



# **Vietnamese Generation Z Online Purchasing Behavior toward Sustainability**

Eco-Friendly Products on E-Commerce

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## **ABSTRACT**

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The objective of this thesis was to understand the critical factors shaping the purchasing behaviors of Vietnamese consumers concerning eco-friendly products on e-commerce platforms. The thesis outcome served as a customer-centric insight for e-commerce companies in Vietnam to understand their Gen Z consumers' preferences. Hence, these findings offered recommendations for e-commerce enterprises in Vietnam to develop a framework that aligns most effectively with the preferences of consumers.

The study was utilized the quantitative research method with questionnaire survey. The data collection took place in two weeks and received from 100 responses of Vietnamese consumers aged between 16 to 26-year-old. The data analysis applies The Extended TPB Model as a theoretical framework. The applicable theory explores four antecedents and a mediator influencing consumers' purchasing intention and behavior. Based on the framework, the empirical part consists of five sections. The first four sections include attitude toward eco-friendly products, social influence, beliefs in the positive impact on the environment, and environmental concern. The last section identifies the consumers' pain points and expectations, thus, provides recommendations for e-commerce platforms.

The majority of the respondents demonstrate a heightened concern for environmental impacts and consider purchasing eco-friendly products as a solution to reduce pollution. The results of the survey revealed that four mentioned antecedents were the main motivational factors in shaping the consumers' purchasing intention on e-commerce platforms. The pain points and expectations of Vietnamese Generation Z online consumers were explained. As a result, the analysis has effectively addressed the central issue by integrating all discovered insights and requirements.

The findings indicates that it is clear that the market dynamics and Vietnamese Generation Z consumers' preferences create a favorable opportunity for the significant expansion of e-commerce platforms that promote environmentally friendly products. With suitable strategies from e-commerce platforms, the engagement of Vietnamese Generation Z consumers in purchasing eco-friendly products will continue to grow.

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Key words: sustainability, eco-friendly products, Generation Z, purchasing behavior, e-commerce.

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## 1 INTRODUCTION

### 1.1 Thesis topic background

It is undeniable that electronic commerce, commonly known as e-commerce, has initiated a new era for engaging in commercial activities. Thanks to the development of digitalization, e-commerce provides a platform where businesses and consumers can virtually sell or buy whatever they want at any time, from everywhere. The transition to an online platform has yielded several advantages from the perspectives of both businesses and consumers.

On the contrary, the environmental impact of e-commerce is regarded as a cause of concern attributable to the massive waste from several sources, including packaging or carbon emissions from last-mile delivery, returns, and disposal waste. Therefore, sustainability is considered one of the top focuses of e-commerce platforms.

Vietnam's e-commerce market has massively increased with significant figures which place Vietnam in the top 25 of the world's largest e-commerce market (ECDB). "Sustainability" has been acknowledged in Vietnam's e-commerce industry lately. Notably, statistics showed that 57 percent of Vietnamese consumers are progressively aware of certain goods or services' environmental and societal impact, which has led them to discontinue purchasing those (Lazada 2023). In contrast, the global average for this trend is approximately 41 percent (Minh 2020). The significant percentage demonstrated that Vietnamese consumers are gradually becoming environmentally conscious and are interested in sustainable practices. One of the eco-conscious consumer groups includes Generation Z, who shows a perception of a favorable attitude toward a sustainable lifestyle. Vietnamese Generation Z is the potentially targeted group that contributes highly to e-commerce sales and concerns about the environmental impacts.

An encouraging shift in Generation Z and Vietnamese consumers' general purchasing behavior has the potential to significantly impact the e-commerce

sector, which has witnessed the implementation of numerous sustainable practices in recent years. Nevertheless, these initiatives have yet to garner widespread consumer enthusiasm. The critical concern lies in understanding Vietnamese consumers' perceptions of sustainability in online shopping and adopting eco-friendly products on e-commerce platforms.

## **1.2 Thesis objectives, purpose, and research questions**

The objective of the thesis is to understand the key factors influencing Vietnamese Generation Z consumers' purchasing behavior regarding eco-friendly products on e-commerce platforms. Therefore, these insights can provide suggestions for Vietnam's e-commerce companies in building a concept that best meets consumers' needs.

