

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics



Bachelor Thesis

**Consumers and E-commerce in Viet Nam – Case Study of
Shopee Platform**

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BACHELOR THESIS ASSIGNMENT

Dung Tran Thi Thuy

Economics and Management

Thesis title

Consumers and E-commerce in Vietnam – Case Study of Shopee Platform

Objectives of thesis

The aim of the bachelor thesis is to determine and to evaluate the consumers behavior towards e-commerce in Vietnam.

The aim will be fulfilled based on the partial aims. Then, several hypotheses will be defined and verified. Based on the results of empirical analysis the final conclusions will be introduced.

Methodology

The bachelor thesis will cover both, theoretical and empirical part. Theoretical part will contain theoretical background of the selected topic as well as the methodological framework. Scientific literature will be used to prepare the literature overview. Based on the empirical analysis the results will be presented and some recommendations will be suggested.

The bachelor thesis will be based on the primary data collected using own survey and evaluated with the help of the contingency tables.

The proposed extent of the thesis

40 – 50 pages

Keywords

Consumer, consumers behaviour, e-commerce, survey, Vietnam.

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BAUDRILLARD, J. *The Consumer Society: Myths and Structures*. SAGE 2016. ISBN 9781473982383.
DE VAUS, D. A. *Surveys in social research*. London: Routledge, 2014. ISBN 978-0-415-53018-7.
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SMART, Barry. *Consumer society : critical issues and environmental consequences*. Los Angeles: SAGE, 2010. ISBN 978-1-84787-050-6.

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Declaration

I declare that I have worked on my bachelor thesis titled "Consumers and E-commerce in Viet Nam – Case study of Shopee Platform " by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on 11th March 2024

Dung Tran Thi Thuy

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Consumers and E-commerce in Viet Nam – Case Study of Shopee Platform

Abstract

E-commerce is a form of business that is increasingly popular and becoming a trend in Vietnam. E-commerce platforms are constantly being born and developing, of which Shopee is the leading e-commerce platform with a large number of users in the Vietnamese market. Therefore, this study aims to understand consumer behavior towards e-commerce in Vietnam, evaluate factors affecting consumers' online purchasing decision on e-commerce sites. The theoretical part provides an overview of the e-commerce market in Vietnam, consumer behavior and popular e-commerce platforms, with special emphasis on Shopee. Quantitative research method is applied in this study and uses statistical techniques to analyze survey data and test the established hypotheses. Specifically, a survey with 177 random Vietnamese participants aimed to examine the relationship between different factors with consumer behaviors in e-commerce. By clarifying these factors, research can provide valuable insights into consumer behavior in the e-commerce context and inform the strategic decision-making of platforms e-commerce in meeting the growing needs of Vietnamese consumers.

Keywords: Consumer, consumers behaviour, e-commerce, survey, Vietnam.

Spotřebitelé a elektronický obchod ve Vietnamu – případová studie platformy Shopee

Abstrakt

E-commerce je forma podnikání, která je ve Vietnamu stále populárnější a stává se trendem. Neustále se rodí a rozvíjejí platformy elektronického obchodu, z nichž Shopee je přední platformou elektronického obchodu s velkým počtem uživatelů na vietnamském trhu. Tato studie si proto klade za cíl porozumět chování spotřebitelů vůči elektronickému obchodu ve Vietnamu a vyhodnotit faktory ovlivňující rozhodování spotřebitelů o nákupu online na stránkách elektronického obchodu. Teoretická část poskytuje přehled o e-commerce trhu ve Vietnamu, chování spotřebitelů a populárních e-commerce platformách se zvláštním důrazem na Shopee. V této studii je aplikována metoda kvantitativního výzkumu, která využívá statistické techniky k analýze dat z průzkumu a testování stanovených hypotéz. Konkrétně se průzkum se 177 náhodnými vietnamskými účastníky zaměřil na prozkoumání vztahu mezi různými faktory a spotřebitelským chováním v e-commerce. Vyjasněním těchto faktorů může výzkum poskytnout cenné poznatky o chování spotřebitelů v kontextu elektronického obchodu a poskytnout informace pro strategické rozhodování platform elektronického obchodu při plnění rostoucích potřeb vietnamských spotřebitelů.

Klíčová slova: Spotřebitel, spotřebitelé chování, e-kommerce, průzkum, Vietnam.

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List of Abbreviations

E-commerce: Electronic commerce

B2B: Business-to-business

B2C: Business-to-consumer

C2C: Customer-to-customer

COD: Cash on delivery

ERP: Enterprise resource planning

ASEAN: Association of Southeast Asian Nations

USD: United States dollar

GMV: Gross Merchandise Value

IOS: iPhone operating system

E- retailer: electronic retailer

SAS: Statistical Analysis System

FFT: Fisher's Factorial Test

1 Introduction

Today, commerce has undergone a significant transformation driven by the digital revolution. In particular, e-commerce has emerged as a powerful machine in the global economy, reshaping the way consumers and businesses interact. Among them is Vietnam, a country that is considered one of the fastest growing e-commerce market in Southeast Asia. With the diversity of operating models, participants, operating processes and supply chains of goods and services through the internet and the application of modern technology, e-commerce has become an important pillar in Vietnam's digital economy development process.

According to the Vietnam E-Commerce Association, the scale of retail e-commerce transactions accounted for about 8.5% of total retail sales of consumer goods and services in 2022. In the retail sector of goods, in 2022, the ratio of online retail sales of goods to total retail sales of goods is about 7.2%, higher than the corresponding rate of 6.7% of 2021.

The internet has created exchanges for millions of businesses, billions of products and a huge number of customers. Currently, according to statistics from The World Bank 80% of Vietnam's population has access to the internet and most of them are young people, who are the main consumers and main shoppers, which is a great potential for development. Digital transformation and technology application to businesses will improve the value of products, save time and operating costs, increase the competitiveness of Vietnamese products in the international market. In addition, the transformation of the digital economy and shopping trends during and after the pandemic, along with the participation in international trade agreements, have contributed to promoting e-commerce development in Vietnam. In which, there are 3 leading e-commerce floors in Vietnam today, including Shopee, Lazada, Tiki. And now one of the e-commerce platforms is TikTok shop, which is also popular and developing strongly in Vietnam. From the above, it can be seen that online shopping on e-commerce sites is becoming increasingly popular with consumers.

Indeed, online shopping on e-commerce sites is very popular in Vietnam. Catching up with that trend, Shopee is currently the leading e-commerce site. By understanding the factors that drive online consumer behavior, Shopee has an effective business strategy to affirm its position with a large number of users in the Vietnamese market. Not only possessing common advantages with other e-commerce platforms such as convenience, time saving, and non-stop incentives, Shopee also excels with innovative and creative elements.

To summarize, e-commerce in Vietnam has had a remarkable development in both scale, quantity and quality. Therefore, the choice of this topic is reasonable.

2 Objectives and Methodology

2.1 Objectives

The aim of the thesis is to identify and evaluate consumer behavior towards e-commerce in Vietnam. Specifically, the first objective of this study is to explore the general context of e-commerce, its popularity and current situation in Vietnam. Focuses on emphasizing the rapid growth of e-commerce and highlights its emergence as a dynamic online commerce center with significant numbers of consumers shopping online. The next objective involves analyzing consumer behavior and consumers' perceptions through e-commerce sites. And another objective is describe consumer behaviour on e-commerce platform in Vietnam, of which most are users of the Shopee e-commerce site. Moreover, the study identifies and evaluates various factors influencing online consumer purchasing decisions, including demographic characteristics (age, gender, occupation , education level and income) and other factors including price, product variety, mobile accessibility, level of trust and local brand presence. Therefore, the study develops hypotheses related to these factors and their impact on consumer preferences and attitudes toward online shopping.

The hypotheses are as follows:

- H0: There is no dependency between age and frequency of purchase in e-commerce.
- H0: There is no dependency between gender and frequency of purchase in e-commerce.
- H0: There is no dependency between occupation and frequency of purchase in e-commerce.
- H0: There is no dependency between educational level and frequency of purchase in e-commerce.
- H0: There is no dependency between income and frequency of purchase in e-commerce.
- H0: There is no significant relationship between price and frequency of purchase in e-commerce.
- H0: There is no significant relationship between the variety of products on e-commerce platforms and frequency of purchase in e-commerce.
- H0: There is no significant relationship between mobile accessibility and frequency of purchase in e-commerce.
- H0: There is no significant relationship between local brand presence on e-commerce platforms and frequency of purchase in e-commerce.
- H0: There is no significant relationship between level of trust and frequency of purchase in e-commerce.

2.2 Methodology

Research methodology is carried out to accomplish the main objectives of identifying and evaluating consumer behaviour in the field of e-commerce in Vietnam. Therefore, the main method used in this study is quantitative research to test hypotheses about factors affecting consumers' online shopping behavior in e-commerce.

Firstly, a survey is conducted, structured, and questionnaires are formulated by the author with the aim to measure variables related to the hypotheses. These hypotheses aim to test the relationship between different variables and the frequency of shopping on e-commerce platforms in the Vietnamese population.

Second, the collected data will be analyzed by applying statistical methods to examine the relationship between the independent variables and the dependent variables.

And the final part is the conclusion that makes judgments and comments about the relationship between different factors and consumer behavior in e-commerce. The research results are expected to provide valuable insights for e-commerce businesses and policymakers in Vietnam, contributing to a better understanding of the ever-evolving e-commerce market.

2.2.1 Descriptive analysis

Descriptive statistics are the kind of information presented in just a few words to describe the basic features of the data in a study such as the mean and standard deviation (Mishra, Prabhaker, et al., 2019). Specifically, Sharma (2019) supposed that descriptive statistics form a major component of all quantitative data analysis when coupled with several graphics analysis. It is used primarily to determine the behavior of the given sample and present the quantitative analysis of the given data set. Firstly, measures of location numerically describes the typical data value of a variable.

Mean: is the arithmetic average or the sum of values in a dataset divided by the total number of observations (Kaur, P., Stoltzfus, J., & Yellapu, V, 2018).

The formula of the mean is:

$$\bar{x} = \frac{\sum_{i=1}^n x_i}{n} = \frac{x_1 + x_2 + x_3 + \dots + x_n}{n}$$

n: the total number of values

x_i : data values

Median: is the middle value for a set of numeric data. If there are an odd number of values, the median is the exact middle value; however, if there is an even number of values, the median is the average of the two middle values (Kaur, et al., 2018).

Mode: is the most frequently occurring value in the data set.

According to Kaur, et al. (2018) measures of dispersion/variation describe the degree to which a variable's values are similar or diverse. This type of measure only applies to ordinal, interval, and ratio data that can be ranked and includes the range, variance, and standard deviation.

The range is the difference between the greatest and least values or a numeric dataset. The range measures:

$$\text{Range} = \text{Greatest value} - \text{Least value}$$

Variance is a dispersion measurement that considers the spread of each data point in a data set (Kaur, et al., 2018). Variance is calculated by using the following formula:

$$s^2 = \frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n - 1}$$

n: number of values in the data set

x_i : each value in the data set

\bar{x} : the value of mean

Standard deviation is the most practical and most commonly used measure of variation. It shows the degree of variability or dispersion compared to the average. A low standard deviation indicates that data points tend to be very close to the mean, while a high standard deviation indicates that the data is spread over a large range of values. It is calculated using the formula:

$$s = \sqrt{s^2} = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n - 1}}$$

The coefficient of variation is a relative measure of variability that indicates the size of a standard deviation in relation to its mean. It is a useful statistic for comparing the degree of variation from one data series to another. The formula is:

$$v = \frac{s}{\bar{x}}$$

\bar{x} : the value of mean

s: the value of standard deviation (Hlavsa & Pacáková, 2020)

2.2.2 Categorical data analysis

According to Agresti (2012), categorical data analysis is the analysis of data where the response variable has been grouped into a set of mutually exclusive ordered or unordered categories. A categorical variable has a measurement scale consisting of a set of categories. There are 2 types of categorical variables: nominal and ordinal. A nominal variable has no intrinsic ordering to its categories such as gender, colors. Ordinal data, on the other hand, orders categories but does not provide precise measurements, such as satisfaction ratings or education levels.

A contingency table is a tabular representation of categorical data. It usually shows the frequencies for particular combinations of the values of two discrete random variables X and Y (Aktas, S., 2010). Each cell of the table represents a distinct combination of categories from the two variables being evaluated, and the numbers in each cell represent the frequency or percentage of observations that belong to each combination. In statistics, contingency table is often used to test hypotheses about relationships between variables. It is divided into 2 type of tables: two-way contingency table 2*2 (2 rows and 2 columns) and classical contingency table(with at least 2*3 or 3*2).

