

COVID-19 IMPACTS ON ONLINE SHOPPING DECISION OF THE STUDENTS IN HO CHI MINH CITY

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ABSTRACT

The aim of this study was to determine the impact of COVID-19 on the online shopping decision of university students in Ho Chi Minh City (HCMC). Another objective was to define the research framework of five factors including the following platform design and utilities, products, services, security issues, and COVID-19 guidance for safe delivery. Qualitative research along with questionnaire and document review was used to achieve the above objectives. A questionnaire was sent, and 207 responses were received. The results of the study showed that five factors found had an impact on shopping decision of students in HCMC. Under this context, e-commerce should consider the elements that lead to the decision of customers to take online shopping as a means of buying products/services. The shopping habit of consumers constantly changes, so if businesses cannot make changes fast enough to keep up, it is possible for them to run out of business. It is necessary for businesses to adapt the recent knowledge and data about new influencing attributes to be able to offer what consumers need. Therefore, this study requires continuous research.

Keywords: COVID-19, online shopping, e-commerce, shopping decision

INTRODUCTION

Background of the research

On December 12th, 2019, a new virus called Coronavirus or COVID-19 emerged from Wuhan, China, sparking a pandemic of acute respiratory syndrome in humans. This outbreak has negatively affected many entities including the retail systems and trading businesses. Because of which, many Vietnamese have turned to online shopping platforms to buy necessities during the difficulties caused by COVID-19.

It is not true to think that only after the pandemic did E-commerce become the norm. E-commerce platforms have been popularized and used in Vietnam for many years, following the development of technology and IT equipment. Vietnam has a large and young population with rising incomes, increasing consumer confidence, expanding mobile adoption, Internet penetration, as well as social media prevalence; hence, it is understandable for the country to adapt easily to this change.



Figure 1: E-commerce activities in Vietnam (Source: Datareportal, 2019)

Vietnam has a large number of e-commerce shoppers. The Digital Market Outlook study found that about 50 million Vietnamese purchased online products in 2018, investing \$2.2 billion USD combined (not including online travel purchases) (Statista, 2019). However, it can easily be seen that COVID-19 has shifted consumer behaviour and buying habits much more.

On 1 April 2020, the Prime Minister of Vietnam released an order pursuant to Directive 16 on national social distancing as an emergency measure for the control of the virus. Around the same time, several large retailers around the country shut down their stores in response, making it impossible for customers to buy what they need. In order to recognise this situation, e-commerce platforms have adopted an opportunity for development.

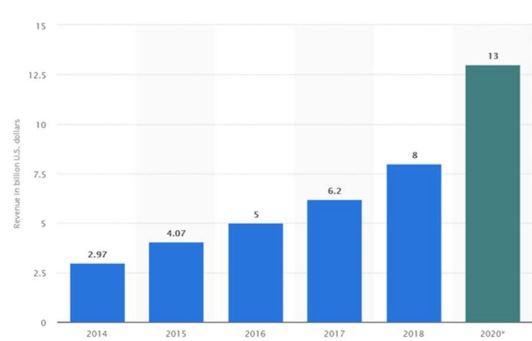


Figure 2: E-commerce market value in Vietnam from 2014 to 2020 (Source: Statista, 2020)

As such, e-commerce market thrived and developed significantly during this pandemic. B2B and B2C sales of online goods have experienced a surge of demand. Vietnam's e-commerce sector is expected to reach USD \$13 billion by 2020. (Statista, 2020). Since being exposed to the ease of online shopping, many conservative Vietnamese shoppers have been swayed. Some say that customer behaviour and purchasing habits in Vietnam have shifted for the better (Accenture, 2020).

Problem Statement

Vietnam is at the pivotal stage of developing e-commerce owing to its large population and rapid growth of Internet users (Le Quoc An et al., 2018). In addition, with the problems arising from the COVID-19 pandemic, the e-commerce platforms have the chance to grow stronger. Despite that, there is still competition among the players. By 2018, there are a total of 910 registered e-commerce sites in Vietnam (Statista, 2018). The largest and most well-known players at the moment, especially among university students are the following Lazada, Shopee, Tiki, Sendo, The gioi di dong, Dien may xanh (iPrice, 2020)



Figure 3: Logo of the largest e-commerce sites in Vietnam

Research questions

The difference in popularity among all mentioned platforms can be understood by analyzing attributes which influence the shopping decision of customers. In addition, from these potential attributes, there are some research questions to answer:

1. What are influential factors on online shopping decisions of students in Ho Chi Minh City during COVID-19 pandemic?
2. How do these influential factors affect the decisions of online shopping decision of students in Ho Chi Minh City during COVID-19 pandemic?

3. What recommendations can be given to decide online shopping decisions of students in Ho Chi Minh City during Covid-19 pandemic?

LITERATURE REVIEW

Definition of online shopping decision

Generally, the online shopping decision process of consumers contains several steps. The first one is need awareness, next is information search, then alternative evaluations, deciding to purchase and lastly, post-purchasing behaviour. (Katawetawaraks and Wang, 2011)

- Need awareness: In the age of COVID-19, the need to buy common necessities also rises. Furthermore, with the limitation of traditional shopping, people depend on online shopping sites to satisfy their needs. So, this step requires less effort during this time. Though, commonly, advertisement is used to attract customers' attention and stimulate their products.
- Information search: With the easy access of the Internet and variety of e-commerce platforms, people can conveniently conduct research and find information necessary for them. If the services of the platforms are important to them, they can look up the site and read customer comments. If they are interested in expenses, they can compare prices and shopping costs. Or they can read the product reviews to know about the quality of what they want to buy.
- Alternative evaluations: The Internet has many beneficial perks, and one of which is to support the pre-purchase stage (Maignan and Lukas, 1997). It gives customers opportunity to compare various choices, and many have claimed to use this feature to their advantage (Dickson, 2000).
- Deciding to purchase the following: After alternative evaluations, consumers can purchase products. At this point, the purchasing methods have significant effect on people. The rise of e-wallet and digital payment, plus the recommendation from the government to limit physical contact results in the need for a wide variety of payment methods.
- Post-purchasing behaviour: This consumer behaviour will be extremely essential after the shopping experience (Katawetawaraks and Wang, 2011). Return and exchange services are deemed necessary at this stage since customers concern about the quality of the product for not being able to see or try the products directly (Liang and Lai, 2002).