The purpose of the thesis is to identify the factors that influence the purchasing behavior of Vietnamese Gen Z towards eco-friendly. The thesis outcome serves as a customer-centric insight for e-commerce companies in Vietnam to understand their Gen Z consumers' preferences. Furthermore, the thesis identifies the primary elements of e-commerce platforms in the Vietnam market that companies should consider, which best suit consumer preferences for their development of sustainability practices. The thesis' purpose is divided into two main research questions as below.:

*Question 1: "What are the key factors influencing the purchasing behavior of Vietnamese Generation Z e-commerce consumers regarding eco-friendly products?"*

*Sub-question 1: "What are the motivational factors that make Vietnamese Generation Z consumers have the intention to purchase eco-friendly products?"*

*Sub-question 2: "To what extent are Vietnamese Gen Z consumers aware of environmental impacts when making consumer choices?"*

*Question 2: "From the e-commerce platform standpoint, which improvements can they make to attract more Vietnamese Generation Z consumers and encourage them to purchase eco-friendly products?"*

### **1.3 Thesis process**

In this section, the thesis process will be explained more specifically. The first chapter introduces the thesis's topic background. Thus, the thesis objectives, purposes and research questions are identified. In chapter two, the author introduces and defines the implemented concepts, applicable theory, and conceptual frameworks. Chapter three is an in-depth discussion regarding sustainability in Vietnam's e-commerce industry. The findings of market context and consumer trends, especially Vietnamese Generation Z, assist in gaining valuable insights and better giving a brief understanding of this specific topic. Chapter four will introduce the quantitative research and analyze the research results from the questionnaire survey. Additionally, the validity, reliability, limitations, and ethical considerations will be discussed. Chapter five will present the research's summary of the report results regarding the applicable theory identified in chapter two. In chapter six, the final discussion and summary of the thesis findings will be explained in order to answer the thesis research questions. Moreover, the author will briefly present some recommendations for future research and limitations related to this thesis topic.

## **2 CONCEPTUAL FRAMEWORK**

This chapter will describe the key concepts and applicable theory applied in identifying the factors that influence consumers' purchasing behaviors, along with presenting the conceptual framework of the thesis.

### **2.1 Key concepts**

#### **2.1.1 E-commerce**

E-commerce is an abbreviation of electronic commerce, defined as a digital platform that supports commercial activities on a network (Forsyth & Coleman 2023). In modern business transactions, Electronic Data Interchange (EDI) is a tool for exchanging data, information, and electronic commerce activities (Chapagai 2022). An e-commerce platform allows businesses to trade goods or services directly from the online platform without needing a physical store (Jain, Malviya & Arya 2021). It offers consumers the convenience of browsing and selecting from various online options. With several clicks of placing orders and making payments from one's retailer, products can be delivered to the doorstep within a specified time frame. Moreover, consumers can quickly compare the offerings from one vendor to another since e-commerce allows market openness (Jain et al. 2021). Returning and refunding policies on e-commerce platforms are commonly implemented in response to consumer dissatisfaction with purchased goods.

#### **2.1.2 Sustainability in e-commerce**

The negative environmental impact of e-commerce services is one of the alarming concerns in recent years. According to recent research, the rapid expansion of global e-commerce has resulted in unparalleled environmental consequences (Rijal & Lin 2021). The findings indicated that over 3 billion tons of waste are deposited into landfills annually. The majority accounts for goods packaging, such as nylon, plastics, and cardboard boxes, which directly cause water, air, and land pollution (Oláh, Poop, Khan & Kitukutha, 2023). It is



estimated that by 2050, 4.5 billion pounds of plastic packaging will be produced due to this continuous global usage (Tiseo 2022). In addition, compared to traditional store purchases, shipments from e-commerce last-mile delivery result in 30 percent greenhouse gas emissions per item (oceansix 2023). Therefore, there have been several solutions in order to address the negative impacts of e-commerce platforms.

"Sustainability" in e-commerce is defined as formulating strategies for exerting no harmful effects on the environment. Sustainable practices in e-commerce can include optimizing the number of packages efficiently in one shipment or applying eco-friendly shipping methods that produce less carbon dioxide (CO<sub>2</sub>) emissions pollution. Besides, it provides durable, eco-friendly products with sustainable packaging, such as paper-based packaging, recycled plastics, or plantable packaging. E-commerce platform actively participates in social engagement by raising customers' awareness about the benefits of adopting environmentally friendly practices. Additionally, it promotes retailers that advocate for the use of green products. Sustainable initiatives can also be enacted by policies related to green manufacturing. The achievement of sustainable e-commerce is to meet market demands while minimizing any detrimental impacts on the environment through the establishment of strategic management.

### **2.1.3 Eco-friendly products**

"Eco-friendly" abbreviated as environmentally friendly, describes items or materials that do not harm the environment (Smith 2019, 31). Therefore, eco-friendly or green products promote sustainable living and manufacturing approaches that minimize resource usage. Eco-friendly products typically earn this label based on their composition, manufacturing methods, packaging, distribution, and usage practices (Hossain 2022). These products are characterized by their durability, non-toxic nature, use of recycled materials, or minimal packaging. However, it is practically understood that there are no 100 percent eco-friendly products since they still consume energy and resources throughout the product's lifecycle and generate emissions from manufacturing and transportation to usage and disposal (Ottman & Stafford 2006). Hence,

eco-friendly products are known for products that have less negative impacts on the environment.

