlation is moderate, while the other R of -0.26351 shows

a weak correlation. Outgoing tourists seem to have higher evaluations about quality of flight and insurant follow by more than introvert tripper even before or after COVID-19.

- In question 12 and question 13: Another similar very weak, the negative relationship has been recorded between tripper trait and importance of getting with friends before and after pandemic with the correlation coefficient R= -0.13023 and R= -0.13023. Once again, introverted travelers did not highly consider getting together with friends during the trip than the extroverted tripper.
- The above table indicates question 14 and question 15: The correlation of tripper trait and the importance of meeting new people while traveling is negative and very weak, as shown in the table with R=-0.19832 for before COVID-19 and R= -0.17714 for after COVID-19. In other words, we could state that meeting new people matter seems to be more important for an extrovert traveler than an introvert one.
- Similar results have been obtained by question 19 of the above table: We determine a very weak and negative relationship between the characteristic of traveler and the importance of seeing natural scenario while traveling after pandemic break out (With R=-0.11435). In specific, the introvert tripper tends to evaluate as more important of the natural scenario than the extrovert one after COVID-19 happened.
- In question 20 and question 21, A similar negative, very weak correlation is performed between the importance of eating local food while traveling and the traits of tripper with R=-0.10233 for before COVID-19 time and R=-0.10233 for after COVID-19. It seems clear that Extrovert traveler has more interesting in local food while travel compares with introvert trippers.
- When it comes to questioning 22 and question 23: As observed, there is a weak and negative relationship between traveler characteristics and the importance of keeping distant with people while traveling before COVID-19 (with the correlation coefficient R=-0.36454). Meanwhile, with R=-0.09528 for after COVID-19, we could state that there is a very weak and negative relationship between the traits and the

importance of social distancing. Particularly, Introvert travelers tend to evaluate more importance of this matter than an extrovert traveler.

Summarizing, in general self-assessed psychological traits seem to be the most powerful variable affecting travelers' attitudes. Maybe unsurprisingly, extroverts like more traveling with friends, meeting new people, and tying local food. Introverts prefer nature and landscape. These attitudes have not overall been affected by the pandemics. On the hygiene side, introverts tend to be more careful about respecting social distancing, while extroverts are more prone to wear masks. Again, this seems consistent with their psychological trait.

CHAPTER 5: CONCLUSION AND RECOMEMDATION.

This study has attempted to discover the change in traveler's behavior in the context of the Pandemic COVID-19 by performing the T-test. Additionally, in the effort to find which factor has a correlation and is affected by this crisis, a Spearman's rank-order correlation is selected. However, to understand the current background after being hit by COVID-19, the first chapter introduces the definition of Pandemic, the history of the Pandemic, and its effects on the tourism industry. The second chapter examines previous research in crisis and how its influents on tourism activities. The third chapter shows the methodology to use in the paper and explains how to use excel to perform it. The next chapter describes and discusses the result after running the test. This chapter is divided into three sections: the initial section is for the author to describe the detail of conducted surveys; the next section is to verify the T-test result. In particular, After COVID-19 break out, the traveler would like to cancel or change the travel route of their trip instead of changing the travel date or keep to travel. They also put more intention to the national government announcement to find the information for their next travel trip. The destination's health care system, personal hygiene as wearing the mask and cleaning hand, quality of flight, insurance, social distancing is an essential factor that traveler would look for and put intention in it before having new trip while traveling with friends, cultural experience, natural sightseeing, local food is the factor not appreciate as before. In the last section, the Spearman rank correlation result shows that men would like to decrease their trip duration, while women put their intention on personal protection. The older traveler seems to appreciate more destination culture or landscape than the younger one does for the age section.

Last but not least, tourists' trait seems to be the most dominant variable affecting traveler's behavior. Extroverts, predictably, like to travel with their buddies, explore new people, and discover the local cuisine. Nature and scenery are preferred by introverts. The pandemics have had no overall effect on these behaviors. In terms of hygiene, introverts are more conscientious about maintaining social distance, while extroverts are more likely to wear masks. Once more, this seems to be aligned with their personality.

The results of this thesis are pretty interesting for any research institution and entrepreneurs in the tourism industry because it is an up-to-date topic; furthermore, the cognition of tourists would directly represent the future of home country travel background. According to a remarkable number of participants (530), the conducting survey would be considered reliable. The more data is collected, the more trustful result is because it represents the average of the responder's answer. Based on those responders, several points are worth reiterating, and the following number of tentative conclusions could be drawn.

International and national travel directly affect the tourist sector, but as soon as the route is reconnected, the national border is opened; the tourist activities will be restarting. However, having the right strategy to prepare before welcoming the travelers is essential. Notwithstanding, COVID-19 is a contagious infection, as well as some tourists are perturbed and petrified of being potentially infected by it; timely development of vaccines has been authorized to attenuate and against this virus, but the speed of vaccination is still slow, and this speed is different according to each country. So that, the hygiene or social system must be the factor that we should take into account. A safe distant table for a restaurant or hotel should be listed in the first step when re-open. The flight airline company and the transportation means have to notice the protecting factors about personal cleaning and the safe of flight or the traveler insurance. The door-to-door service could be another essential strategy since travel restriction still processes because of the risk of virus mutate or the lack of efficient government control. The marketing strategy about tours should address the right customers accordingly to their gender, age, and traits. Government should take advantage of the influence announcement to citizens and have the right to encourage or advise the other priorities. Online options should be developed and update.

From my personal point of view, people tend to forget the painful past. They would move on and leave behind the unexpected things. COVID-19 had such a significant impact on Vietnam travelers' decisions, while Vietnam was not severely hit by this Pandemic (counting until May 2021). The effect on travelers of other countries could be more significant. Nevertheless, the global impact of the Coronavirus pandemic in tourism will

depend on the efficacy of the worldwide vaccination process. People could forget and start traveling again, and infections become just a distant memory. Give the feeling to tourists that they can be safe while travel is the most important. Significantly, vaccination passports as devised by the government could help create a sense that it is possible to have a safe way to travel. Island or independence location that a "COVID free" to create and give the tourists a safe vacation could be a strategy to take back income of tourism. As COVID-19 did not hit hard, like Vietnam, another place could take advantage of this fact. We could make a lot of publicity to its measures that stopped COVID-19 spreading in Vietnam and make Vietnam a desirable destination for tourists, vaccinated tourists. Tourist destinations should hurry up with vaccination campaigns and publicize how safe that country or place is.

The main limitation of the current thesis is that the pandemic has been processing and expanding without any proper perspective.

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