Previous studies

Studies have found many factors contributing to consumers' decision to adopt online shopping, and many of which have previously been examined for business. However, attributes such as platform's design and utilities, products, service, security issues remain one of the most crucial factors when it comes to e-commerce. These are the elements most consumers pay attention when they online shop; therefore, it is required for e-commerce businesses to fully understand why and how they affect their customers.

Platform's design and utilities

This factor is reflected in the user interface of the platforms, whether it is simple and easy to use for the first timers; or the design of the platforms, whether it is eye-catching and able to

attract customers. Its utilities also affect shoppers' decision, for example, customized search function, ability to chat live with sellers. In addition with all that, it is necessary for the website or application to be stable as well. Website appearance, website user-friendliness and the ability for customers to interact with the website are all critical to win online consumers (Nguyen Duc Quynh Lan and Nguyen Duc Bao Long, 2018). With the availability and easy access of websites, it is common for a single retailer to sell their products on multiple platforms at the same time:

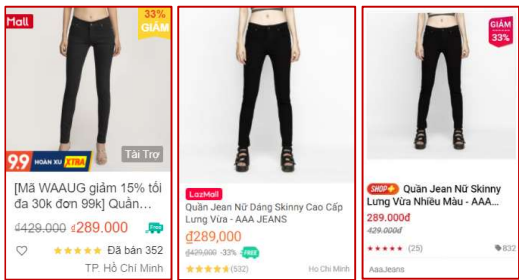


Figure 4: AAA Jeans on 3 websites (Shopee, Lazada, Sendo, respectively)

If so, of course the price, the quality plus the promotion of the products will stay the same on every website. Normally, if the products are not the issue, consumers will instead pay attention to the website itself. They will choose the one that best matches their preference and buy that product from it; once they do so, it is possible that they will use this website again for future purchases if they are satisfied. Therefore, it is crucial for platform developers to make a good impression on their customers. Well-organized website layout and appealing design are essential factors to convince customers to purchase goods and services (Koo et al., 2008)

Products

With this factor, multiple things need to be taken into consideration, specifically, product variety, price, quality, and promotion.

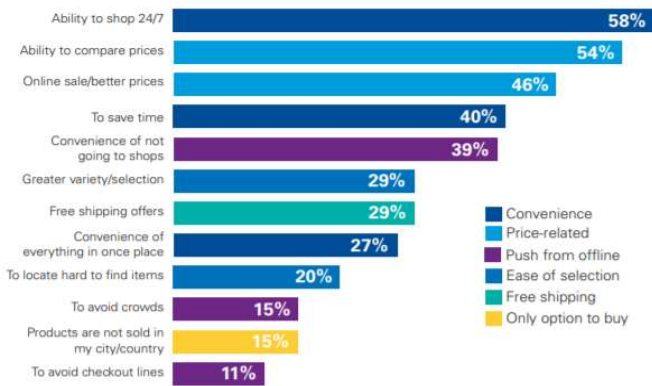


Figure 5: Reasons for consumers shop online instead of in stores (Source: KPMG, 2017)

The most noticeable one is price since high prices become an obstacle to the purchase of consumer goods (McEachern & Schröder, 2002; Padel & Foster, 2005), especially when the target consumers are students with average earnings. According to the figure shown above, beside convenience, price is the thing people care about the most when they online shop. They want to have the option either to compare the prices among different sellers or different shopping platforms. They also keep an eye out for sale, promotion, package deal...; the point and reward systems of some platforms in Vietnam are also appreciated. Offering customer promotions is one of the examples online stores frequently use to push sales (Yu and Wu, 2007).

Another figure from KPMG again showed that price is the most important company attributes for customers. 57% of consumers tended to find the lowest price possible when shopping online. Besides, 16% of them were fond of limited time offer and 21% were interested in promotion, which was tailored for them.

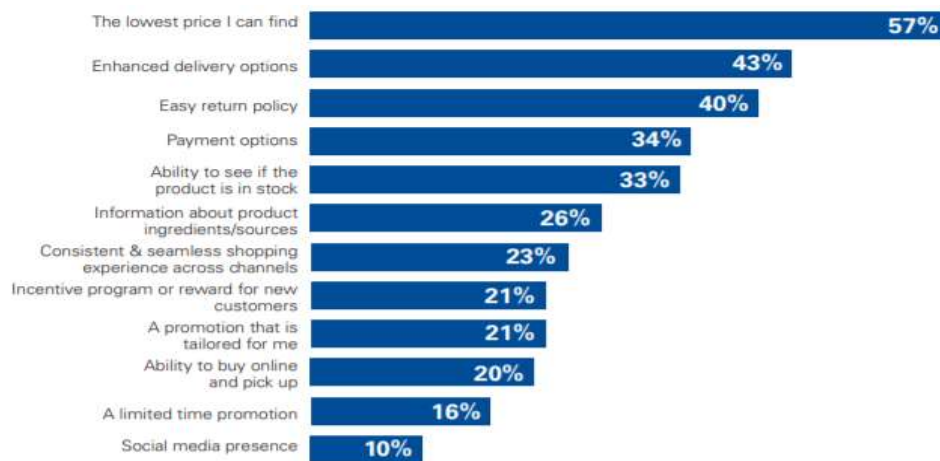


Figure 6: Most important attributes when deciding where to buy (Source: KPMG, 2017)

Additionally, product quality is key to customer satisfaction. It helps businesses retain consumers' loyalty, has a major contribution to long-term profitability and enables businesses to maintain higher prices (Quain. 2019). Nevertheless, it was proven that most of the young are willing to trade-off quality for cheaper prices (KPMG, 2017).