#### **2.1.4 Generation Z as an online consumer**

Generation Z, commonly abbreviated as Gen Z. According to the Oxford Learner's Dictionaries, is the group of people born between 1997 (26-year-old) and 2012 (11-year-old), are regarded as being very familiar with the internet. A collection of features can briefly explain Gen Z's characteristics: "their complete trust in technologies, open-mindedness, intelligence, enthusiasm, innovative and entrepreneurial spirit, as well as defenders of ethical and deontological principles" (Vieira et al. 2020).

Also, this generation is the most significant contributor to the world's internet and smartphone usage. Statista (Petrosyan 2023) stated that 75 percent of global internet users range from 15 to 24 years old in 2022.

When it comes to shopping, Gen Z shoppers demand higher expectations than prior age groups and pay great attention to their shopping experience (Cauville, 2023). Furthermore, when it comes to e-commerce, they prioritize citing convenience, feasible price comparisons, the security of information, and personalized product offerings. These factors are mainly the motivators that can trigger Gen Z consumers to purchase digitally (ucraft 2022).

Considering sustainability, statistics illustrated that climate change is the top priority concern among Gen Z, which accounted for 85 percent of the surveyed respondents (Sustainable Brands 2019). The high percentage reflects their sustainability awareness and ecological issues (Tidswell 2023). Regarding eco-friendly purchasing decisions, 84 percent of Gen Z reported buying products from companies that align with social or environmental values (Sustainable Brands 2019). While understanding the definition of eco-friendly products, showing nearly 50 percent of this emerging generation also pays attention to the manufacturing process of sustainable materials and supply chains (Tidswell 2023).

As concluded, Gen Z greatly desires their shopping experience and expects companies to be highly responsive to social and environmental benefits to fulfill their needs.

### **2.1.5 Vietnamese Generation Z's online consumer**

Generation Z comprises nearly one-fifth of Vietnam's population, totaling 13 million people (PricewaterhouseCoopers 2020). By 2025, this generation can make up one-third of the labor workforce and significantly become one of the most important groups for the country's development (Kuermayr & Le 2023). According to Kim et al. (2020) in McKinsey's report, Gen Z and its previous generation - Millennials will account for approximately 40 percent of Vietnam's consumption in 2030. The provided statistics underscore that Generation Z is poised to emerge as the predominant force in the market in the coming years, thus highlighting its potential to shape consumer trends.

As discussed earlier, global Gen Z is the most significant contributor to internet and smartphone usage worldwide. Unsurprisingly, with the rapid growth of the internet and the high demand for mobile phones daily, 89 percent of Vietnamese Gen Z aged 13 to 21 can access mobile phones (Thomasen 2015). "Rapid digitization is changing the daily channels and communication methods used by Vietnamese people, particularly in e-commerce" (Delteil, Francois, Mai & Seong 2021). According to Southeast Asia Online Shopping 2020's report (ClickInsights Asia 2020), most Vietnamese Gen Z consumers (55%) purchase on social media and online marketplaces. Due to the high amount of online buying, Gen Z individuals purchase from online platforms at least a few times per month, reportedly over two-thirds (70%). (ClickInsights Asia 2020.)

This discussion can conclude that Vietnamese Gen Z consumers are well aware and familiar with purchasing from online merchants. Consequently, with their vital force in the consumer market and proficiency on online platforms, mainly e-commerce, Vietnamese Gen Z plays a vital role in shaping and influencing contemporary consumer trends and the online commerce landscape in Vietnam.

## 2.2 Applicable theory

### 2.2.1 The Extended Theory of Planned Behavior (TPB) Model

#### The Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) is defined as a prominent theory for understanding various psychological factors related to sustainable consumption (Joshi & Rahman 2015). TPB underscores the significance of an individual's inherent personality and character in decision-making. Hence, TPB advocates for the inclusion of psychological factors in both self-regulated and socially influenced decision-making processes (Hössinger et al. 2019).