There are 2 methods to apply for analysis chi-square test (X^2 - test). It is used to determine whether your data are significantly different from what you expected. And Fisher's factorial test (FFT) to determine if there are nonrandom associations between two categorical variables (Hlavsa & Pacáková, 2020).

- If sample size $n > 40$: X^2 – test will be used
- If sample size $n < 20$: Fisher's factorial test will be used
- $20 \leq n \leq 40$ and all expected frequencies are < 5 : in this case FFT will be used

2.2.3 Test of independence

This is a statistical test used to determine whether there is a significant relationship or dependence between categorical variables.

An observed frequency is the frequency, or results that are collected during an experiment. It shows the number of times a particular event or category occurs based on collected data (Chassin, David P., et al., 2005).

Variable B	B1	B2	Σ
Variable A			
A1	a	b	a+b
A2	c	d	c+d
Σ	a+c	b+d	n

Table 1: Observed frequency

Expected frequency is the number of times we would expect an event to occur over a given number of trials that take place during an experiment (Cochran, W. G., 1954). The expected frequency is calculated using the following formula:

$$\text{Expected Frequency} = (\text{Row Total} * \text{Column Total})/N$$

Variable B	B1	B2	Σ
Variable A			
A1	$\frac{(a + b) * (a + c)}{n}$	$\frac{(a + b) * (b + d)}{n}$	a+b
A2	$\frac{(c + d) * (a + c)}{n}$	$\frac{(c + d) * (b + d)}{n}$	c+d
Σ	a+c	b+d	n

Table 2: Expected frequency

Chi-square is used as a non-parametric test for testing the goodness of fit or for testing independence (Anupama S., 2023). The following formula is:

$$X^2 = \sum \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

O_{ij} is the observed frequency of the cell in the i row and j column.

E_{ij} is the expected frequency of the cell in the i row and j column.

- Chi-square test (X^2 -test)

H_0 : There is no relationship between variables.

H_1 : There is relationship between variables.

If:

$X^2 > X^2_{\alpha}$ or $P < P_{\alpha} = 0.05 \rightarrow$ The null hypothesis is rejected.

$X^2 < X^2_{\alpha}$ or $P > P_{\alpha} = 0.05 \rightarrow$ Do not reject the null hypothesis.

- Fisher's factorial test (FFT)

$$P_i = \frac{(a + b)! (c + d)! (a + c)! (b + d)!}{a! b! c! d! n!}$$

$\sum P_i < 0.05$: Hypothesis is rejected.

$\sum P_i > 0.05$: Hypothesis is accepted (Hlavsa & Pacáková, 2020).

3 Literature Review

3.1 E-commerce

3.1.1 Definition of e-commerce

There are many types of concept of e-commerce or electronic commerce.

First, according to the World Trade Organization, it is defined as the production, distribution, marketing, sale or delivery of goods and services by electronic means. An e-commerce transaction can be take place between businesses, families, individuals, governments, and other public or private organizations.

In business transactions e-commerce is the use of electronic communications and digital information processing technology to create, transform, and redefine relationships for value creation relationships between organizations and individuals (P.Baliyan 2012). On the other hand, P.Baliyan 2012 said that e-commerce generally refers to buying and selling over the internet, or conducting any transaction that involve the transfer of ownership or rights to use goods or services through a computer network. In other words, the buying and selling, marketing and servicing, delivery and payment of products, services and information over the internet, intranets, extranets, and other networks, between an internet-worked enterprise and its prospects, suppliers, customers, and other business partners. Most of the businesses are using e-commerce techniques to place orders, exchange of information, make

online payment and conduct video conferences, thus improves business processes. The author has provided the basic definition and overview of e-commerce.

According to Jerry Ellison, the definition of e-commerce is a electronic contracts for exchanging value using communication and information technology. Another perspective, Roger Clark defines e-commerce as the trading of goods and services through telecommunication and telecommunication tools.

Summarizing all the studied definitions and existing concepts, Babenko and Vitalina introduced the concept of e-commerce in their paper in two forms:

- In a narrow sense: e-commerce is the buying and sale of goods and services using privately operated communication networks, such as the internet and the exchange of money as well as the sale of products and services. A transaction in e-commerce can be a simple confirmation of desires and abilities buy with credit card and after transfer, the sum of money that must be transferred from one account to another (Babenko et al., 2019).
- In a broad sense: e-commerce is any form of business relationships where interaction between agents occurs through the use of internet technology (Babenko et al., 2019).

3.1.2 Type of e-commerce models

Indeed, e-commerce can be categorized into many different models, each catering to different types of transactions and participants. There are mainly three kinds of e-commerce: business-to-business (B2B), business-to-consumer (B2C), and customer-to-customer (C2C).

Business-to-Business (B2B)

B2B is the exchange of products, services, or information between business over the internet. B2B websites are divided into several categories: corporate websites, product offering and shopping exchange sites, specialized search sites, and industry and trade standards organization site (Goldman Sachs, 1999).

The following four common B2B models can be summarized as (Hemond-Wilson 2000):

- Buy side (e-procurement): Pre-negotiated agreement with the buyer.
- Sell-side (e-catalogue): Provides a wide market and can be supported by connected ERP (supply chain management).
- E-Marketplaces: The buyer/seller network uses auctions, reverse auctions, and exchanges.
- Trading Partner Agreements: Inter business automation processes.

Business-to-Consumer (B2C)

The "Application Developers Guide" of Oracle defines "B2C as a term describing the communication between businesses and consumers in the purchase and sale of goods or services". Similarly, Sybase (2001) suppose that B2C is the ability of companies to provide products, services, support, and information over the internet directly to individual consumers.

In fact, B2B and B2C e-commerce are increasingly popular in e-commerce worldwide. B2C is better known, but B2B is more profitable. In addition, Kumar and Sareen's research explains that both use computer networks and various digital technologies in the buying and selling process. However, the parties involved in business are not the same. Buyers in B2C are individuals who purchase items for personal use, while in B2B, buyers are companies that purchase items for business purposes (Kumar&Sareen, 2011).

Customer-to-Customer (C2C)

The third common type of e-commerce is customer-to-customer (C2C). Unlike the above 2 types of models, C2C e-commerce can be defined as individuals conducting business in an online environment, often using the internet in one way or another (Mäkeläinen, S. I. 2006).

Tsarev & Kantarovich express that C2C is e-commerce between the end consumer and the end consumer, in which buyers and sellers are not legally entrepreneurs. Furthermore, a third party in C2C is involved in a commercial relationship – an intermediary that organizes a trading platform, such as an online auction, advertising on a website about buying or selling, etc. In addition, the intermediary can be the guarantor or the person making the payment. The intermediary is not a guarantor of the goods but in some cases can influence the resolution of controversial situations.

Thus, thanks to the development of the internet today, transactions do not face major obstacles. This has brought about the rapid growth of C2C e-commerce. Therefore, C2C e-commerce is worthy of expectation and is expected to play a strong role in supporting B2B and B2C e-commerce.

3.1.3 E-commerce in Viet Nam

According to e-commerce by Global Data Analytics, Vietnam is considered one of the fastest growing e-commerce markets in Southeast Asia with an average annual growth rate of about 18% and its forecast market size is likely to reach \$26 billion by 2024.

Iprice has conducted a survey of Vietnamese e-commerce businesses showing that Vietnam is participating in e-commerce at a high speed and catching up with regional trends. The number of online customers on mobile phones in Vietnam has increased significantly, gain 26% in 2017.

In recent years, with the appearance of a number of e-commerce websites such as Lazada, Tiki, Shopee, TikTok shop,... online shopping is no stranger to Vietnamese customers. The online

shopping market is more vibrant as more and more young customers participate in shopping on social networks (EBI., 2019). Shopee is the most popular e-commerce and shopping website in Vietnam, followed by Lazada in second place and Tiki in third place (Vietnam most visited e-commerce and shopping websites, 2021). Thanks to major e-commerce platforms such as Shopper, Tiki, Lazada, etc., more and more Vietnamese consumers are familiar with shopping online. As a result, it brings more opportunities to domestic businesses, consumers and society (Top 3 e-commerce websites in Vietnam, 2020).

In addition, during the COVID-19 pandemic, Vietnam's e-commerce industry witnessed a record increase in the number of orders. A leading e-commerce platform reported that customers spent about 25% more time browsing and searching for items online. Digital service innovations have been rapidly developed to address new demands from consumers. Vietnamese businesses and services have taken various measures to promote their digital transformation projects and offer new solutions for their delivery services (Vien Thong, 2020). Despite the COVID pandemic is over, 91% of users are satisfied with using e-commerce sites (E-commerce floors, 2021).

In short, thanks to the development of internet, the increase in the number of young users and their ability to keep up with trends. E-commerce in Asia in general and Vietnam in particular is an extremely strong and potential market. COVID-19 is one of the factors involved in expanding and promoting the growth of the e-commerce market.

3.2 Shopee

3.2.1 Shopee e-commerce platform

According to information from the official website of the Shopee platform, it was obtained that Shopee was established in 2009 by Forest Li and it was initially known as an e-commerce company under Garena management and changed its name to SEA Group, which is an internet company in Southeast Asia. Shopee has started in 2015 with C2C business model in Singapore followed by Malaysia, the Philippines, Taiwan, Thailand, Vietnam, and Indonesia.

Shopee was launched as a combination of C2C e-commerce platform and social network site. The Shopee app is available on IOS and Android, allowing users to make purchases on their mobile phones quickly. Afterward, Shopee has changed its business model to hybrid C2C and business-to-consumer (B2C). In C2C, Shopee allows buyers and sellers to connect directly with each other. Shopee helps sellers reach buyers conveniently, while motivating buyers to reach out multiple sources of sales, which helps diversify their purchasing options. With this model, Shopee can build an e-commerce platform with the most variety of products and services. To upgrade its reputation, Shopee

later adopted the B2C model that buyers can choose products of high quality from genuine brands. So far, Shopee has successfully integrated these two business models.

Generally, Lestari et al. (2019) describe Shopee as an online shopping app that can be accessed using smartphones so that people will easily shop or sell directly on their mobile phones. The platform offers a wide range of products and comes with secure payment methods. In addition, Shopee also offers many interesting features to make transactions easier, such as direct payment or door-to-door delivery (COD), so buyers can pay after receiving the goods without having to transfer money first. The author also pointed out that the Shopee app has many advantages over other applications, one of which is the chat feature so that buyers can interact directly with sellers without having to communicate with other applications such as Messenger, Zalo, etc. Shopee also always offers games that can generate gold coins, free shipping promotions, flash sales, and discounts.

In addition, one of the interesting programs of the Shopee app is the cashback feature in the form of Shopee gold coins. A cashback is an offer in which the buyer gets a percentage of cash or virtual currency or even a product but satisfies certain purchase conditions that have been set by the refund organizer. These Shopee coins can later be used as a discount when making the next transaction (Pratama et al., 2019). However, this cashback can only be used provided that the transaction payment must be through the Shopee digital wallet, commonly known as ShopPay, and the minimum spend must be reached.

According to statistics from the official website of the Shopee platform, the current number of downloads has reached more than one hundred and fifty-one million downloads on the Google Play Store. The main users of Shopee are young people. For this reason, Shopee is present in the form of mobile phones with applications that support easy and fast shopping activities. The product categories offered by Shopee focus more on fashion, makeup, and home appliances (<https://shopee.co.id>).

3.2.2 Shopee in Viet Nam

As I mentioned earlier, Vietnam is indeed a huge potential place for the development of e-commerce. With a population of over 99 million, Vietnam has a young and dynamic population accounting for about 80% of the population using the internet. And of course, the number of internet users is growing rapidly, especially among young people.