Service

Many services are provided by e-commerce platforms, including, delivery, return policy, customer service, product review, and payment variability.

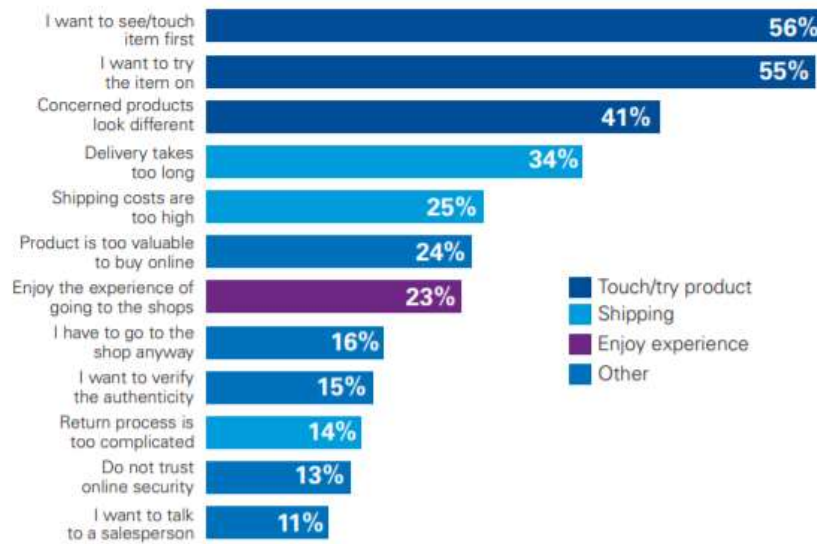


Figure 7: Reasons that consumers shop in stores instead of online (Source: KPMG, 2017)

As stated by a research from KPMG in 2017, besides the reason for wanting to touch and try on products before buying, consumers were hesitant when online shopping because of shipping issues. A large number of people have reported their concern over the delivery time and shipping expenses, 34% and 25% respectively.

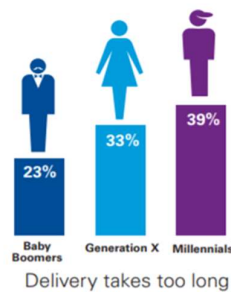


Figure 8: Influence of delivery time on generations (Source: KPMG, 2017)

This factor was especially important to millennials and Gen Z, which is worth noticing for this generation is currently the most influential target audience of most e-commerce platforms. 39% of Generation Y consumers have reported that their shopping decision was affected by the delivery time. In figure 2.6 named “Most important attributes when deciding where to buy” shown above, it also stated that enhanced delivery options was the second most important factor influencing customers’ buying decision (43%).

Moreover, we can easily say that if the business has easy return policy, it has more opportunity to attract consumers for 40% of them considered this factor. A money-back guarantee can help lessen customers’ concern since not being able to touch or try their goods is a disadvantage (Comegys, 2009).

The variety of paying methods like cash, credit, digital wallet was an equally critical feature, accounting for 34% of buyers. Especially during the COVID-19, when cashless payment was encouraged to secure the safety of buyers and shippers.

Furthermore, Dimensional Research and ZenDesk have conducted a survey in 2013 that studied more than 1,000 people regarding this matter. The consistency of individual customer service interactions has been shown to have a significant effect on consumer behaviours.

Security issues

Usually, when people access the Internet, they are concerned about data leaks and the possibility of having their identity stolen. Cybersecurity not only secures the safety of consumers; it also secures the reputation of businesses. Due to insufficient security, multiple businesses suffered losses in trust and sales. For example, in 2018, Markets Insider reported a 3% drop of Facebook shares after the company disclosed that hackers had exploited a security problem to access 50 million users' accounts. Similarly, Sony also suffered \$1.25B in expenses from lost business, compensation, and legal fees due to a data security breach (The Wall Street Journal, 2011). As such, online shoppers need to be alerted and reassured on online security as 85% of customers said they would not do business with a company if they were worried about its data practices (Digital Pulse, 2017). Therefore, businesses need to be proactive when it comes to security. Nowadays, many platforms have implemented features like sending order confirmation emails or OTP confirmation for online transactions through SMS to ensure the purchases were made by the account owners. Some consumers find these features inconvenient, but cyber security and privacy need to be prioritized. Going beyond existing regulations is what businesses need to do to ensure the trust of hypervigilant users.

COVID-19 delivery guidance

Measures such as social distancing enforcement or lockdown in response to this pandemic have driven consumers to ramp up online shopping (WTO, 2020). Even so, concerns regarding product hygiene and consumer safety when receiving delivered packages remain. The growing number of packages being shipped has presented challenges about health and safety regulation on compliance in importing countries, along with ensuring the health of the staff in handling and inspecting the products. According to WTO, the pandemic poses new obstacles for border authorities, who recognize the risks involved in each transaction, particularly concerning the regulatory aspects of products related to sanitary and phytosanitary (SPS) and technological barriers to trade (TBT). These challenges highlight the importance of ensuring the health and safety legislation, in line with the TBT and SPS Agreements of WTO, and regulatory coordination to guarantee the goods are certified for safety and quality. Therefore, it is essential for e-businesses to provide consumers reassurance that their health is valued. On top of that, new and creative delivery services like autonomous delivery drones or contactless delivery have become a norm (Fung Business Intelligence, 2020).