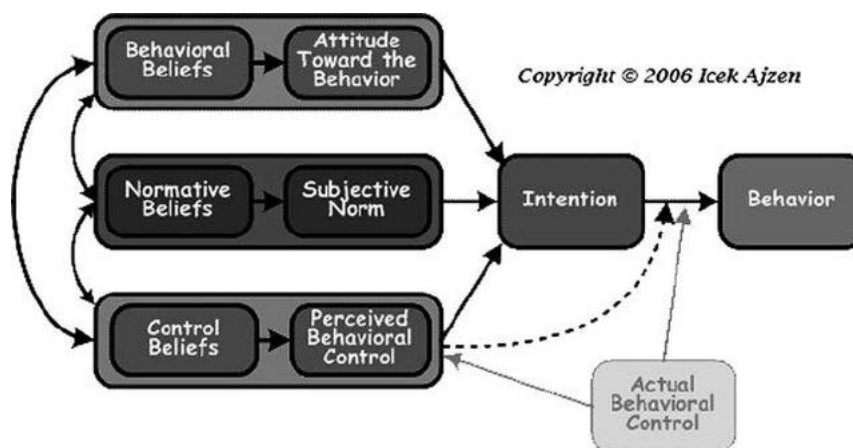


FIGURE 1. Framework of the Theory of Planned Behavior (Ajzen 2006)

The primary focus of TPB is to predict an individual's forthcoming behavior based on their purchase intention. According to Figure 2, human behavioral intention is formed by three main factors: attitude, subjective norms, and perceived behavioral control (Ajzen 1991, 2006). Attitude is shaped by the attributes of the associated actions and the perception of those attributes, which results in a positive or negative evaluation of behavior (Ajzen 1991, Chen, Kamalanon & Le 2022). In this context, if the product or service performance meets the consumer's specific needs, positive attitudes are formed based on their belief. Subjective norms, driven by social influences from key individuals or groups, affect one's belief in performing actions (Nguyen et al. 2021). Perceived

behavioral control (PBC) represents one's perception of the behavior's ease or difficulty while reflecting on the potential and effectiveness of carrying out the actions (Ajzen 2020). In this context, the TPB framework assesses the three mentioned factors as the antecedents influencing human purchase intention and behavior.

### **The Extended Theory of Planned Behavior Model**

After scanning through several literature reviews related to TPB, the Extended TPB Model presented by Chen, Kamalanon, and Le (2022) in the "Why Do We Buy Green Products? An Extended Theory of the Planned Behavior Model for Green Product Purchase Behavior" article meets the relevance of the consumer sustainable purchase behavior context. Therefore, the previously mentioned model will be introduced and applied in the thesis.

According to the extended model released by Chen et al. (2022), an individual's sustainable purchase intention can also be influenced by their environmental concern. Various studies included environmental concerns as a research topic regarding consumer sustainable behavior (Jaiswal & Kant 2018, Bhatti, Chwialkowska & Glowik 2020). Thus, environmental concern is added as another antecedent. Lastly, the model introduced that a company's perceived sustainable image is a mediator between the four antecedents and the consumer's purchase intention. In recent years, the number of environmentally conscious consumers has significantly increased (Northern Power Systems 2023). Therefore, building a sustainable reputation is imperative for attracting and retaining loyal customers. In this focal context, the second research question, *"From the e-commerce platform standpoint, which improvements can they make to attract more Vietnamese Generation Z consumers and encourage them to purchase eco-friendly products?"* mainly focuses on the enterprise standpoint; thus, the company's perceived sustainable image plays an indispensable factor in the analysis.

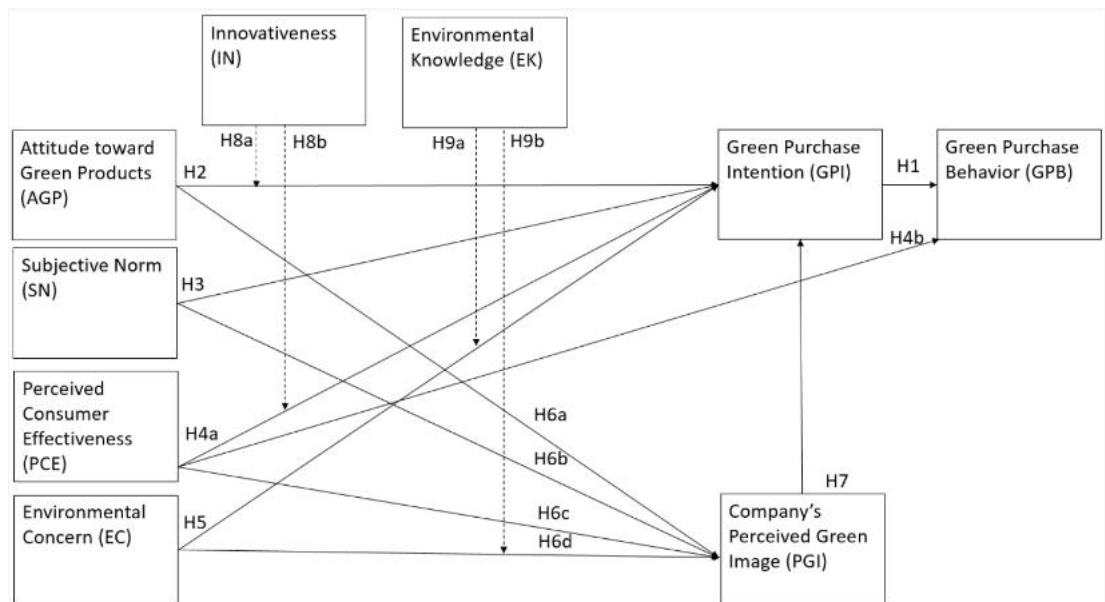


FIGURE 2. Hypothesized model of the Extended TPB (Chen et al. 2022)