In August 2016, Shopee was official introduced to Vietnamese market. Shopee focuses heavily on television and online advertising to attract users during the first year. With the first business model is a combination of C2C e-commerce platform and social networking. But today, the Shopee platform has become a C2C and B2C mixed model marketplace. With the B2C model (business-to-customer),

that is, buying and selling between businesses and individuals, and Shopee acts as an intermediary link and receives commissions (Shopee, 2021). Shopee's significance in Vietnam's e-commerce market can not be understated, Shopee has built a strong presence and is an important factor in Vietnam's dynamic e-commerce scene, with the following highlights:

- **Market Leader:** The report from Metric's 2022 Ecommerce Market Overview Report state that Shopee is the most popular e-commerce platform in Vietnam. It accounts for nearly 73% of total revenue worth about \$3.8 billion.
- **Innovative Strategies:** By applying creative, appropriate and effective marketing strategies, Shopee has won the trust of many consumers in Vietnam. According to YouGov's ranking in 2019, Shopee ranks at number 3 among many brands known to customers in Vietnam and holds the leading position among other e-commerce platforms in Vietnam.
- **Local Adaptation:** By focusing on localizing the platform to connect and engage local consumers appropriately, Shopee introduces web and mobile shopping apps to facilitate seamless and effective interactions. Shopee allows customers to use two different languages on the app, Vietnamese and English, suitable for Vietnamese and foreigners living in Vietnam (Boxme, 2021).
- **User Base:** Shopee has attracted a large and active user base in Vietnam, including urban and rural consumers. Shopee recorded 1.8 million products sold within 1 minute on September 9, 2021 (Shopee Career, 2021).

Although entering the Vietnamese market when there are two large e-commerce platforms dominating the Vietnamese market: Lazada and Tiki. But Shopee has done something particularly breakthrough and it is currently in first place. In the first quarter of 2022, Shopee was the most popular e-commerce site in Vietnam based on the average monthly traffic, receiving around 84.5 million visits each month (Leading e-commerce sites in Vietnam Q1, 2022).

Because thanks to the excellent financial support from parent company Sea Group and the ability to make the most of the regional market, shopee has gained a foothold in the leading e-commerce market (Boxme, 2020).

To sum up, shopee is really doing well in both Southeast Asia and Vietnam. Despite joining the Vietnamese e-commerce flavor as a latecomer. However, thanks to an innovative and appropriate business strategy, understanding and identifying good customer segments has created an extremely potential customer base. Besides, the beautifully designed, easy-to-use website interface and fast order processing function is an advantage for shopee.

3.3 Consumer behaviour

3.3.1 Definition of consumer behaviour

There are many concepts in the scope of consumer behavior research. In the book "Consumer behaviour" of M. Khan (2007) explains the concept of consumer behaviour as follows:

“Consumer behaviour can be defined as the decision-making process and physical activity involved in acquiring, evaluating, using and disposing of goods and services”.

Indeed, this definition clearly brings out that it is not just the buying of goods or services that receives attention in consumer behaviour, the process starts much before the goods have been acquired or bought. A process of buying starts in the minds of the consumer, which leads to the finding of alternatives between products that can be acquired with their relative advantages and disadvantages. This leads to internal and external research. Then follows a process of decision-making for purchase and using the goods, and then the post purchase behaviour which is also very important, because it gives a clue to the marketer whether his product has been a success or not (M. Khan, 2007).

Taking a similar approach in defining consumer behavior, Schiffman & Kanuk (2007) suppose that "the behavior that consumers display in searching for, purchasing, using, evaluating, and discarding of products and services that they expect will satisfy their needs".

Moreover, consumer behavior includes the mental and physical activities that consumers engage in when searching, evaluating, buying, and using products and services (Consumer behaviour, 2007).

Thus, these concepts have essentially given definitions of consumer behavior, which will support the next sections.

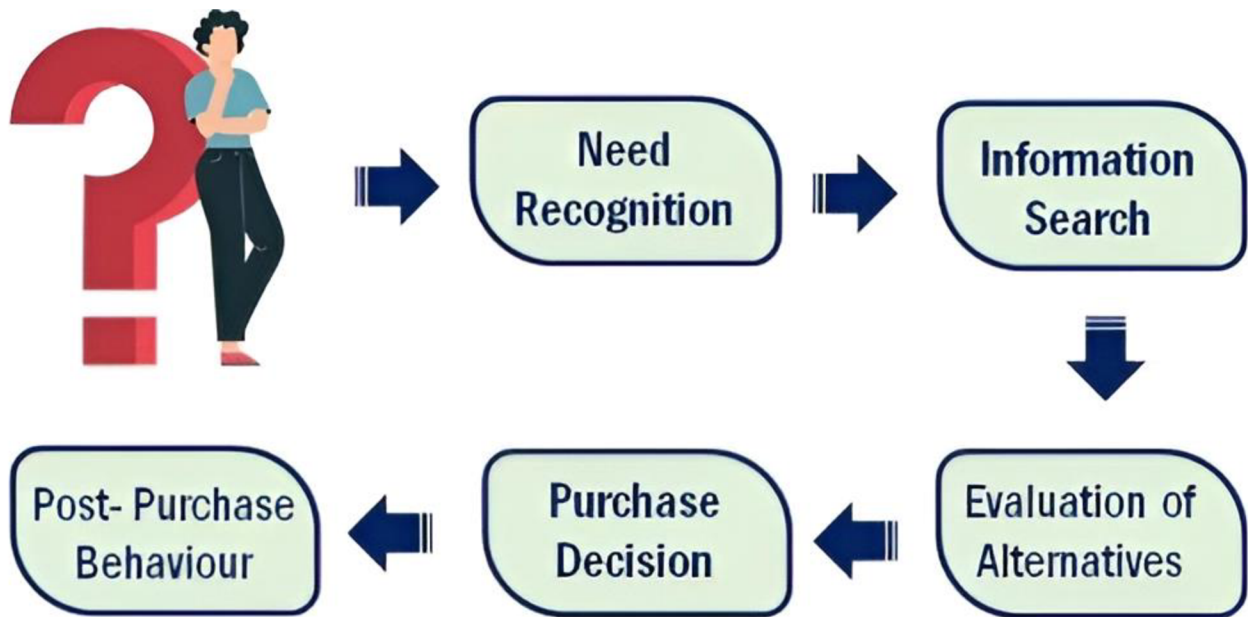
3.3.2 Consumer buying decision process

As the definitions I mentioned above, consumer behavior is known as the study of how people make decisions about what they buy. Therefore, the buying decision process is one of the most important aspects of consumer behavior.

Lumen, n.d. (2019) explained that the consumer buying decision process is the decision-making processes begin by the consumer to buy the goods or services in exchange of money in the market before, during and after the purchase of goods or services. Indeed, there are many factors that influence how an individual behaves during the buying process. For example, they could be their shopping habits, favorite brands, or shopping locations. Thus, if successful in understanding consumer behavior according to the consumer's decision-making process to purchase goods or

services, marketers and e-commerce businesses can sell goods or the service and gain more customers.

In more detail, Figure 1 shows the five stages of a consumer's purchasing decision or decision-making process including Need recognition, Information search, Evaluation of alternatives, Purchase decision, and Post-purchase behavior.



Consumer Decision Making Process

Source: The Investors Book, 2023

Figure 1: Consumer decision making process

- Need recognition

Need or Problem Recognition is the first stage of the buying decision process. It occurs when consumers realize that there is some difference between their actual state and their ideal or desired state. Agwaral (2006) states that a need may be recognised due to internal or external stimuli. Basic human needs such as hunger and thirst can be considered internal stimuli, while external stimuli can be caused by various forms of advertising. In addition, the recognition of a problem or need depends on different situations and circumstances such as personal or professional and this recognition leads to the formation of the idea of purchase (Neal and Quester, 2006). For example, consumers may realise their laptop run slowly and constantly crashing, prompting them to buy a new one. Thus, human needs are unlimited. People are always dissatisfied, when one need of the individual is satisfied, another will appear and this tendency will be repeated (Maslow, 1974). At this stage, in

order to make it simpler to win over customers, marketers should do consumer research to determine what demands or problems consumers are facing. The next stage is information search.

- Information Search

Once the need is identified, consumers can look for more product-related information before directly making a purchase decision. However, different individuals participate in the search process differently depending on their knowledge of the product (Dudovskiy, 2013).

According to Oliver (2011), the process of finding information can be divided into two parts, internal search and external search. In internal search, consumers compare choices based on their own experiences, memories, and past knowledge. For example, when consumers go grocery shopping, they often engage in internal searches to make choices based on their personal knowledge and preferences. On the other hand, external search is geared towards larger purchases such as household appliances, transportation. For example, when consumers are looking to buy a new car, they may ask for advice from family members, read online reviews, or visit stores to gather information before making a decision.

In the point of view, Winer (2009) expressed that with the enhanced role of the internet in life, more and more individuals are turning to different sources on the internet when looking for specific product or brand information. The author emphasizes the role of reviews that significantly impact the information-seeking stage in the consumer decision-making process among internet users.

- Evaluation of alternatives

This is the third stage of the consumer buying decision-making process. In this stage, consumers analyze, compare, and evaluate all information obtained through searching and reviewing various alternative products and services (Dudovskiy, 2013).

Furthermore, Blythe (1997) argues the evaluation of alternatives is often directed towards the price, quality, or additional features and capabilities of products and services. Discussing this together, Neal and Quester (2007) make it clearer that the most important factor influencing the results of evaluating alternatives by specifying quality, price, and features because of the attributes of the product.

Apart from this, the process of evaluating alternatives sometimes can be difficult, putting pressure on consumers, and taking a long time to find an ideal product or service that meets a customer's needs. There are a number of factors that affect the consumer evaluation process such as culture, age, needs and pocketbook (Ha et al., 2010).

- Purchase decision

This stage is the most important part of the whole process because consumers will make a purchasing decision after gathering information from multiple sources and evaluate. Consumer purchasing

decisions can come from evaluating alternatives or situational factors such as: point of sale, environment and atmosphere at the point of sale, marketing techniques.

Furthermore, Evans et al. (2009) suggest that the impact of others leading to the results of evaluating alternatives may change even in the last minutes before a purchase.

- Post-purchase decision

The final stage is post-purchase evaluation stage. At this stage directly reflects the consumer's experience when purchasing a product or service. Consumers can be satisfied or dissatisfied depending on evaluating the purchase and comparing their own expectations, the results that shape the customer experience, and this experience is said to have a direct impact on the consumer's subsequent decision to purchase the same product from the same seller (Brink and Berndt, 2009). Customers will be satisfied with the product if it meets their expectations. As a result, customers can buy the product again and can give positive feedback about it. In contrast, if the product does not meet the needs of the consumer, they will not be satisfied, therefore having negative reviews about the product or may not even buy the product at all and may throw the product away to minimize dissatisfaction.

Many companies tend to ignore customer reviews because it takes place after the transaction, however the company should know the behaviors or views of consumers towards their products and services. For instance, if the consumer is satisfied then the chances of customer retention are higher and satisfaction can also impact others to buy the product.

3.3.3 Consumer behavior towards online shopping via e-commerce

Overview of online shopping

Online shopping or online retailing is a form of electronic commerce which allows consumers to directly buy goods or services from a seller over the internet using a web browser. It is also known by many others name such as e-web-store, e-shop, e-store, internet shop, web-shop, web-store, online store, and virtual store (Gupta, A. et al., 2013). Consumer behavior in the field of online shopping is also quite diverse in nature compared to traditional consumer behavior, so it is equally diverse. It is important to identify what factors influence consumers to shop online (Newman, D., 2014).

Online shopping is becoming increasingly popular for many reasons:

- First is convenience: online shoppers can choose any time of the day or night to access the web and shop.

- Unlimited choices: The variety of goods will be limited to store spaces and an online store has fixed that. Moreover, if consumers don't see what they want in one online store, just move on to the next one.
- Prices and selection: Online shopping allows to browse a wide selection and compare prices from multiple suppliers, ensuring consumers find the most suitable option for their needs.
- Easy access to consumer reviews: This helps make more informed purchases when it's easy to access consumer reviews for almost any product online.

However, some things may prevent some customers from buying online (Thilagavathy, N., 2017):

- Fraud and security: Consumers are at higher risk of fraud than face-to-face transactions due to the lack of ability to inspect goods before purchasing. Because of the inability to sense the material, trying it on and seeing how the products perform results in the item may be defective or not work properly, which may not be the same as the item in the photo. In addition, hackers can break into a merchant's website and steal a customer's name, address, and credit card number.
- Immediate support may not always be available: When seeking clarification or answers to your issues while viewing content, response wait times may last a minimum of 24 hours. While some platforms have integrated instant chat functionality to address this issue, the accessibility and effectiveness of such features are still limited. As a result, users may experience experiencing delays in receiving real-time information or support during their viewing experience.
- Privacy and security: For online shoppers, ensuring privacy and security remains a top priority due to the potential risks associated with sharing personal information and making transactions over the internet. Many consumers regularly receive spam and telemarketing due to providing contact information to online sellers. In addition, many websites track consumers' shopping habits for item suggestions and other sites to view.