RESEARCH METHODOLOGY

Introduction

The purpose of this research is to test the relationship between some factors that have an effect on the habit of online shopping for HCMC students during the COVID-19 pandemic. The researcher established the framework for this research on the basis of industry awareness and in-depth literature studies.

Research Methodology

The later parts of this chapter will address the distinction between positivism and interpretivism as it applies to this thesis. Lin (2002) states that apart from the theoretical frameworks of positivism and interpretivism used in research, there is another framework called ‘essential’. However, as it is seldom used in IT study, therefore its excluded from paradigm review.

As Galliers (1991) mentioned, when choosing the right research approach, three main factors need to be considered:

- Whether the research should focus on IT acknowledging its impacts on society on organizations, groups or an individual.
- Whether the research should concentrate on the technology itself or the methodology; and
- Whether the research should pay attention to constructing, evaluating, or extending the theory.

By evaluating survey participants' perception of factors-related statements, this study aims to investigate the relationship between the production of a strategy for students' shopping decisions in HCMC and the influencing factors. As a result, Descriptive and Exploratory Research was chosen as the best method for this research. A research from Robert K. Yin in 1984 has explained how and why questions are explanatory. Such questions answer organizational connections that need to be tracked over time, rather than simple frequencies or incidences, supporting the research problem.

Because of multiple existing theories about said subject, the Positivist paradigm has been considered appropriate (Guba & Lincoln, 1994). In addition, this paradigm generates awareness about an external reality that is inherently valid, as positivism believes it to be (O’Leary, 2001).

Research Design

The study is similar to every strategic planning process. In view of that, it is necessary for the data collection and analysis methodology to be specifically consistent to the research goals and questions. This research design acts as the blueprint defining the procedure to be followed for the analysis, assisting with the reliability and validity of the data, and ensuring it. The researchers have developed a conceptual framework and rely on it.

Sample Selection

Knowing that the purpose of the research is investigating the relationship between the influencing factors and the online shopping decisions of consumers, it must cover many

concepts related to the topic to work out the most relevant issues. Besides, a diversified pool of survey participants should be used to get the broadest view of the industry.

Research Framework

The researchers identified five factors that have a relationship with the habit of online shopping during COVID-19 pandemic of students in HCMC including platform design & utilities, products, services, security issues and delivery safety guidance.

As discussed in the literature review, the user-friendliness of the platforms will help consumers have a more fulfilling shopping experience. Furthermore, the features provided by the platforms also receive positive feedback from them. For that reason, this research will examine the relationship between the platform design & utilities issue and online shopping decision.

Based on multiple previous studies, the most influential attribute to shopping decisions always relates to the products, to be more specific, their price (Deloitte, 2020). Besides, factors such as product quality and variety are equally favoured. Despite that, during the pandemic, some reports have shown that their preference has changed. Hence, this issue will be re-examined in this research.

Services are important to any industry, but with e-commerce, services mean more than customer service. E-commerce businesses must provide product delivery and return policy. They also must manage the review section to ensure that they are reliable and helpful. Furthermore, during the COVID-19 pandemic, the government has highly recommended the use of electronic payment so as to lower the chances of infection. Thus, the research of services will help us understand the factors contributing to students' shopping decision in HCMC during this trying time.

Security issues are one of the most significant things in the e-commerce industry. Most users believe it is mandatory for e-commerce sites to secure their data and private information. Moreover, it is tremendously hard for the sites to continue their business if they have been deemed untrustworthy. This issue should be one of the main attributes and its role will be tested in this research.

The increase of consumers' concern of their safety when receiving product results in the need for safety guideline for delivery. Whether or not this safety guideline has any impact on students' shopping decisions will be examined in this research.

Research Hypotheses

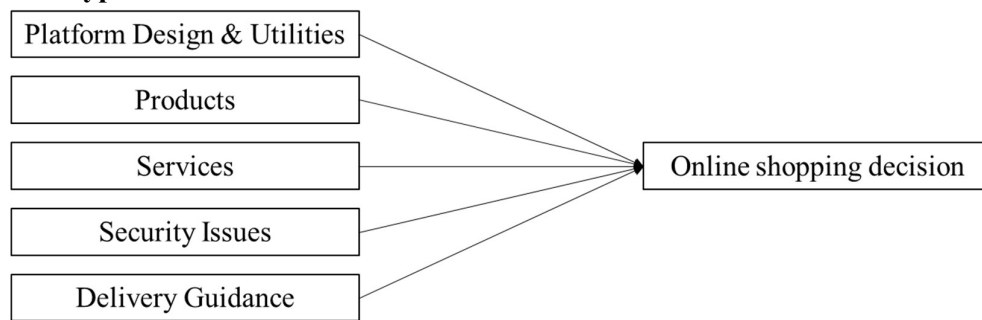


Figure 9: Online Shopping Decision Theoretical Framework

Based on the above discussion, hypotheses were developed to predict the overall relationship between the online shopping decisions of students in HCMC during COVID-19 pandemic and some related factors.

- H1: There is a positive relationship between Online Shopping Decision and Platform Design & Utilities.
- H2: There is a positive relationship between Online Shopping Decision and Products.
- H3: There is a positive relationship between Online Shopping Decision and Services.
- H4: There is a positive relationship between Online Shopping Decision and Security Issues.
- H5: There is a positive relationship between Online Shopping Decision and Delivery Guidance.