## 2.2.2 Explanation: the Antecedents and the Mediator of the Extended TPB Model

### Attitude toward eco-friendly products

The first antecedent is the attitude toward eco-friendly products, which reflects an individual's favorable or unfavorable valuation of purchasing such products (Chen et al. 2022). Attitude toward eco-friendly products directly influences sustainable purchase intention (Kumar, Manrai & Manrai 2017). In order to be interested in making a sustainable purchase, the "consumers must first have an appreciation of the environment" (Chen et al. 2022). For example, Witek et al. (2021) stated that individuals frequently opt for sustainable clothing items with a favorable attitude toward environmental conservation. When individuals positively evaluate the outcomes, they tend to hold a favorable attitude and are likelier to engage in that behavior (Ajzen 1991). To conclude, a positive attitude toward a particular behavior reinforces the individual's intention to carry out that behavior (Ajzen 1991). In this thesis context, consumers perceive buying eco-friendly products as a healthy, environmentally friendly shopping experience, supporting sustainable brands and contributing to reducing CO<sub>2</sub> emissions.

### Subjective norms

In the Extended TPB Model, subjective norms are the second antecedent of behavioral intention. It is “the perceived social pressure to perform or not to perform the behavior” (Ajzen 1991, 188). The perceived viewpoints of individuals can be affected by those who hold significance in one’s life and impact their decision-making process. Han, Hsu and Sheu (2010) emphasized that in future research frameworks, the impact of significant individuals on the development of positive and negative attitudes should be duly considered. Consumers perceive green products as more ecologically sound than other products, and social pressure influences their support or resistance towards them (Ruangkanjanases et al. 2020). Therefore, subjective norms are a significant factor in sustainability research (Chen et al. 2022). In the thesis context, when influential individuals or the majority of society consider buying eco-friendly products appropriately, an individual might choose to do similarly due to the perceived social pressure. Therefore, it can heighten their drive to have a sustainable purchase intention.

### **Perceived consumer effectiveness (PCE)**

In the ordinary Theory of Planned Behavior (TPB), the third factor of behavioral intention is perceived behavioral controls (Ajzen 1991). It describes how an individual perceives the simplicity or complexity of performing a specific behavior. Based on the extended TPB model, this antecedent will be transformed into the perceived consumer effectiveness, which refers to the consumer's perception of how much their action can contribute to specific problems (Chen et al. 2022). In addition, according to the level of PCE, a consumer can believe their actions have an impact, thereby shaping intentions and actual behavior (Sharma & Jha 2017). Regarding sustainability, PCE represents an individual's judgment of how their consumption behaviors contribute to solving and preventing environmental problems (Cleveland, Kalamas & Laroche 2005). In the context of sustainable purchases, environmentally conscious consumers who are aware of the social impact of their purchases tend to show a greater intention to buy eco-friendly products, primarily when they are provided with more information related to the sustainable attributes of a product (Ruangkanjanases et al., 2020).

## **Environmental concern**

Kumar et al. (2017) once proposed that the link between attitude and purchase intention may vary based on certain boundary conditions, potentially affecting the strength of this connection. In the context of eco-friendly purchasing behavior, one such condition could be the level of environmental concern, which can influence the robustness of this relationship.

Environmental concern signifies how an individual is dedicated to ecological issues and the conservation of the environment. This concern demonstrates a sense of involvement and awareness about the consequences of their actions (Chen et al. 2022). As consumers become more conscious of the adverse impacts of their consuming habits on the environment, their level of care for ecological health significantly influences their purchasing habits. Thanks to the awareness of the environment, one's sustainable purchasing behavior can make a positive impact on other people's lives. In a recent research about the intention of the young generation to buy eco-friendly packaged products in India, Prakash and Pathak (2017) stated that there is a strong link between environmental concern and purchasing behavior. The youth, who are conscious of ecology, tend to recognize their responsibilities in conserving the environment. Then, they will decide to buy eco-friendly products after evaluating the sustainable purchase with their expectations. Therefore, environmental concern has been considered one of the critical antecedents in the analysis of sustainable purchasing behavior (Chen et al. 2022).

## **The company's perceived sustainable image**

Building a solid company image is undoubtedly essential, especially in the competitive world where corporations compete not only on products, quality, or specifications but also on brand image and reputation.