Consumer perception of online shopping through e-commerce platforms

Regarding consumers' online shopping behavior, it is essential to know consumers' perceptions of online shopping through e-commerce platforms, including understanding the advantages and disadvantages points related to this shopping method.

First on the positive side, e-commerce eliminates the limitations of time and space. Now people can shop at home without having to go to stores and shopping centers where consumers sometime have to face crowds and long queues. One of the great advantages of online shopping is flexibility. Because online stores do not have holidays, closures or any other problems. Consumers can be proactive about

when to shop. Anytime, anywhere, consumers can still surf the web and place orders without depending on the opening hours of shopping centers. Or as Solomon et al. (2006) point out, online stores are open 24/7, allowing you to shop comfortably at any time. This eliminates the hassle of crowded shopping malls and inconvenient opening hours, making online shopping a time-saving and stress-free experience.

In addition, shopping through e-commerce sites, consumers can compare prices easily, the platform offers a variety of products, and can read reviews from previous buyers to know if the item the consumer wants to buy is suitable or not.

However, besides the convenience, online shopping through websites also has limitations. Consumers do not have the ability to physically interact with the product. Unlike traditional stores, online platforms do not allow touching, feeling or trying on products before purchasing. This, as Niranjnamurthy et al. (2013) suggest, can lead to uncertainty about product quality due to inaccurate descriptions and the risk of receiving items that do not match expectations leading to negative online shopping experiences. Furthermore, security concerns also emerged as a significant disadvantage. According to Solomon et al. (2006), this is a major limitation of e-commerce and emphasizes the importance of choosing a reputable platform to protect consumers from online fraud and data theft.

To sum up, although online shopping undeniably brings convenience and diverse product selection, it has limitations in terms of product interaction and security concerns. These aspects significantly shape consumers' perceptions and influence their online shopping behavior.

Consumer online shopping decision through e-commerce platform

The research purpose of this paper is to identify and evaluate consumer behavior towards direct shopping on e-commerce platforms. Therefore, this section will focus on understanding how consumers behave on online platforms.

In more detail, online shopping is the current trend that allows people to buy everything from home (Bashir et al., 2015). In other words, online shopping is the best methods of convenient shopping. Infact, the rise of online shopping has changed the way consumers make purchasing decisions, taking advantage of the convenience and accessibility that e-commerce platforms offer. This shift towards digital retail has become a widespread trend globally, with developed countries rapidly adopting e-commerce activities. Specifically, Asian countries like Vietnam have welcomed this trend with countless e-commerce sites such as Shopee, Tiki, Lazada, TikTok Shop, Sendo serving the growing needs of online shoppers.

E-commerce platforms have revolutionized the shopping experience, allowing consumers to browse, compare and purchase products and services with ease. The convenience and ease of online transactions not only simplifies the purchasing process but also creates a major change in people's consumption patterns. Research by Katawetawaraks & Wang (2011) state that the decision-making process whether consumers are offline or online is very similar. However, the main difference between online and offline purchasing are shopping environment and marketing communication.

Consumers participating in e-commerce websites will have endless options, allowing them to explore a wide range of products, read reviews and make informed purchasing decisions. This facilitates the consumer's shopping experience conveniently with relevant offers and promotions to enhance consumer engagement. By leveraging user data and insights, e-commerce platforms can provide customized services tailored to individual preferences and shopping habits. Although, people continue to shop in physical stores. But shoppers feel more comfortable making purchases online (Katawetawaraks & Wang, 2011).

Furthermore, the online shopping decision process is considered in comparison with offline shopping decision making. Not only is it based on detailed product information and alternatives, but prices have been published on e-commerce sites for customers. This helps consumers make their purchasing decision process simpler and faster. In other words, online shopping brings more satisfaction to those who require convenience (Rahman et al., 2018).

In summary, to clarify consumers' online shopping behavior and decisions, it is important to understand the characteristics that define online consumers. Hasslinger et al. (2007) proposed that consumer characteristics include aspects such as social, cultural, personal and psychological, shaping how individuals interact with e-commerce platforms and make choices purchase.

3.3.4 Consumer behaviour via e-commerce in Vietnam

The strong growth rate of the internet creates favorable conditions and environment for the development of e-commerce. In this context as mentioned earlier, Vietnam has emerged as a dynamic and thriving online commerce hub. The growth of e-commerce in Vietnam is remarkable along with drastic changes in consumer behavior.

According to statistics released by the Department of E-Commerce and Digital Economy, if in 2021 retail e-commerce (B2C) revenue reaches 13.7 billion USD, the revenue will continue to increase in 2022 to reach 16.4 billion USD, accounting for 7.5% of the country's total retail sales of consumer goods and services. With 80% of people using the internet, Vietnam has over about 60 million consumers shopping online, where the value of per capita spending is estimated to be between 300-

320 USD, although in 2022 this figure has decreased slightly to 288 USD. Thus, the growth and importance of e-commerce is indeed impressive, making Vietnam a leading destination for online entrepreneurs as well as long-established market participants. There are 5 popular e-commerce platforms in Vietnam today named Shopee, Lazada, Tiktok Shop, Tiki, Sendo.

Among the key players shaping the e-commerce landscape in Vietnam, Shopee has emerged as a prominent and influential platform. Shopee's dominant position in the market reflects their strong commitment to user-friendly experiences, innovative solutions, and offering a wide range of products and services. Among ASEAN countries, Shopee is the leading platform in terms of total value of goods transactions. In Vietnam, the value of goods transactions on Shopee accounts for 63% of the total GMV of the whole market, reaching about 5.67 billion USD. It is followed by Lazada with a market share in GMV of about \$ 2.7 billion, a big difference compared to Shopee when it is only nearly half (Lao Dong newspaper, 2023).

The development of e-commerce has brought a lot of utilities to consumers in Vietnam. 81% of Vietnamese respondents said they consider online shopping an indispensable habit every day. Since the outbreak of the Covid-19 pandemic, there has been a marked change from traditional sales models to online sales models and the number of consumers participating in shopping is increasing rapidly. The main consumer behavior trends in Vietnamese e-commerce today can be mentioned including: mobile shopping, payment methods, local brands and products, the tendency to thoroughly learn the product through reading reviews and ratings (Industry and Trade magazine, 2023).

- **Mobile shopping:** with smartphones becoming popular, mobile shopping has seen explosive growth in Vietnam. A survey from iPrice shows that up to 80% of consumers decide to buy electronic products on mobile devices (iPrice, 2021). The popularity of mobile shopping has changed the way consumers interact with e-commerce platforms like Shopee.
- **Payment Methods:** while digital wallets and online payment methods have gained popularity, cash on delivery remains a popular option, especially in rural areas. This trend shows the importance of flexible payment options suitable for the diverse consumer base in Vietnam.
- **Local brands and products:** the Vietnamese consumer market tends to favor local products and brands. This is the main trend of Vietnamese consumers in online shopping and especially formed clearly after the Covid-19 pandemic. Consumers desire to support local businesses and seek products that align with their cultural values and preferences.
- **The tendency to thoroughly learn the product through reading reviews and ratings:** in previous years, price was the first consideration when making purchasing decisions. And now, reviews also are the most important factor that influences customers' buying behavior. Vietnamese

consumers mainly rely on expert opinions and assessments to reinforce confidence before making purchasing decisions.

3.4 Factors influencing online consumer purchasing decisions via e-commerce

Truly, there are many factors that influence online shoppers' behavior towards e-commerce. For example, instead of going to multiple stores as before, consumers can now choose between a variety of products at different prices on just one online platform. In addition, with the right offers and prices, game shows are an incentive to motivate consumers. And furthermore, consumers will not need to waste time moving to sales locations but instead products can be delivered to a specific location, such as their home through shipping services. Thus, factors such as convenience, price and incentives, variety of products, transportation services, etc have a significant impact on consumers' online purchasing decisions. There are 5 main factors that will be discussed in this paper: convenience, the factor price, variety of goods, local brand presence, truth and privacy.

Convenience

Verhoef & Langerak (2001) made the announcement that customers can shop online 24 hours a day, seven days a week at online retail businesses. Busy customers may consider the time commitment required to make a purchase at a typical retail store as a disadvantage. Indeed, convenience is the key to online shopping's success and is responsible for the recent and current e-shopping market boom. According to Darian et al. (2001) there are five types of convenience for online purchases: reduced shopping time, time flexibility, effort savings when visiting a brick-and-mortar store, reduced annoyance, and an opportunity to make impulse purchases or immediately react to advertising.

Online shopping allows consumers to shop at any time and place they want, using the payment method they prefer as well as the shipping methods to their location (Raman, 2019). Moreover, saving time is one of the factors that make online shopping facilitated, as customers prefer convenient alternatives over other time-consuming methods where they can complete purchases quickly and comfortably using an internet platform (Kebah et al., 2019).

In addition, accessibility and usability on smartphones is one of the main factors related to convenience and will be mentioned in the hypothesis. Consumers can easily access these platforms anytime, anywhere, easily search for a wide range of products and services with a single touch of the screen. Besides, digital payments have further enhanced the convenience of online shopping. Payment options such as e-wallets, mobile banking, and online payment gateways have become widely accepted, eliminating the need for cash and physical card transactions. This transition to mobile

accessibility and digital payments not only enhances overall convenience for consumers but also drives e-commerce growth in Vietnam.

In particular, today e-commerce platforms offer free shipping services to encourage customers to spend and shop more than they expect. For example, when a customer accumulates a certain number of loyalty points through a purchase on an e-commerce site, they may be eligible for free shipping. It is true that e-commerce platforms that offer free shipping are the reason why customers prefer online shopping.

The factor price

In fact, consumers' purchasing decisions are mostly influenced by pricing. In the past, pricing and price comparison took a long time, but now price comparison can be done quickly through the internet. E-commerce platforms frequently engage in price wars, competing to offer products at a lower cost than competitors. And consumers are naturally attracted to platforms that offer better deals and value for their money. However, some other consumers want high-quality products that are unique and novel without paying attention to price. Hasslinger et al. (2007) have argued that even when prices are low, additional costs such as taxes, customs, or long-distance delivery can influence online consumers' choices to consider when buying. So, price is not their top priority while deciding to buy the product.

Because e-retailers understand that consumers evaluate the value they receive in proportion to the price they pay. Therefore, affordable price is the reason why consumers decide to buy products online. At the same time they constantly offer discounts on various products. By offering timed promotions and exclusive discounts, businesses encourage consumers to make quick purchasing decisions, taking advantage of the urgency created. Such incentives often lead to a larger number of car purchases and increased sales.

Variety of goods

The variety of products is one of the biggest motivators that motivates consumers to shop online (Prajapati, 2021). Indeed, the availability of a wide range of products is a strong attraction for consumers. E-commerce platforms that offer diversity in their product range will create a friendly environment that attracts consumers. A wide range of options fosters the perception that the platform is the one-stop destination for every shopping need.

Many consumers prefer to buy online because they can more easily find the right product when there are multiple options on a single e-commerce platform. In addition, e-commerce platforms allow filtering and selecting products based on their preferences and current trends.

In summary, the variety of goods available on e-commerce platforms is a strong influencing factor on consumer behavior. It attracts consumers by offering a wide selection, allowing them to find products that suit their diverse needs and encouraging inquiry and discovery. The more types of products available online, the greater the demand for product information (Sin, L., & Tse, A., 2002).

The factor local brand presence

Local brand is gradually becoming a fashion trend among young people. Local brand can be understood as a domestic fashion brand. Normally, local brands will be responsible for all from conceptualizing, designing, sewing, printing patterns on clothes to packaging and distributing to consumers. (Bell, U., 2023). In addition, according to Ger (1999), local brands tend to be targeted and positioned based on a deep cultural understanding and therefore create "a sustainable unique value and offer the symbolism of authenticity and prestige" Currently, many local fashion brands maintain stable sales thanks to e-commerce platforms such as Shopee, Lazada, Sendo, Tiki, Tiktok shop. There are even significant strides thanks to special occasions with constant promotions throughout the year. Moreover, local brands will put product quality criteria on top, from material selection, sewing and printing, etc. At reputable units in order for products to be preserved best and help users feel more secure when using their brand's products.