Data Collection

Generally, the interview is an essential part of the data collection process. Nonetheless, , it is not advisable to perform face-to-face interview with respondents during the COVID-19 pandemic. As a consequence, only questionnaires and records are included in this study 's data collection process.

A Google form was distributed to potential respondents through Facebook Messenger and Zalo. To avoid limiting the pool of respondents to only close friends and colleagues, the authors also shared this form to a Facebook group consisting of researchers who were also searching for survey respondents. The objectives of the questionnaire were clearly stated in the Google form. This approach is fast and convenient. The authors could easily obtain a large number of responses in a short period of time. One small concern was the difficulty of respondents' ability to correctly complete the form. Some respondents said that they were unable to submit their results via Google form due to technical difficulties, resulting in the loss of valuable data.

Questionnaire

The questionnaire was circulated in August and 206 responses were received. The questions (see Appendix A) were divided in three parts. Section A included respondents' personal information (age, gender, major, monthly income), which was used to compare results from different sectors. Section B, the second part, presented five potential factors that can affect the shopping decision of consumers. Thirdly, section C tested the influence of these factors on the same matter.

Documents

Researchers need to access different program papers, official journals, studies, open-ended questionnaires to gain useful background information, Lin (2002). Hence, many materials related to e-commerce, shopping habit and factors contributing to consumers' buying decision have been thoroughly read and understood for this study.

Data Analysis

In this analysis, quantitative and qualitative methods were used concurrently. Due to the number and variety of questions, the questionnaire was subjected to quantitative data analysis. These

questions employed a five-point Likert scale and included a section in which respondents were asked to rate the importance of various factors on a scale of 1 to 5. Furthermore, the quantitative method was used to evaluate the multiple-choice questions in Section A, allowing for cross-industry analysis and correlation.

The quantitative approach was used to examine the responses from three sections:

Section A included the basic information provided by the respondents.

Section B included questions about the variables that influence students' purchasing decisions.

Section C was designed to explore the relationship between those variables and respondents' buying decisions.

SPSS (2007). a quantitative tool has been extremely useful. SPSS (2007), a quantitative method, has been extremely useful. Due to the volume of data, this method was used to review the responses from Sections A to C.

However, since researchers can make their own interpretations and conclusions based on the responses to the questions, this approach can be considered untrustworthy. As a result, the analysis of the survey was reviewed with the interviewees to ensure that the transcription was accurate.

DATA ANALYSIS AND FINDINGS

Introduction

In this section, data analysis will be followed by a description of the results of the study. The findings contributed to the research questions that led to the study. Data were analyzed to define, explain and explore the relationship between the online shopping decisions of students in HCMC – Vietnam and its components including platform design & utilities, products, services, security issues and delivery guidance.

Respondents' Profile

Respondents were analyzed to determine some general characteristics of participants in the survey. This general information will help the researcher establish final findings when combined with other statistical analysis for the research.

Gender

Gender was classified into two groups in this survey. In total, there were 207 respondents, 82 of which were male, accounted for 39.6 percent. The other 125 respondents were female, accounted for 60.4 percent.

Table 1: Gender

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Male	82	39.6	39.6	39.6
	Female	125	60.4	60.4	100.0
	Total	207	100.0	100.0	

Monthly Income

Monthly Income was classified into five groups. Within 207 respondents, 25 of them (12.1%) reported having an income of more than 10 million VND. A total of 59 respondents, which is 28.5%, had 5 to 10 million VND monthly. The largest group (73 respondents) is those who have an income of 2 to 5 million VND, accounted for 35.3%. Besides, 13.5% of the total respondents (28 respondents) mentioned that their income is under 2 million VND. Furthermore, the other 22 of them (10.6%) yet to have stable income.

Table 2: Monthly Income

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	No income	22	10.6	10.6	10.6
	Under 2 million VND	28	13.5	13.5	24.2
	2-5 million VND	73	35.3	35.3	59.4
	5-10 million VND	59	28.5	28.5	87.9
	Over 10 million VND	25	12.1	12.1	100.0
	Total	207	100.0	100.0	

Major

In this survey, participants were classified into six main majors., namely “Education and Foreign Languages” which included English Literature, French Literature, Japanese Studies, Education. A total of 207 respondents were surveyed, 52 respondents from Education and Foreign Languages groups, accounting for 25.1 percent. “Business” major included Economics, Marketing, Finance, Banking, Accounting, Business Administration. Among the total respondents, “Business” is the biggest group with 68 respondents accounting for 31.4 percent. Group “Services” included 32 respondents accounting for 15.5 percent. Coincidentally, Group “Arts & Architecture” had the same result. Group “Communications” with 23 respondents accounted for 11.1 percent. Group “Other” included 3 respondents accounted for 1.4 percent.

Table 3: Major

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Education and Foreign Languages	52	25.1	25.1	25.1
	Business	65	31.4	31.4	56.5
	Services	32	15.5	15.5	72.0
	Arts and Architecture	32	15.5	15.5	87.4
	Communications	23	11.1	11.1	98.6
	Other	3	1.4	1.4	100.0
	Total	207	100.0	100.0	

Purchase Platforms

In this survey, 4 main platforms were considered. Most of the respondents (132 people) mentioned that they commonly use Lazada, accounted for 63.8%. The next platform is Shopee, which was chosen by 54 people (26.1%). A total of 18 respondents chose Tiki, which accounted for 8.7%. The rest, consisting of 3 respondents said they used Sendo as their main platform for shopping, which accounted for 1.4%.