A company's perceived image relates to the consumer's perception of the specific firm, which represents their evaluations of the activities undertaken by that company (Wilson 2021). The evaluation relates to their past experiences



with that brand; thus, it can affect the overall impression of the consumer on the company (Chen et al. 2022).

Various studies have inevitably indicated a strong connection between a company's sustainable initiatives, brand image, and consumer perception (Aleksandra & Milovanov 2017, Chen et al. 2022). A company's sustainable brand image is recognized as the impressions formed in consumers' memories regarding the environmental responsibilities and concerns associated with the business (Chen et al. 2022). Due to the nuanced shifts in market trends and the increasing demand for eco-friendly products, more and more businesses have started to recognize the potential of building a sustainable brand image. Thus, the company's sustainable brand image is considered one of the essential assets for companies in the future. Thanks to sustainability, the company can create a meaningful message to strengthen the emotional connection with customers and foster differentiation (Aleksandra & Milovanov 2017). Chen et al. (2022) strongly stated in their findings that the company's sustainable perceived image significantly and positively impacts consumers' intention to purchase eco-friendly products. The second Business of Sustainability Index by GreenPrint demonstrated that approximately 78 percent of consumers intending to support businesses that resonate with their sustainable principles found it difficult to differentiate these companies from others (Sustainable Brands Staff 2022). Consequently, creating and maintaining a sustainable brand image can foster the company's reputation (Chen et al. 2022).

### **2.3 Conceptual framework**

The conceptual framework for analysis is the Extended TPB Model, which is mainly based on the research model from the journal "Why Do We Buy Green Products? An Extended Theory of the Planned Behavior Model for Green Product Purchase Behavior" was designed by Chen, Kamalanon, and Le (2022). Its outcome is identifying the factors boosting consumers' inclination to buy sustainable products. This framework is preferred for its target of finding the triggers of consumers' purchasing intention and behavior toward eco-friendly items. This choice aligns closely with the thesis's objective: understand the key

factors influencing Vietnamese Generation Z consumers' purchasing behavior regarding eco-friendly products on e-commerce platforms. Moreover, by the specified research model, the framework has been partially revised to align more relevant with the contextual requirements of this thesis.

In order to deliver the most relevant outcome that meets the thesis objectives, the antecedents have been rephrased as follows: attitudes toward eco-friendly products, social influence, consumer belief in making a positive environmental impact, and environmental concern, along with the company's perceived sustainable practices factor as a mediator.

The conceptual framework is shown in the Figure below:

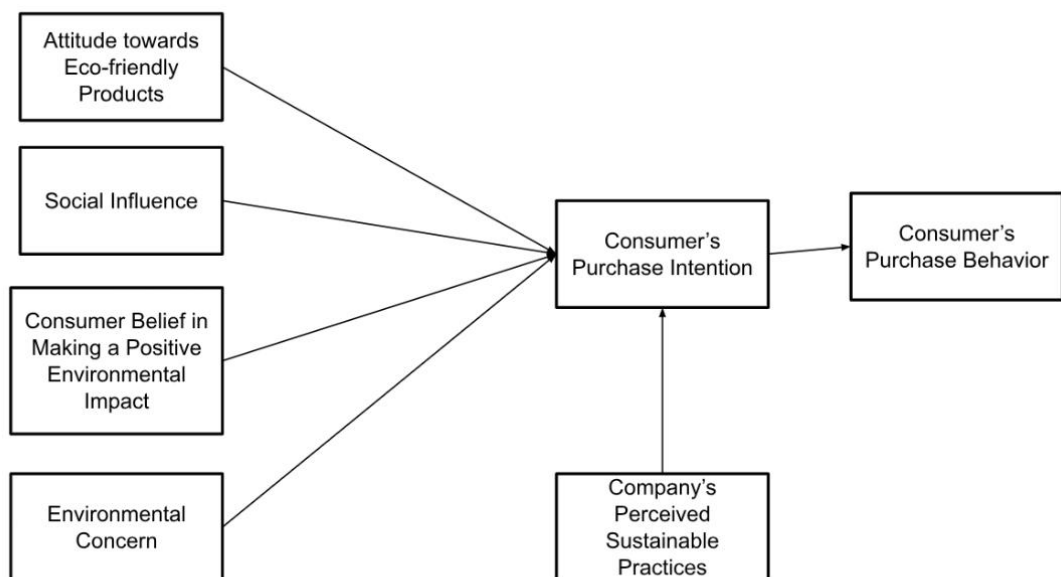


FIGURE 3. Thesis's conceptual framework

### **3 SUSTAINABILITY IN VIETNAM'S E-COMMERCE INDUSTRY**

In this chapter, Vietnam's e-commerce industry's current market context and consumer trend regarding sustainability will be discussed. It is crucially essential to have a brief understanding before in-depth analysis.