As can be seen, the presence of local brands can also be a significant motivator for consumers. In fact, there have been many local Vietnamese brands known and used by foreign stars. The introduction of local brands promises to help Vietnam compete with long-standing fashion brands around the world. With the advantage of beautiful products, quality and more affordable prices than international fashion brands.

The factor truth and privacy

According to research, customer trust in a retail website is an essential factor influencing purchase intention. Kidane & Sharma (2016) state that trust is defined in an online context as trust that allows online shoppers to easily share personal and financial information with retailers and e-commerce sites. Truly, security is one of the most important aspects of making a purchase over the internet. On e-commerce platforms, the trust factor helps consumers overcome fears of uncertainty and the risk of trust-related behaviors, such as loss of money, risk from merchants, risk of personal information being illegally disclosed, and security risk (credit card information can be stolen) is one of the risks that online customers can face (Ratnasingam & Pavlou, 2003). These factors sometimes delay a consumer's purchase decision.

There is no doubt that consumers' trust in e-commerce depends on the security of their personal and financial data. Strong data security measures, such as encryption, secure payment gateways, and data

protection, are essential to protect consumer privacy. Data breaches and privacy concerns can significantly impact trust and influence consumer behavior. A transparent and fair return and refund policy is essential to instill trust in consumers. When consumers know that they can return a product easily if it does not meet their expectations, it can minimize feelings of regret and negative impact. Finally, we can affirm that there are many factors that influence consumer behavior online. And these factors are the highest motivators driving consumers' online purchasing decisions. And depending on the characteristics of the consumer, the degree of influence of each factor is not the same.

4 Practical Part

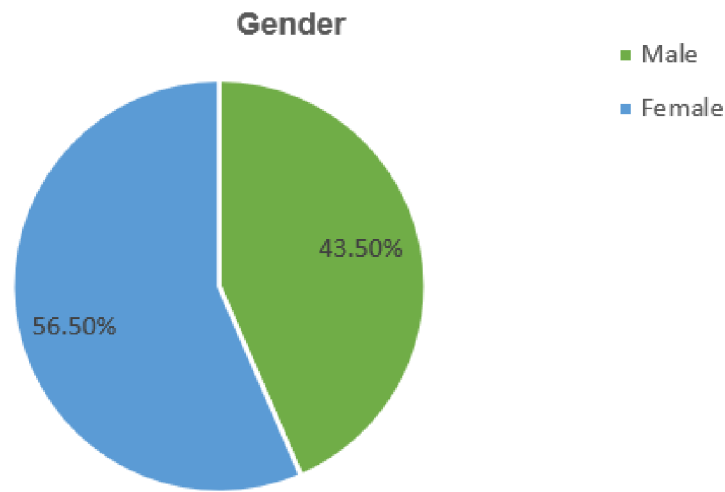
4.1 Evaluation of survey

In this study, a questionnaire survey was used to identify factors that influence consumer behavior toward e-commerce purchases. The survey was designed using Google Forms and disseminated online via social media platforms such as Facebook, Instagram, Messenger, Whatsapp, etc. There are no restrictions on age, gender, region, etc. everyone can participate in the survey. There are 15 questions, of which 14 have 1 answer, 1 question has multiple answers. The survey received 177 random Vietnamese respondents. Following this, a summary table was created with all data collected objectively from the survey.

The questionnaire design includes two parts. The first part will exploit demographic data, including age, gender, education level, occupation, and income. The second part will analyze the characteristics, frequency, and main factors influencing consumer buying decision towards e-commerce.

Leveraging demographic information helps e-commerce platforms optimize operations. Understanding the demographic profile of consumers on e-commerce platforms is important for building targeted marketing strategies. Businesses will gain valuable insights into the diverse needs and preferences of their customer base. Helps enable customization of advertising efforts, product offerings, and platform features, creating a more personalized and engaging experience for users.

According to Figure 2, the survey demonstrates a relatively even distribution of respondents between males and females. There were 100 people identified as female among the 177 respondents, representing 56.5% of the total respondents, the remaining 77 people identified as male, representing 43.5% of the total respondents. This indicates that e-commerce is equally appealing to both genders, challenging the notion that online shopping is primarily dominated by one gender. This information helps provide an overview of the gender distribution of respondents in the survey.

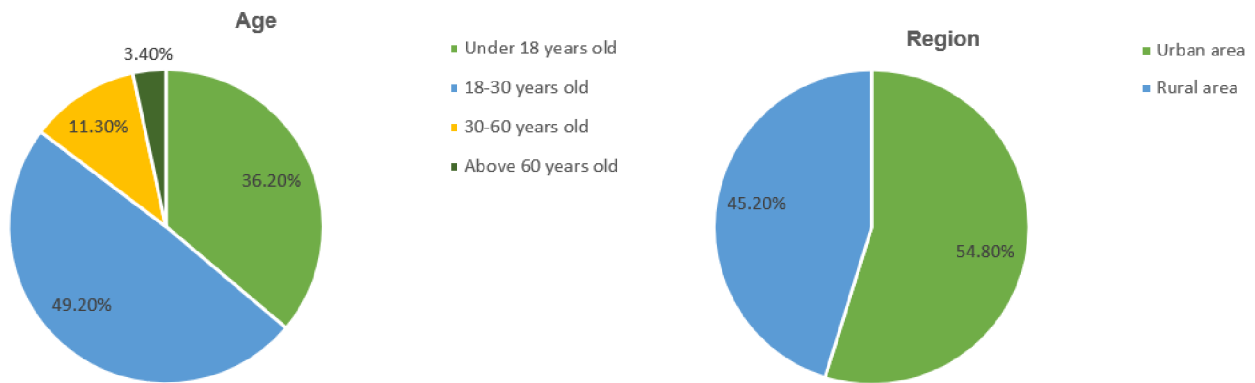


Source: Author (excel)

Figure 2: Gender

From the survey, as shown in Figure 3, the majority of respondents were between the ages of 18-30, accounting for 49.2%. Next are people under the age of 18, accounting for 36.2%. This shows that e-commerce is being adopted by the younger generation, who are more knowledgeable about high technology and more comfortable with online shopping. And a significant portion of individuals aged 30-60 (11.3%) and over 60 (3.4%) also actively participate in online shopping. This diverse representation shows that e-commerce has overcome age barriers and become an indispensable part of Vietnamese consumption behavior. Therefore, by understanding and catering to the unique preferences of different age groups, e-commerce businesses can effectively capture a broader market share and contribute to the growth of the e-commerce industry in Vietnam.

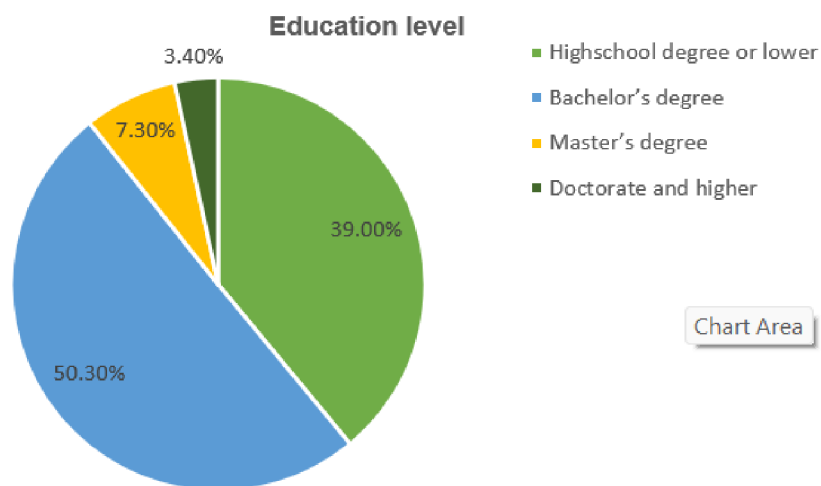
Regarding regions, the survey shows that e-commerce is more popular in urban areas at 54.8% compared to rural areas at 45.2%. This means that e-commerce may be more attractive to individuals with better internet infrastructure and more online shopping options.



Source: Author (excel)

Figure 3: Age and region

Next, survey question were asked to know more about the participants' educational level. As shown in Figure 4 the highest proportion possessing a bachelor's degree, accounting for 50.3%. The second largest group is those with a high school diploma or lower, accounting for 39%. The third group was those with master's degrees, accounting for 7.3%. And finally, those with a doctorate or higher accounted for 3.4%. This suggests that e-commerce is accessible and attractive to individuals with different levels of education.

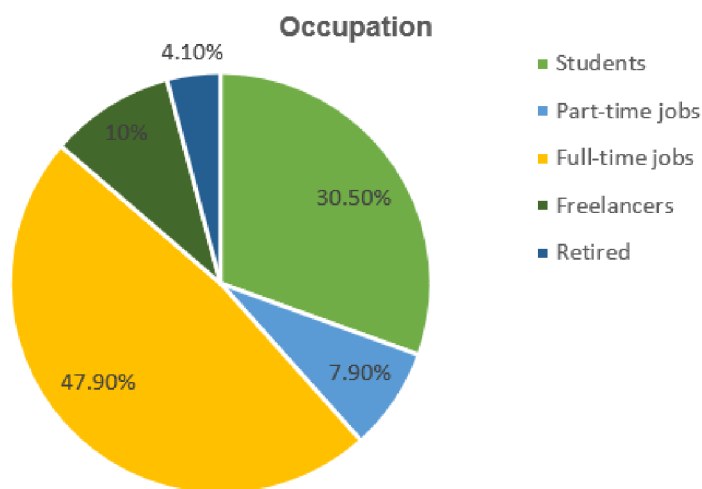


Source: Author (excel)

Figure 4: Education level

The survey's findings regarding occupation reveal that those with full-time jobs are the largest group of respondents. From Figure 5 we can see that the proportion of full-time employment accounts for 47.9%. Meanwhile, student group account for a significant portion of e-commerce users at 30.5%, followed by individuals with part-time jobs (7.9%), freelancers (10%), and retired individuals (4.1%).

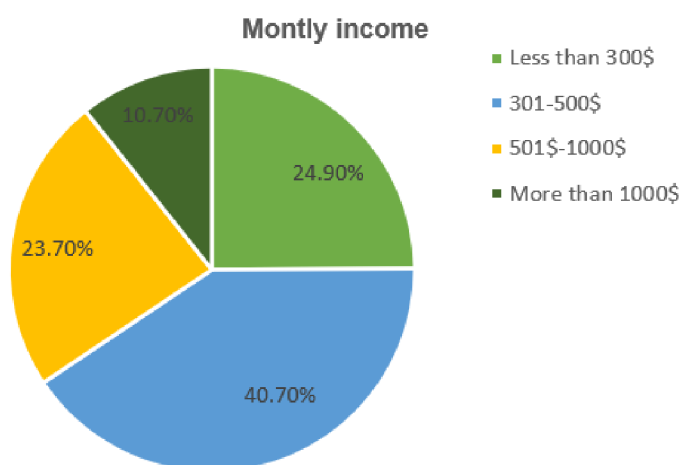
This diverse range of occupations underscores the platform's broad appeal across different age groups, reflecting the deep nature of their preference for convenient shopping options.



Source: Author (excel)

Figure 5: Occupation

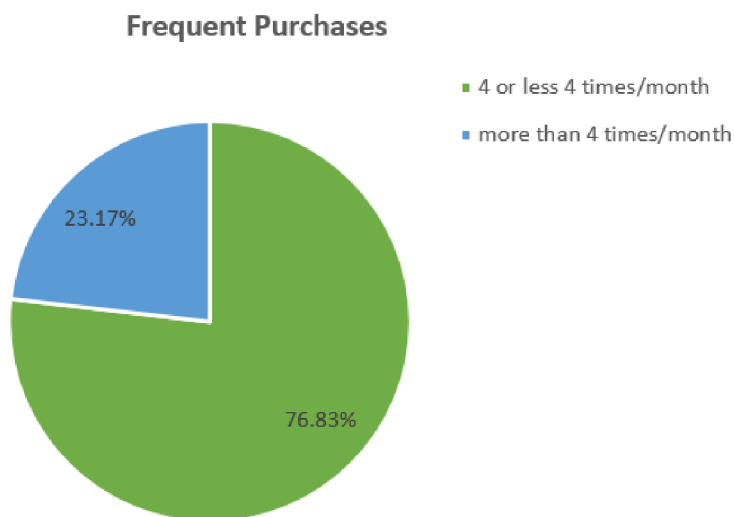
In terms of monthly income, in the Figure 6 the survey took the \$300 mark as the starting point to calculate the income of one person a month. The majority accounted for 40.7% of participants who said their income from \$301-500 per month, followed by 24.9% of people who said that their income is less than \$300, from \$501-1000 a month income accounts for 23.7%, and only 10.7% of people have an income of more than \$1000 a month.