Table 4: Purchase Platforms

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Lazada	132	63.8	63.8	63.8
	Shopee	54	26.1	26.1	89.9
	Tiki	18	8.7	8.7	98.6
	Sendo	3	1.4	1.4	100.0
	Total	207	100.0	100.0	

Descriptive analysis of factors that have impacts on the online shopping decision of students in HCMC during COVID-19 pandemic

Descriptive analysis helps us understand the response of survey participants to each statement related to factors. From these details we can have many findings related to factors. Survey participants were asked to rate from a scale of 1 to 5 by which 1 = ‘Strongly Disagree’, 2 = ‘Disagree’, 3 = ‘Neutral’, 4 = ‘Agree’ and 5 = ‘Strongly Agree’.

Platform Design and Utilities

Five items under factor “platform design and utilities” have a mean above 3 in which, statement “Effective search engine (ex: customized search function, ability to look for products using photos/QR code)” has the highest mean equivalent to 3.85. Statement “stable website” comes second with mean equal to 3.75. Statements “simple user interface” and “live chat with sellers” comes next with means equal to 3.7 and 3.61, respectively. Statement “attractive, eye-catching design” is the only item that has a low mean equivalent to 3.38. This is reasonable as respondents focus on stable functions more than an outlook of website or application. When most respondents agree or strongly agree with the third, first, the fifth statement, they also have neutral opinion or disagree with the second one.

Table 5: Descriptive of platform design and utilities

PLATFORM DESIGN AND UTILITIES	Mean	Std. Deviation
Simple user interface	3.70	.880
Attractive, eye-catching design	3.38	.982
Effective search engine (ex: customized search function, ability to look for products using photos/QR code)	3.85	.773
Live chat with sellers	3.61	.879
Stable website	3.75	.802

Products

All four items under “Products” factor have a mean more than 4, making it the most influential factor. Out of these items, statement “Reasonable prices” has the highest mean equivalent to 4.18. Second, there is the statement “Promotion/ Points and rewards” with a mean equal to 4.13. Further, the statement “Wide variety of products” comes close with mean equivalent to 4.10. The statement “Product quality” with mean equals to 4.02 comes last. Overall, based on the received respond, the items most respondents care about are price related. This is understandable since the respondents are students; and according to previous studies, this is the thing this age group care the most about when shopping.

Table 6: Descriptive of products

PRODUCTS	Mean	Std. Deviation
Wide variety of products	4.10	.753
Promotion/ Points and rewards	4.13	.759
Reasonable prices	4.18	.764
Product quality	4.02	.734

Services

Under factor “Services,” there are five items that have mean above 3, and one with mean above 4. The one with the highest mean of 4.04 is the statement “Free and fast delivery”, which again is understandable as the statement is price related. As for statement “Reasonable return policy” and “Reliable product reviews” they have identical means of 3.82 and 3.83, respectively. While for “Good customer service” its mean is equivalent to 3.79. The other two statements namely, “Quick electronic payment” and “Wide variety of paying method (cash, credit, digital wallet)” gave similar respective means of 3.75 and 3.76.

Table 7: Descriptive of services

SERVICES	Mean	Std. Deviation
Free and fast delivery	4.04	.765
Reasonable return policy	3.82	.741
Good customer service	3.79	.711
Reliable product reviews	3.83	.675
Wide variety of paying method (cash, credit, digital wallet)	3.76	.829
Quick electronic payment	3.75	.771

Security Issue

Under the factor “Security Issue”, all four items have a mean above 3. Coming first is the statement “Customer data protection” as this one has a mean equal to 3.85. Statement “Credit Card protection” comes second with a mean of 3.79. The “OTP confirmation for online transactions” function is slightly appreciated by everyone, receiving mean of 3.62. And because most responders do not find the spending “order confirmation email” function as important, this statement has rather low mean, equivalent to 3.54.

Table 8: Descriptive of security issues

SECURITY ISSUES	Mean	Std. Deviation
Credit Card protection	3.79	.782
Customer data protection	3.85	.798
Order confirmation email	3.54	.907
OTP confirmation for online transactions	3.62	.832

Delivery Guidance

The remaining factor is “Delivery Guidance” whose items are above 3, as well. Most responders see the necessity of “Deliveryman being provided with facemask, hand gloves, hand sanitizer...” as this item has the highest mean, equal to 3.93. The “Different delivering method to remain safe distance between delivery men and buyers” statement is also influencing with the mean of 3.88. Coming last are statements “Product sterilization” and “Safe delivery regulations are informed to consumers” with means of 3.75 and 3.78, respectively.

Table 9: Descriptive of delivery guidance

COVID-19 DELIVERY GUIDANCE	Mean	Std. Deviation
Product sterilization	3.75	.906
Deliveryman being provided with facemask, hand gloves, hand sanitizer...	3.93	.824
Different delivering method to remain safe distance between delivery men and buyers	3.88	.868
Safe delivery regulations are informed to consumers	3.78	.845

Reliability Statistics

Reliability Analysis results on the Online Shopping Decision during COVID-19 pandemic of students in HCMC and its component. The reliability test was conducted to test the reliability of primary data before proceeding to factor analysis. The table below shows the Cronbach's alpha values for five independent variables "platform design & utilities, products, services, security issue and delivery guidance" and dependent variable "online shopping decision during COVID-19 pandemic" comes out with a value of 0.811, which is greater than 0.6 (Malhotra, 2004). We can safely assume that constructs are proven either internally consistent or reliable.