#### **3.1 The growth of the e-commerce industry in Vietnam**

Preliminary to exploring sustainability in the e-commerce sector, this section will offer a condensed review and update on the general industry, thus providing the author with a comprehensive understanding for more detailed insights into the subsequent discussion.

In recent years, Vietnam's e-commerce market witnessed a significant increase, with an expected revenue of \$11,950.5 million in 2023. By 2023, Vietnam was predicted to grow by 9.4%, which places Vietnam in the top 25 of the world's largest e-commerce market (ECDB). Moreover, for the next five years, from 2023 to 2027, Vietnam's e-commerce industry will be expected to have 15.5 million users, which means over 24.61% per year (Nguyen 2023).

In 2022, the e-commerce sector recorded a total revenue of 135,000 billion Viet Nam Dong, with dominant market players including Shopee (73%), Lazada (21%), Tiki (5%), and Sendo (1%) (Vietnam Business Forum 2023). However, in the first half of 2023, TikTok Shop, an e-commerce platform directly integrated into the social networking application Tiktok, disrupted the existing e-commerce market landscape, prompting substantial shifts in revenue distribution. Evident data indicated that within a month, TikTok Shop's generated revenue equated to 80% of that generated by Lazada and was four times higher than that of Tiki during the same period (Vy 2023). TikTok Shop gains an advantage from the user base of mostly Millennials and Gen Z users, who have already adopted a culture of online shopping, consequently surpassing Lazada and positioning TikTok Shop as the second most dominant e-commerce platform in Vietnam by the first half of 2023 (Statista Research Department 2023).

### **3.2 Current market context and initiatives regarding sustainability in Vietnam's e-commerce industry**

As discussed in chapter two, e-commerce has experienced a surge in young users, who have gradually shifted their purchasing behaviors toward sustainability. Simultaneously, recognizing the ongoing transition and the prospects of recent e-commerce advancement, various public and private stakeholders have implemented multiple initiatives to align with this movement.

From the Vietnamese government's viewpoint, pivoting the business model towards sustainability is a critical priority. The E-Commerce Industry Report 2023 highlights sustainability as the prospective development for Vietnam's e-commerce sector in the forthcoming years (Viet Nam News 2023). A significant report by the Vietnam Chamber of Commerce and Industry (VCCI) and Lazada pointed out four key elements in sustainable e-commerce (Lazada 2023). Sustainable e-commerce is considered the main drive for the digital economy and Vietnam's economy in general. As reported by the Business Forum newspaper, the VCCI's vice chairman Nguyen Quang Vinh stated, "Business today must create new values, not only economic values. Enterprises need to think beyond economic issues, being social and environmental values. That is the new way of doing business today" (Viet Nam News 2023). It aligns with the commitment made at the 26th United Nations Climate Change Conference (COP26) by Vietnam's Prime Minister that the country will target net-zero carbon emissions by 2050, leading to sustainable development (Shira & Associates).

However, on July 21, 2023, the Road to Green forum was held by the Vietnam E-commerce and Digital Economy Agency (iDEA) and the Vietnam E-commerce Association. Bui Trung Kien, a representative from iDEA, highlighted the need for more emphasis on green, sustainable, or environmental concepts in the existing legal framework for e-commerce (VietnamNet Global 2023). So far, the government has not announced or implemented any guidelines or favorable policies to encourage e-commerce businesses to promote sustainable initiatives and reduce their carbon footprint.

For Vietnam's e-commerce platforms, most leading companies have implemented various sustainable initiatives to increase consumers' awareness and maintain their perceived image. For instance, Shopee, the most significant market share contributor in Vietnam, launched a campaign called "Chon Xanh cung Shopee, translated as "Choose Green with Shopee". Through this 7-day campaign, users could explore sustainable products with nearly 100 eco-friendly items from reputable brands, such as Coolmate, Aaa Jeans, AnEco, VinFast, etc. (Luan 2022). Shopee targeted to partner with companies to introduce a wide range of eco-friendly products to consumers and, therefore, promote sustainable shopping practices. Furthermore, in support of World Environment Day 2022, Shopee partnered with Vietnam Recycling to initiate the "30 Days of Green Living" campaign, encouraging Shopee's users to engage actively in waste sorting. More specifically, when Shopee's users brought electronic waste to Vietnam Recycling collection centers, they gained several benefits, including doubling their Vietnam Recycling membership points and receiving a 50,000 Viet Nam Dong discount code from Shopee (Tuoc 2022).

Another example is the Tiki e-commerce platform. Thanks to the success of live streaming Ri6 durian and ST25 rice in the program "From Farm to Fork" in May 2021, Tiki initiated the direct procurement of farm produce to be retailed through its retail unit, which was called Tiki Trading (Tam 2022). This movement not only facilitated the distribution of agricultural goods but also effectively optimized the supply chain and gained benefits for Vietnamese farmers.