Source: Author (excel)

Figure 6: Monthly income

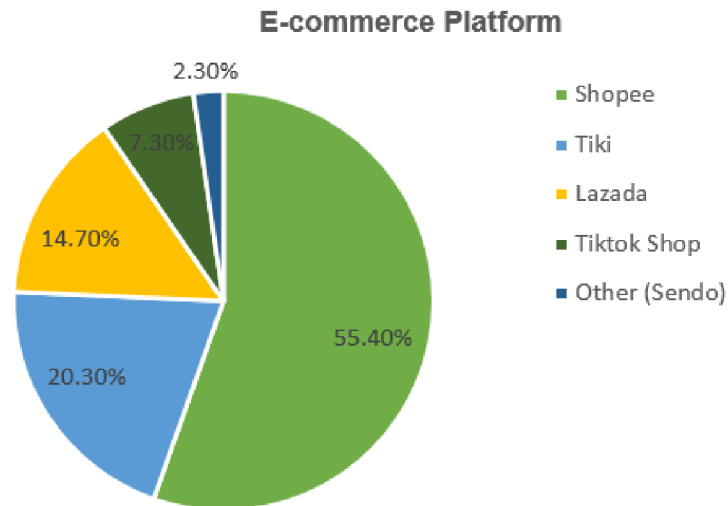
According to the Figure 7, we can see that the majority of e-commerce users have moderate shopping habits. The most common frequency is 4 or less 4 times per month, accounting for 76.83%, this shows that online shopping has become a regular part of their lives but not excessively. The remaining 23.17% of users make more than 4 purchases per month, suggesting they may be more frequent shoppers or have more specific needs that require them to buy products more often.



Source: Author (excel)

Figure 7: Frequent purchases

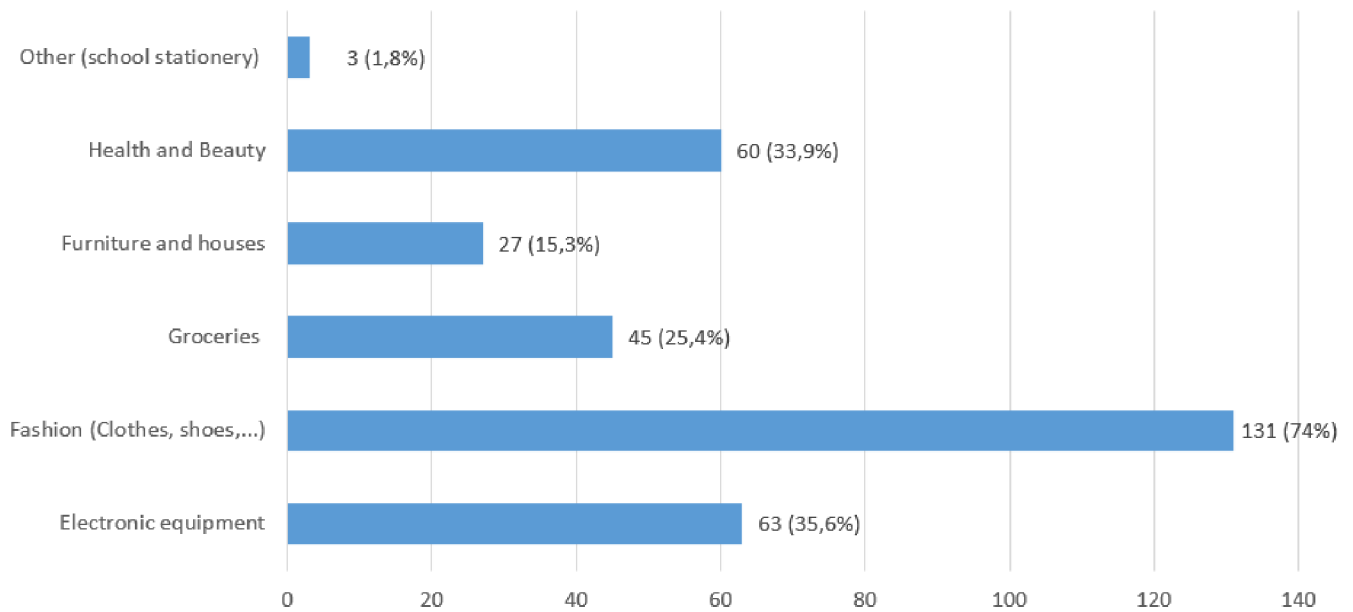
When asked which e-commerce platform is the preferred choice. The survey results showed that up to 55.4% of respondents said that Shopee is their preferred platform. Next is allocated to two large e-commerce platforms, followed by Tiki accounting for 20.3% and Lazada accounting for 14.7%. The rest, accounting for 7.3% said they prefer to use TikTok shop and another e-commerce platform like Sen Do with 2.3%. Based on this result, it further highlights the attraction and preference of Vietnamese people for Shopee. Shopee's dominance in the Vietnamese e-commerce market is due to its user-friendly interface, extensive product catalog, and effective marketing strategy. Shopee has continuously invested in improving the platform's navigation, search functionality, and user experience, making it the preferred choice for many Vietnamese consumers. It attracts a large amount of traffic and becomes the most potential sales channel for businesses. Tiki, Lazada, Tiktok Shop, and Sendo are behind Shopee in terms of market share, but they are actively innovating and expanding their services to attract more users.



Source: Author (excel)

Figure 8: Preferred Platform

According to the survey, shown in Figure 9, the most popular product categories when shopping online in Vietnam are fashion with 74%, followed by products related to electronics (35.6%), health and beauty (33.9%), groceries (25.4%), furniture and housing (15.3%). Fashion was clearly the leader, accounting for more than half of respondents' preferences, while electronics, health and beauty maintained a strong presence. Groceries and furniture are also gaining traction, demonstrating the growing acceptance of online shopping for daily essentials. It seems that fashion especially appeals to the younger generation and women, while electronics appeal to more men. Health and beauty products are popular among all genders, and groceries and furniture are sought after by families and individuals seeking convenience and diversity. Therefore, understanding the diversity in preferences of Vietnamese consumers is essential for e-commerce businesses to adjust their strategies to suit the tastes and needs of specific customers. For example, fashion brands can target the younger generation with campaigns based on trending styles or models, health and beauty brands can cater to women's preferences, etc.



Source: Author (excel)

Figure 9: Priority product categories are purchased on e-commerce platforms

The results from Table 3 show some factors may influence to online shopping decisions on e-commerce platforms in Vietnam. These are rated as the most important factors:

- Variety of products: with the mean score of 2.59 indicates moderate consumer satisfaction. This shows that most consumers can find the product they are looking for on the e-commerce platform. However, a high standard deviation of 1.32 indicates a significant difference in satisfaction.
- Mobile accessibility: In this factor, the mean score is 2.41 and the standard deviation is 1.43. It means consumers are generally satisfied with the ability to browse and buy products on e-commerce platforms using their mobile devices.
- Price: The results have shown that consumers are quite price-conscious when buying online, and they are more likely to shop on platforms that offer competitive rates and discounts.
- Trust and privacy: This factor shows that consumers are very concerned about trust and privacy when buying online, as shown by the mean score of 3.47 and a low standard deviation of 0.99, demonstrating that most consumers share the same level of interest. Therefore, e-commerce platforms need to build trust and protect customer privacy to attract and retain customers
- Local brand presence: The mean score of 2.94 shows that consumers are somewhat influenced by the presence or absence of local brands when making purchasing decisions. It suggests that

products from local brands may be beneficial but may not be the sole deciding factor for all consumers. The relatively low standard deviation demonstrates that while some consumers favor local brands, others may not find it important.

In summary, the results show that Vietnamese consumers are quite satisfied with the performance and features of e-commerce platforms in each factor. Vietnamese consumers very price sensitive and e-commerce platforms in Vietnam should focus on providing a variety of products and improving in factors to gain a position in the Vietnamese market.

	Mean	Std Dev	Min	Max	Median	N	Variance	Mode
Variety of products	2,59	1,32	1	5	2	177	1,75	2
Mobile Accessibility	2,41	1,43	1	5	2	177	2,05	1
Price	2,9	1,02	1	5	3	177	1,04	2
Trust and privacy	3,47	0,99	1	5	4	177	0,98	4
Local brand presence	2,94	1.08	1	5	3	177	1,17	3

Source: Author (excel)

Table 3: Descriptive table about the factors that influence online shopping decisions on e-commerce platforms

4.2 Hypothesis testing

This study aims to explore the factors influencing consumers' online shopping behavior in the field of e-commerce in VietNam. Therefore, 10 hypotheses have been identified to test the relationship between various variables and the frequency of purchase on e-commerce site. By carefully examining these factors and their relationships, e-commerce companies can adjust their strategies to better serve their target audience and identify potential opportunities for e-commerce businesses to optimize their strategies. The hypotheses are as follows:

- H0: There is no dependency between age and frequency of purchase in e-commerce.
- H0: There is no dependency between gender and frequency of purchase in e-commerce.
- H0: There is no dependency between occupation and frequency of purchase in e-commerce.
- H0: There is no dependency between educational level and frequency of purchase in e-commerce.

- H0: There is no dependency between income and frequency of purchase in e-commerce
- H0: There is no significant relationship between price and frequency of purchase in e-commerce.
- H0: There is no significant relationship between the variety of products on e-commerce platforms and frequency of purchase in e-commerce.
- H0: There is no significant relationship between mobile accessibility and frequency of purchase in e-commerce.
- H0: There is no significant relationship between local brand presence on e-commerce platforms and frequency of purchase in e-commerce.
- H0: There is no significant relationship between level of trust and frequency of purchase in e-commerce.

Hypothesis testing between age and frequency of purchase

H0: There is no dependency between age and frequency of purchase in e-commerce.

H1: There is dependency between age and frequency of purchase in e-commerce.

$\alpha = 0.05$

Frequency Expected	Table of Age by Frequency of purchase per month		
	Age(Age)	Frequency of purchase per month(Frequency of purchase per month)	
		4 or less than 4 times	more than 4 times
18-60 years old	69 78.373	33 23.627	102
Above 60 years old	7 8.452	4 2.548	11
Under 18 years old	60 49.175	4 14.825	64
Total	136	41	177

Sour: Author (SAS studio)

Table 4: Contingency Table: Age and frequency of purchase in e-commerce

To meet the requirements to apply the chi - squared test (X^2 – test), the age categories "18-30" and "31-60" have been combined into a single group. The sample size is greater than 20, and one expected frequency is smaller than 5 but less than 20%. So, the chi - squared test is used to test.

Statistics for Table of Age by Frequency of purchase per month

Statistic	DF	Value	Prob
Chi-Square	2	16.2030	0.0003
Likelihood Ratio Chi-Square	2	18.8378	<.0001
Mantel-Haenszel Chi-Square	1	14.4393	0.0001
Phi Coefficient		0.3026	
Contingency Coefficient		0.2896	
Cramer's V		0.3026	

Sample Size = 177

Source: Author (SAS studio)

Table 5: Statistical table: Age and frequency of purchase in e-commerce

Based on table 5, P-value is less than $P\alpha$ level 0.05, the null hypothesis is rejected. Therefore, there is dependency between age and frequency of purchase in e-commerce.

It can be seen that recognizing the connection between age and purchasing habits provides valuable insights for e-commerce businesses to enhance their marketing and product development strategies. By tailoring their offerings to suit the preferences of different age groups, businesses can foster stronger customer relationships and drive business growth.

Hypothesis testing between gender and frequency of purchase

H0: There is no dependency between gender and frequency of purchase in e-commerce.

H1: There is dependency between gender and frequency of purchase in e-commerce.

$\alpha = 0.05$

Frequency Expected	Table of Gender by Frequency of purchase per month			
	Gender(Gender)	Frequency of purchase per month(Frequency of purchase per month)		
		4 or less than 4 times	more than 4 times	Total
Female	75 76.836	25 23.164	100	
Male	61 59.164	16 17.836	77	
Total	136	41	177	

Source: Author (SAS studio)

Table 6: Contingency Table: Gender and frequency of purchase in e-commerce

According to table 6, among the female gender group, 75 respondents said that they shop on e-commerce platforms 4 or less times per month, while 25 respondents said they shop more than 4 times per month. For male gender, 61 respondents purchase 4 times or less per month, while another 16 respondents purchase more than 4 times per month on e-commerce platforms.