Table 10: Reliability Statistics

	Cronbach's Alpha	N of Items
Platform design & utilities	0.870	5
Products	0.824	4
Services	0.869	6
Security issues	0.890	4
Delivery guidance	0.942	4

Exploratory Factor Analysis

Kaiser-Meyer-Olkin (KMO) & Bartlett's Sphericity Test was used to calculate the sampling adequacy suggested for testing the case against the variable ratio. The KMO & Bartlett test plays a significant role in recognizing the sample adequacy in most academic and business studies. While the KMO ranges from 0 to 1, the world-over accepted index is above 0.6 (Kaiser, 1974). Furthermore, Bartlett's Test of Sphericity links to the importance of the analysis and thus demonstrates the validity and suitability gathered through the analysis.

This table shows two tests that indicate the suitability of the data for structure detection. KMO value reaches 0.879 and Bartlett's Test of Sphericity (Bartlett, 1954) reaches statistical significance ($p = 0.00$), supporting the factor analysis.

Table11: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.879
Bartlett's Test of Sphericity	Approx. Chi-Square	3.921E3
	df	253
	Sig.	.000

The principle component method was used to extract the factors. The table below shows that four factors are extracted with eigenvalues greater than one. The four factors explain 71.567 percent of variance.

Table 12: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.718	42.252	42.252	9.718	42.252	42.252	5.320	23.130	23.130
2	2.925	12.716	54.968	2.925	12.716	54.968	3.931	17.092	40.222
3	2.419	10.519	65.487	2.419	10.519	65.487	3.784	16.450	56.672
4	1.398	6.080	71.567	1.398	6.080	71.567	3.426	14.895	71.567
5	.840	3.651	75.218						
6	.734	3.189	78.407						
7	.612	2.659	81.066						
8	.556	2.416	83.482						
9	.479	2.084	85.566						
10	.437	1.898	87.464						
11	.420	1.824	89.289						
12	.340	1.477	90.766						
13	.325	1.412	92.178						
14	.308	1.339	93.517						
15	.253	1.099	94.616						
16	.240	1.042	95.658						
17	.227	.987	96.645						
18	.208	.905	97.550						
19	.161	.701	98.251						
20	.133	.579	98.830						
21	.119	.518	99.348						
22	.089	.389	99.736						
23	.061	.264	100.000						
Extraction Method: Principal Component Analysis.									

In the principal component method, only four factors are extracted, while in the research framework method, five identified factors are used. After studying the rotated component matrix (see table 13), the researcher suspected that there was some correlation between factor “services” and “security issue” and conducted the Pearson correlation analysis between these two factors.

Table 13: Rotated Component Matrix^a

	Component			
	1	2	3	4
Quick electronic payment	.826			
OTP confirmation for online transactions	.815			
Variety of paying method (cash, credit, digital wallet)	.793			
Order confirmation email	.784			
Credit Card protection	.776			
Customer data protection	.669			
Good customer service	.623			
Good return policy	.562			
Reliable product reviews	.536			
Different delivering method to remain safe distance between delivery men and buyers		.918		
Deliveryman being provided with facemasks, hand gloves, hand sanitizer...		.907		
Product sterilization		.850		
Safe delivery regulations are informed to consumers		.841		
Promotion/ Points and rewards			.812	
Free and fast delivery			.804	
Wide variety of products			.788	
Reasonable prices			.720	
Do you agree that the following features are important, and they affect your shopping decision?			.675	
Simple user interface				.828
Attractive, eye-catching design				.806
Effective search engine (ex: customized search function, ability to look for products using photos/ QR code)				.741
Live chat with sellers				.740
Stable website				.573
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 6 iterations.				

Correlations

Pearson correlation reached value of 0.745 (services), 0.676 (security issues), 0.621 (delivery guidance), 0.549 (Products), 0.535 (platform design & utilities) which is greater than the suggested 0.5 and the correlation is significant at 0.01 levels suggesting that five items have perfect correlation.

Table 14: Correlations

		Online Shopping Decision	Web/App Design & Utilities	Products	Services	Security Issues	Delivery Guidance
Online Shopping Decision	Pearson Correlation	1	.535**	.549**	.742**	.676**	.621**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	207	207	207	207	207	207
Web/ App Design & Utilities	Pearson Correlation	.535**	1	.459**	.599**	.545**	.209**
	Sig. (2-tailed)	.000		.000	.000	.000	.003
	N	207	207	207	207	207	207
Products	Pearson Correlation	.549**	.459**	1	.603**	.360**	.273**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	207	207	207	207	207	207
Services	Pearson Correlation	.742**	.599**	.603**	1	.785**	.494**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	207	207	207	207	207	207
Security Issues	Pearson Correlation	.676**	.545**	.360**	.785**	1	.468**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	207	207	207	207	207	207
Delivery Guidance	Pearson Correlation	.621**	.209**	.273**	.494**	.468**	1
	Sig. (2-tailed)	.000	.003	.000	.000	.000	
	N	207	207	207	207	207	207
**. Correlation is significant at the 0.01 level (2-tailed).							

Pearson correlation reaches a value of 0.785, which is greater than the suggested 0.5 and the correlation is significant at 0.01 levels suggesting that the two factor “services” and “security issues” have perfect correlation.

Besides, as tested above, the Cronbach’s alpha value of “services” and “security issues” are both above 0.5, which means that “services” and “security issues” are accepted as factors of the framework. Therefore, the construct validity test on lecturers’ development strategy indicates that these five constructs are valid for further analysis.

Consequently, the validity test on the strategy development implies that these five constructs are appropriate for further study. Multiple linear regression analysis follows therefore can be used to analyze the effect of the five constructs on the growth of the strategy.

Table 15: Correlations

		Services	Security Issues
Services	Pearson Correlation	1	.785**
	Sig. (2-tailed)		.000
	N	207	207
Security Issues	Pearson Correlation	.785**	1
	Sig. (2-tailed)	.000	
	N	207	207
**. Correlation is significant at the 0.01 level (2-tailed).			