Statistics for Table of Gender by Frequency of purchase per month

Statistic	DF	Value	Prob
Chi-Square	1	0.4354	0.5093
Likelihood Ratio Chi-Square	1	0.4384	0.5079
Continuity Adj. Chi-Square	1	0.2306	0.6311
Mantel-Haenszel Chi-Square	1	0.4330	0.5105
Phi Coefficient		-0.0496	
Contingency Coefficient		0.0495	
Cramer's V		-0.0496	

Source: Author (SAS studio)

Table 7: Statistical table: Gender and frequency of purchase in e-commerce

In this case, the sample size is greater than 20 and all expected frequencies are greater than 5. X^2 -Test (chi-square test) is used for this hypothesis. The results show that P-value = 0.51 greater than $P\alpha = 0.05$. The null hypothesis is accepted, therefore there is no dependency between gender and frequency of purchase in e-commerce.

From the economic sense, the findings indicate that there is no significant relationship between gender and frequency of e-commerce purchases. As a result, e-commerce platforms can attract a wider audience by targeting both men and women.

Hypothesis testing between occupation and frequency of purchase

H0: There is no dependency between occupation and frequency of purchase in e-commerce.

H1: There is dependency between occupation and frequency of purchase in e-commerce.

$\alpha = 0.05$

Frequency Expected	Table of Occupation by Frequency of purchase per month		
	Occupation(Occupation)	Frequency of purchase per month(Frequency of purchase per month)	
		4 or less than 4 times	more than 4 times
Students	51 41.492	3 12.508	54
Freelancers	12 13.062	5 3.9379	17
Full-time jobs	60 65.311	25 19.689	85
Part-time jobs	10 10.757	4 3.2429	14
Retired	3 5.3785	4 1.6215	7
Total	136	41	177

Source: Author (SAS studio)

Table 8: Contingency Table: Occupation and frequency of purchase in e-commerce

Statistics for Table of Occupation by Frequency of purchase per month

Statistic	DF	Value	Prob
Chi-Square	4	16.4151	0.0025
Likelihood Ratio Chi-Square	4	18.5346	0.0010
Mantel-Haenszel Chi-Square	1	13.8710	0.0002
Phi Coefficient		0.3045	
Contingency Coefficient		0.2913	
Cramer's V		0.3045	
WARNING: 30% of the cells have expected counts less than 5. Chi-Square may not be a valid test.			

Sample Size = 177

Source: Author (SAS studio)

Table 9: Statistical table: Occupation and frequency of purchase in e-commerce

The sample size is greater than 20, but 30% expected frequencies less than 5. Therefore, the chi-square test (X^2 - Test) cannot be used to this case. The hypothesis cannot be tested.

Hypothesis testing between educational level and frequency of purchase

H0: There is no dependency between educational level and frequency of purchase in e-commerce.

H1: There is dependency between educational level and frequency of purchase in e-commerce.

$\alpha = 0.05$

Frequency Expected

Table of Educational level by Frequency of purchase per month			
Educational level(Educational level)	Frequency of purchase per month(Frequency of purchase per month)		
	4 or less than 4 times	more than 4 times	Total
Bachelor's degree	63 68.384	26 20.616	89
Highschool degree or lower	61 51.48	6 15.52	67
Master's degree and higher	12 16.136	9 4.8644	21
Total	136	41	177

Source: Author (SAS studio)

Table 10: Contingency Table: Educational level and frequency of purchase in e-commerce

From the results in table 10, it shows that in the group of people with bachelor's degrees, 26 out of 89 people shop on e-commerce platforms more than 4 times per month, while only 6 out of 67 people with high school degree or lower shop more than 4 times per month. People with a master's degree or higher have a fairly balanced shopping frequency, 12 out of 21 respondents shop less than 4 times and 9 out of 23 people shop more than 4 times a month.

Statistics for Table of Educational level by Frequency of purchase per month

Statistic	DF	Value	Prob
Chi-Square	2	14.0058	0.0009
Likelihood Ratio Chi-Square	2	14.9975	0.0006
Mantel-Haenszel Chi-Square	1	0.1038	0.7473
Phi Coefficient		0.2813	
Contingency Coefficient		0.2708	
Cramer's V		0.2813	

Sample Size = 177

Source: Author (SAS studio)

Table 11: Statistical table: Educational level and frequency of purchase in e-commerce

In this hypothesis, $P\text{-value} = 0.0009 < P\alpha = 0.05$ it means the null hypothesis cannot be accepted. As a result, there is dependency between educational level and frequency of purchase in e-commerce.

Hypothesis testing between income and frequency of purchase

H0: There is no dependency between income and frequency of purchase in e-commerce

H1: There is dependency between income and frequency of purchase in e-commerce

$\alpha = 0.05$

Frequency Expected	Table of Income by Frequency of purchase per month			
	Income(Income)	Frequency of purchase per month(Frequency of purchase per month)		
		4 or less than 4 times	more than 4 times	Total
301-500\$	54 55.322	18 16.678	72	
500\$-1000\$	28 32.271	14 9.7288	42	
Less than 300\$	43 33.808	1 10.192	44	
More than 1000\$	11 14.599	8 4.4011	19	
Total	136	41	177	

Source: Author (SAS studio)

Table 12: Contingency Table: Income and frequency of purchase in e-commerce

The figures shown in table 12 indicate that in the group of people with an income of 301-500\$, 54 out of 72 people shop on e-commerce platforms 4 or less than 4 times per month, while only 18 out of 72 people shop more than 4 times. Among people with an income of 501-1000\$ tend to shop 4 or less than 4 times per month, 28 out of 42 people shop less than 4 times and 14 out of 42 people shop more than 4 times monthly. Additionally, people with incomes over \$1,000 have a fairly balanced shopping frequency 11 out of 19 people shop 4 or less times per month, while 8 out of 19 shop more than 4 times per month. Otherwise, people with an income of less than 300\$ are the least likely to shop more than 4 times per month, 43 out of 44 people shop 4 or less times per month, while only 1 out of 44 people shop more than 4 times a month.

Statistics for Table of Income by Frequency of purchase per month

Statistic	DF	Value	Prob
Chi-Square	3	17.1963	0.0006
Likelihood Ratio Chi-Square	3	21.7491	<.0001
Mantel-Haenszel Chi-Square	1	0.3210	0.5710
Phi Coefficient		0.3117	
Contingency Coefficient		0.2976	
Cramer's V		0.3117	

Sample Size = 177

Source: Author (SAS studio)

Table 13: Statistical table: Income and frequency of purchase in e-commerce

In this hypothesis, the chi-square test (X^2 - Test) could be used to test. As a result, P-value is lower than significance level $P\alpha = 0.05$, the null hypothesis is rejected. There is dependency between income and frequency of purchase in e-commerce.

The results of the hypothesis show a clear relationship between income levels and e-commerce shopping frequency. People with higher incomes are more likely to engage in e-commerce purchases more often, while those with lower incomes tend to shop less frequently. In addition, this finding is consistent with the concept of elasticity of demand by income, which states that demand for goods or services is more sensitive to changes in income for higher-income consumers than lower-income consumers. Furthermore, this can be explained by the fact higher income individuals may have more needs and preferences that can be met through e-commerce, such as luxury goods, specialty products, or international purchases.

Hypothesis testing between price and frequency of purchase

H0: There is no significant relationship between price and frequency of purchase in e-commerce.

H1: There is significant relationship between price and frequency of purchase in e-commerce.

$\alpha = 0.05$

Frequency Expected	Table of Frequency of purchase per month by Price			
	Frequency of purchase per month(Frequency of purchase per month)	Price(Price)		
		No	Yes	Total
4 or less than 4 times	43 37.65	93 98.35	136	
more than 4 times	6 11.35	35 29.65	41	
Total	49	128	177	

Source: Author (SAS studio)

Table 14: Contingency Table: Price and frequency of purchase in e-commerce

The table shows that 93 respondents out of 136, those who will shop 4 or less times per month said they frequently consider price a deciding factor in their e-commerce purchases, whereas only 43 out of 136 people answered that they do not care about price before shopping on e-commerce platforms. In contrast, in the group of those who shopped more than 4 times per month, 35 out of 41 respondents would consider price as a deciding factor before shopping and only 6 in this group did not consider price a factor in their e-commerce purchases.

Statistics for Table of Frequency of purchase per month by Price

Statistic	DF	Value	Prob
Chi-Square	1	4.5388	0.0331
Likelihood Ratio Chi-Square	1	4.9860	0.0256
Continuity Adj. Chi-Square	1	3.7301	0.0534
Mantel-Haenszel Chi-Square	1	4.5132	0.0336
Phi Coefficient		0.1601	
Contingency Coefficient		0.1581	
Cramer's V		0.1601	

Source: Author (SAS studio)

Table 15: Statistical table: Price and frequency of purchase in e-commerce

The chi-square test (X^2 - Test) will be applied in this hypothesis because all expected frequencies are bigger than 5 and the sample size is 177 greater than 20. According to table 15, P-value = 0.033 < $P\alpha$

= 0.05, the null hypothesis cannot be accepted. Therefore, there is significant relationship between price and frequency of purchase in e-commerce.

The result that there is a significant relationship between price and frequency of purchase in e-commerce is unsurprising. This is because price is one of the most important factors that consumers consider when making purchasing decisions. In general, consumers are more likely to purchase a product if it is priced competitively. This is especially true for consumers who are on a budget or who are looking for the best value for their money. Furthermore, this result is consistent with economic theory, which predicts that consumers will make fewer purchases when the price of a good or service increases.

Hypothesis testing between the variety of products and frequency of purchase

H0: There is no significant relationship between the variety of products on e-commerce platforms and frequency of purchase in e-commerce.

H1: There is significant relationship between the variety of products on e-commerce platforms and frequency of purchase in e-commerce.

$\alpha = 0.05$

Frequency Expected	Table of Frequency of purchase per month by The variety of products			
	Frequency of purchase per month(Frequency of purchase per month)	The variety of products(The variety of products)		
		No	Yes	Total
	4 or less than 4 times	42 35.345	94 100.66	136
	more than 4 times	4 10.655	37 30.345	41
	Total	46	131	177

Source: Author (SAS studio)

Table 16: Contingency Table: The variety of products and frequency of purchase in e-commerce

According to data from table 16, respondents who shop 4 or less times per month, 94 people out of 136 said product variety influenced their purchasing decisions, while 42 respondents out of 136 said product variety did not influence their decision. Similarly, those who shopped more than 4 times per month, 37 out of 41 found product diversity across e-commerce products to affect their ability to buy, and only 4 out of 41 said variety was not a factor in their purchase.

Statistics for Table of Frequency of purchase per month by The variety of products

Statistic	DF	Value	Prob
Chi-Square	1	7.3099	0.0069
Likelihood Ratio Chi-Square	1	8.4672	0.0036
Continuity Adj. Chi-Square	1	6.2528	0.0124
Mantel-Haenszel Chi-Square	1	7.2686	0.0070
Phi Coefficient		0.2032	
Contingency Coefficient		0.1992	
Cramer's V		0.2032	

Source: Author (SAS studio)

Table 17: Statistical table: The variety of products and frequency of purchase in e-commerce

All expected frequencies are greater than 5 and the sample size exceeds 20, the chi-square test (X^2 -Test) will be used to examine this hypothesis. P-value = 0.0069 lower than $P\alpha$. Therefore the null hypothesis is rejected. As a result, there is significant relationship between the variety of products on e-commerce platforms and frequency of purchase in e-commerce.

The results presented in the data analysis show a significant positive relationship between the variety of products available on the e-commerce platform and the frequency of purchases made by e-commerce shoppers. This highlights the role of product diversity in influencing consumer behavior and driving market outcomes. From an economic point of view, product diversity allows consumers to meet their specific needs, preferences, and tastes, leading to higher satisfaction and a higher likelihood of repeat purchases.

Hypothesis testing between mobile accessibility and frequency of purchase

H0: There is no significant relationship between mobile accessibility and frequency of purchase in e-commerce.

H1: There is significant relationship between mobile accessibility and frequency of purchase in e-commerce.