Multiple linear regression between Online Shopping Decision and its components

The adjusted multi-correlation coefficient R-square (adjusted R²) value in Table 17 indicates that 67.9% variances associated with the online shopping decision can be explained from the 5 development characteristics.

Table 16: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.829 ^a	.687	.679	.32048	1.932
a. Predictors: (Constant), Delivery Guidance, Platform Design & Utilities, Product, Security Issues, Services					
b. Dependent Variable: Online Shopping Decision					

The findings of the ANOVA study indicate a statistically noteworthy difference between variables. We can see that the significance level is 0.000 ($p=.000$), which is less than 0.05. This means there is a statistically significant difference between the examined factors. The F-statistics is also important ($F= 88.245$), which indicates that all 5 variables collectively contribute significantly to the fitness of the regression model and they are statistically significant in explaining the variance in online shopping decisions.

Table 17: ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.317	5	9.063	88.245	.000 ^a
	Residual	20.644	201	.103		
	Total	65.961	206			
a. Predictors: (Constant), Delivery Guidance, Platform Design & Utilities, Products, Security Issues, Services						
b. Dependent Variable: Online Shopping Decision						

Model 1 in Table 10 shows the coefficients for the five predictors on online shopping decision. All independent variables are significantly related to online shopping decision. delivery guidance has the highest significant and positive relationship ($B=0.240$, $P<0.05$) with online shopping decision. Services ($B=0.217$, $P<0.05$), products ($B=0.175$, $P<0.05$), security issues ($B=0.158$, $P<0.05$), platform design & utilities ($B=0.108$, $P<0.05$) respectively have a significant positive relationship with online shopping decisions.

Table 18: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.406	.176		2.313	.022		
	Platform Design & Utilities	.108	.041	.134	2.605	.001	.588	1.700
	Products	.175	.048	.188	3.632	.000	.580	1.725
	Services	.217	.078	.224	2.801	.004	.244	4.098
	Security Issues	.158	.053	.202	2.975	.003	.339	2.950
	Delivery Guidance	.240	.033	.337	7.259	.000	.722	1.385
a. Dependent Variable: Decision								

CONCLUSION AND IMPLICATIONS

Through results from data analysis, the five hypotheses of this research are proven to be supported. The hypothesis findings are summarized as followed:

Table 19: Hypothesis Summary

No	Hypothesis	Results
1	There is a relationship between Online Shopping Decision and Platform Design & Utilities.	Supported
2	There is a relationship between Online Shopping Decision and Products.	Supported
3	There is a relationship between Online Shopping Decision and Services/ Security Issues.	Supported
4	There is a relationship between Online Shopping Decision and Delivery Guidance.	Supported

Statistics and results from the analysis reveal many things about the five factors that have influenced the online shopping decision of students in HCMC.

- Most respondents are female, meaning female students have higher concern than male regarding this issue.
- The number of business major students taking part in this research is much higher than other groups of participants. Their participation indicates a clear interest of those majoring in business in the matter.
- The responds regarding the students' monthly income vary. However, most of them shared that they have an income of 2 to 5 million VND (the average income of Vietnamese university students), some even mentioned that they have yet to have stable income. The finding goes against popular belief that only those with high income would consider going shopping during the pandemic.
- E-commerce in Vietnam is booming and evolving.
- The COVID-19 pandemic has had a major impact on the e-commerce industry. Many consumers have modified their conventional shopping pattern due to the convenience and safety of e-commerce platforms. Perhaps even after this pandemic, this habit will persist and allow this industry to survive.
- Many believe that the goods on the site have an effect on their purchasing choice. It has also been stated that if the products are sold at reasonable prices, the possibility of them purchasing those products will be higher.
- However, the price is not enough to move users from offline to internet. The ease of use of the website is also critical. The platform utilities are equally critical, particularly the search engine. Student users have seen to want to use an efficient search engine with the potential to locate items using a screenshot or QR code.
- Most of the survey participants also acknowledge the importance of services. Certain decisions like return policy, customer service, product reviews, payment variety are all proven to influence their shopping. Furthermore, delivery is a major attribute. Being provided with free and fast delivery. The possibility of student consumers using e-commerce platforms would be higher.
- Security issues also contribute to buyers' decision. As such, e-commerce sites need to protect customer data and credit card information. It is also necessary to send order

confirmation emails and OTP confirmation messages for online transactions to draw the attention of online consumers.

- Most responders cannot tell the difference between services and security issues. This inability to distinguish their differences can be the reason why these two factors receive similar responds. The other reason might be that Vietnamese consumers believe that these two things go along with each other and it is compulsory for e-commerce platforms to provide both, which is not entirely true.

Additionally, during the COVID-19 pandemic, one more attribute was included in the list of factors affecting consumers shopping decision: delivery guidance. Basic Safety delivery guidance for deliverymen is proven to influence buyers. Besides, sterilizing products and informing consumers about how to safely receive packages are also necessary to boost sales. In this survey there are 207 respondents, of which all of them are students in Ho Chi Minh City majoring in Education and Foreign Languages, Business, Services, Arts and Architecture, Communications. They are fond of and enthusiastic with shopping online during COVID-19 pandemic. Besides the survey, the researcher has done some face-to-face interview with some of these 35 students. Thus, the author has collected many good insights for the research.

In terms of the findings, a positive relationship does exist between online shopping decision and services and security issues. Thus, e-commerce companies need to separate services and security. The reason being that respondents misunderstand Credit Card protection, Customer data protection, Order confirmation email and OTP confirmation for online transactions. The students thought that they are a part of services. As for developing securities, it is highly recommended for securities Supply Company to clarify these matters to the students so that services are what customers receive and securities are what customers need to do to protect themselves.

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