$\alpha = 0.05$

Frequency Expected	Table of Frequency of purchase per month by Mobile accessibility		
	Frequency of purchase per month(Frequency of purchase per month)	Mobile accessibility(Mobile accessibility)	
		No	Yes
4 or less than 4 times	39 33.808	97 102.19	136
more than 4 times	5 10.192	36 30.808	41
Total	44	133	177

Source: Author (SAS studio)

Table 18: Contingency Table: Mobile accessibility and frequency of purchase in e-commerce

With the question asked in the survey "Do you find mobile shopping convenient?". As a result, among those who shopped 4 or less times per month, 97 out of 136 respondents said they found mobile shopping convenient, while 39 respondents out of 136 in this group said they did not find it convenient to shop on mobile. In addition, among those who shopped more than 4 times per month, 36 respondents out of 41 indicated the convenience of shopping with smartphones while only 5 people out of 41 said it did not feel convenient.

Statistics for Table of Frequency of purchase per month by Mobile accessibility

Statistic	DF	Value	Prob
Chi-Square	1	4.5812	0.0323
Likelihood Ratio Chi-Square	1	5.1199	0.0237
Continuity Adj. Chi-Square	1	3.7413	0.0531
Mantel-Haenszel Chi-Square	1	4.5553	0.0328
Phi Coefficient		0.1609	
Contingency Coefficient		0.1588	
Cramer's V		0.1609	

Source: Author (SAS studio)

Table 19: Statistical table: Mobile accessibility and frequency of purchase in e-commerce

The sample size is greater than 20 and all expected frequencies are bigger than 5. The chi-square test (X^2 - Test) could be used to test this hypothesis. According to the result in table 19, P-value = 0.032

lower than $P\alpha = 0.05$. It means that the null hypothesis is rejected, there is significant relationship between mobile accessibility and frequency of purchase in e-commerce.

From the results of this hypothesis, it can be better understood that mobile shopping is a convenient and popular way of shopping for both frequent and infrequent shoppers. Moreover, as mobile continues to become more popular, it is likely that the number of people shopping online with their smartphones will continue to increase.

Hypothesis testing between local brand presence and frequency of purchase

H0: There is no significant relationship between local brand presence on e-commerce platforms and frequency of purchase in e-commerce.

H1: There is significant relationship between local brand presence on e-commerce platforms and frequency of purchase in e-commerce.

$\alpha = 0.05$

Frequency Expected	Table of Frequency of purchase per month by Local brand presence			
	Frequency of purchase per month(Frequency of purchase per month)	Local brand presence(Local brand presence)		
		No	Yes	Total
4 or less than 4 times	54 53.017	82 82.983	136	
more than 4 times	15 15.983	26 25.017	41	
Total	69	108	177	

Source: Author (SAS studio)

Table 20: Contingency Table: Local brand presence and frequency of purchase in e-commerce

Based on table 20, 82 out of 136 people who shop 4 or less times per month say they would be more likely to shop on an e-commerce platform if it had more local brands, in contrast, 54 respondents out of 136 said they were not interested in local brand presence. Likewise, among those who shop more than 4 times per month, 26 out of 41 respondents said the presence of local brands influences their purchasing decisions, while 15 out of 41 said that they don't care about local brands.

Statistics for Table of Frequency of purchase per month by Local brand presence

Statistic	DF	Value	Prob
Chi-Square	1	0.1290	0.7195
Likelihood Ratio Chi-Square	1	0.1297	0.7188
Continuity Adj. Chi-Square	1	0.0311	0.8599
Mantel-Haenszel Chi-Square	1	0.1282	0.7203
Phi Coefficient		0.0270	
Contingency Coefficient		0.0270	
Cramer's V		0.0270	

Source: Author (SAS studio)

Table 21: Statistical table: Local brand presence and frequency of purchase in e-commerce

All conditions are met in this case to use chi-square test (X^2 - Test) to examine this hypothesis as the sample size exceeds 20, all expected frequencies are bigger than 5. Based on the results present in table 21, P-value = 0.72 > $P\alpha = 0.05$, then the null hypothesis is accepted. Consequently, there is no significant relationship between local brand presence on e-commerce platforms and frequency of purchase in e-commerce.

The absence of a significant relationship between a local brand's presence on e-commerce platform and purchase frequency suggests that prioritizing local brands may not necessarily drive higher sales or customer engagement. Additionally, this can make sense for both e-commerce businesses and local brands looking to expand their reach.

Hypothesis testing between level of trust and frequency of purchase

H0: There is no significant relationship between level of trust and frequency of purchase in e-commerce.

H: There is significant relationship between level of trust and frequency of purchase in e-commerce.

$\alpha = 0.05$

Frequency Expected	Table of Level of trust by Frequency of purchase per month		
	Level of trust(Level of trust)	Frequency of purchase per month(Frequency of purchase per month)	
		4 or less than 4 times	more than 4 times
High trust	14 17.672	9 5.3277	23
Low trust	29 30.734	11 9.2655	40
Moderate trust	93 87.593	21 26.407	114
Total	136	41	177

Source: Author (SAS studio)

Table 22: Contingency Table: Level of trust and frequency of purchase in e-commerce

According to the data shown in the table 22, it demonstrates the level of trust in the security and privacy of information when using an e-commerce platform. The majority of respondents indicated a moderate level of trust, specifically, 93 respondents out of 114, who shopped 4 or less than 4 times per month said they had a moderate level of trust in the safety and security of e-commerce platforms and similarly, this level of trust among shoppers more than 4 times per month is 21 people out of 114 people. For those who said they had low trust in e-commerce platforms, 29 in the group shopped 4 or less times per month and 11 among those who shopped more than 4 times. The remaining only 23 people in the groups said that they have a high level of trust in these e-commerce platforms.

Statistics for Table of Level of trust by Frequency of purchase per month

Statistic	DF	Value	Prob
Chi-Square	2	5.1577	0.0759
Likelihood Ratio Chi-Square	2	4.8396	0.0889
Mantel-Haenszel Chi-Square	1	5.1047	0.0239
Phi Coefficient		0.1707	
Contingency Coefficient		0.1683	
Cramer's V		0.1707	

Source: Author (SAS studio)

Table 23: Statistical table: Level of trust and frequency of purchase in e-commerce

The chi-square test (X^2 - Test) could be used to test this hypothesis because sample size exceeds 20, all expected frequencies are greater than 5. As a result, P-value = 0.076 is bigger $P\alpha = 0.05$, the null hypothesis is accepted. Therefore, there is no significant relationship between level of trust and frequency of purchase in e-commerce.

From the results of this hypothesis, it can be agreed that consumers are willing to engage in e-commerce transactions even if they have some concerns about the security and privacy of their information. In other words, trust may not be as important as other factors in driving consumer behavior in e-commerce, however it can help build customer loyalty on e-commerce platforms.

5 Conclusion

Conclusion

In conclusion, it can be seen that with the strong development of the era of technology, internet and digital economy, e-commerce is one of the highlights of Vietnam's digital economy development, with revenue and the number of consumers participating in online shopping continuously increasing in recent years. From there, it can be concluded that Vietnam's e-commerce is one of the countries with strong growth potential and is one of the priority areas of the economy, while it also plays an important role in the process of economic growth of the nation, promotes various sectors and contributes to the prosperity of the country. In fact, there are four applications that have led to the continuous development and birth of e-commerce websites. The most famous e-commerce platforms are Shopee, Lazada, Tiki and Tiktok Shop, which always compete with each other to gain a stronger position. Specifically, Shopee is currently the market leader in Vietnam, it has affirmed its position with a large number of users in the Vietnamese market.

The study aims to identify and evaluate the consumers behavior towards e-commerce in Vietnam and evaluate the factors influence purchasing decisions on e-commerce platforms. Therefore, to achieve this goal, the theoretical part has provided an overview of the e-commerce market in Vietnam, consumer behavior, and e-commerce platforms that are popular with consumers, especially with Shopee e-commerce platform. In addition, in this section come up some factors that can influence a consumer's purchasing decision for e-commerce.

The main data was collected by the author through a survey on social networks. The survey gained 177 random participants with 100 female (56.5%) and 77 male (43.5%) identified. The group of respondents is mainly aged 18-30 (49.2%), who are considered young and dynamic. To test the factors that influence consumer behavior towards e-commerce purchases, 10 hypotheses have been

established including demographic factors, purchasing behaviors such as price, variety products, and the impact of local brand presence, mobile accessibility and level of trust. These hypothesis were analyzed through SAS data analysis software. The results are given as follows:

- There is dependency between age and frequency of purchase in e-commerce.
- There is no dependency between gender and frequency of purchase in e-commerce.
- There is dependency between educational level and frequency of purchase in e-commerce.
- There is dependency between income and frequency of purchase in e-commerce.
- There is significant relationship between price and frequency of purchase in e-commerce.
- There is significant relationship between the variety of products on e-commerce platforms and frequency of purchase in e-commerce
- There is significant relationship between mobile accessibility and frequency of purchase in e-commerce.
- There is no significant relationship between local brand presence on e-commerce platforms and frequency of purchase in e-commerce.
- There is no significant relationship between level of trust and frequency of purchase in e-commerce.

Based on the result, the findings suggest that price, the variety of products, mobile accessibility, income, educational level and age are all important factors that can affect consumer purchasing decisions. This result may be consistent with research on consumer behavior in e-commerce and highlights the importance of these factors for businesses operating in the Vietnamese market. Overall, the study can provide valuable insights into the factors influencing consumer behavior in the Vietnamese e-commerce market. Businesses can understand and serve the needs of these consumers to be well positioned to succeed in this growing market.

Limitations and further research

Although this study provides valuable insights, there are some limitations that need to be considered such as the study was based on a relatively small sample size of 177 respondents. This number may limit the applicability of the findings to a broader population of Vietnamese e-commerce consumers. During the survey data collection process, there may be potential biases. For example, respondents may have over- or under-reported their e-commerce activities or online purchasing motivations. Furthermore there may be other factors at play and further research is needed to fully understand consumer behavior in this context. Therefore, some suggestions can be made to conduct further research such as conducting research with a larger sample size that will provide more solid data,

further exploring factors that influence consumer behavior. Or track consumer behavior changes over time to understand preferences and development trends in the e-commerce market.

In short, by addressing these limitations and conducting further research, we can gain a deeper understanding of the factors that influence consumer behavior in the Vietnamese e-commerce market and develop more effective strategies for businesses operating in this space.

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7 Appendix

Questionnaire

1. How old are you ?
 - a) Under 18 years old
 - b) 18-30 years old
 - c) 30-60 years old
 - d) Above 60 years old
2. What is your gender?
 - a) Male
 - b) Female
3. What is your highest educational level?
 - a) Highschool degree or lower
 - b) Bachelor's degree
 - c) Master's degree
 - d) Doctorate and higher
4. What region do you live?
 - a) Urban area
 - b) Rural area
5. What is your occupation?
 - a) Students
 - b) Part-time jobs
 - c) Full-time jobs
 - d) Freelancers
 - e) Retired
6. What is your monthly income?
 - a) Less than 300\$
 - b) 301-500\$
 - c) 501\$-1000\$
 - d) More than 1000\$
7. How often do you shop online on e-commerce platforms?
 - a) 4 or less than 4 times per month
 - b) more than 4 times per month

8. Which e-commerce platform do you use the most?

- a) Shopee
- b) Tiki
- c) Lazada
- d) Tiktok Shop
- e) Other

9. What types of products do you usually shop for on e-commerce sites?

- a) Electronic equipment
- b) Fashion (Clothes, shoes,...)
- c) Groceries
- d) Furniture and houses
- e) Health and Beauty
- f) Other (please specify)

10. Do you frequently consider price as a deciding factor in your e-commerce purchases?

- a) yes
- b) no

11. Does the variety of products on e-commerce platforms influence your purchasing decision?

- a) yes
- b) no

12. How much do you trust the security and privacy of your information when using e-commerce platform?

- a) low trust
- b) moderate trust
- c) high trust

13. Would you be more likely to make a purchase on e-commerce platform if there were more local brands?

- a) yes
- b) no

14. Do you find mobile shopping convenient?

- a) yes
- b) no

15. Which factors that you consider when deciding to shop through e-commerce platforms?

- a) Variety of products (Rate from 1-5)

- b) Mobile Accessibility (Rate from 1-5)
- c) Price (Rate from 1-5)
- d) Web design (Rate from 1-5)
- e) Trust and privacy (Rate from 1-5)
- f) Digital payment (Rate from 1-5)
- g) Local brand presence (Rate from 1-5)