Numerous e-commerce platforms undertook these sustainable initiatives. The examples above represent just a subset of the extensive programs Vietnam's e-commerce platforms have proactively adopted. These efforts drive sustainable development and foster consumer awareness concerning eco-friendly purchasing behavior. However, e-commerce enterprises aligning with sustainable standards are primarily guided by internal guidelines without the benefit of a standardized evaluation framework. This disadvantage will result in a lack of consistency in sustainable e-commerce and logistics growth.

In conclusion, the sustainability landscape within Vietnam's e-commerce sector has witnessed several shifts in recent years. Governmental initiatives toward sustainable development and the eco-conscious efforts of e-commerce platforms have dominated this transformation. Even the lack of standardized guidelines has limited their impact on consumer consciousness toward environmentally friendly products.

### **3.3 Vietnamese consumers' purchasing trend toward eco-friendly products on e-commerce platforms**

This section explores the inclination of Vietnamese consumers, particularly Generation Z, towards eco-friendly products available on e-commerce platforms. Various statistics will showcase the trend of consumer behavior regarding sustainable purchases. The initial part elucidates the overall enhancement in the lifestyle of Vietnamese consumers, who are increasingly prioritizing eco-friendly products. The explanation provides the reader with a comprehensive insight into prevailing consumer trends in the market. The subsequent part highlights the heightened engagement in eco-conscious purchasing trends, predominantly driven by the youth, particularly within e-commerce platforms.

#### **3.3.1 Vietnamese consumers' adoption of a sustainable lifestyle**

According to McKinsey's latest report, a massive population shift has entered Vietnam's consuming class (Tonby et al. 2021). Compared to the year 2000, the number of additional consumer class members grew to 40 percent in 2021 and will peak at around 75 percent in 2030. In the upcoming decade, projections indicate that a significant demographic of 36 million Vietnamese consumers is anticipated to enter the consumer class, with a daily expenditure of at least US\$11 (Delteil, Francois, Mai & Seong 2021). Additionally, urbanization is a highlighted element that increases Vietnam's income growth (Delteil et al. 2021). Vietnam is experiencing a swift wave of urbanization, establishing itself as one of East Asia's most rapidly urbanizing nations (Tran 2023). Forecasts suggest a notable uptick of 10 million individuals in the urban population within the next

decade, with the urban share of 44 percent by 2030 (Delteil et al. 2021). According to McKinsey Global Institute, with a substantial 90 percent contribution to overall consumption growth in the upcoming ten years, Vietnam's cities play a pivotal role as engines of economic growth (Tonby et al. 2021). Along with two urbanized dominants - Ha Noi and Ho Chi Minh, several smaller cities will join the urban consumption and anticipate expanding the middle class in those regions (Delteil et al. 2021).

Thanks to the surge of Vietnam's consuming class and the fast-growing pace of urbanization discussed previously, there is a discernible trend among consumers seeking an improved quality of life as they tend to choose premium products with enhanced safety standards. Moreover, Vietnamese consumers are progressively placing greater emphasis on eco-friendly products. According to Kantar Worldpanel Division's latest report, Vietnamese consumers prefer a more sustainable lifestyle in the post-pandemic era, potentially shaping their purchasing behavior (Kantar 2023). Various surveys illustrate the shifts in Vietnamese consumers' purchasing trends. For instance, in September 2022, a survey by the Business Association of High-Quality Vietnam Products pointed out the primary priorities Vietnamese consumers carefully consider when purchasing (Tran 2023). These elements have been listed as follows: "perceived quality, durability, and cost, as well as product safety, the freshness of the product, the knowledge of the nutritional content, and the country of origin" (Tran 2023). Notably, statistics showed that 57 percent of Vietnamese surveyed consumers indicated they would stop buying products or services due to their negative impact on society or the environment. In contrast, the global average for this trend is approximately 41 percent (Nhat Minh 2020). In addition, Rakuten Insight (Statista Research Development 2023) revealed that approximately 84 percent of consumers were willing to pay extra for sustainable-labeled products. Surprisingly, more than half of the respondents agreed that consuming eco-friendly items is essential. (Statista Research Development 2023.)

### **3.3.2 Vietnamese Generation Z consumers' behavior toward a sustainable lifestyle**

It is evident that Vietnamese consumers generally perceive a favorable attitude toward a sustainable lifestyle based on the mentioned behavior. This shift in purchasing behavior has caught the potential group - Generation Z.

A recent research undertaken by Decision Lab is related to the Vietnamese consumers' perception of the importance of environmental issues (Huynh n.d.). Among the surveyed generations, Generation Z appeared to be the second-highest group that will pay attention to the ecological problems. Generation Z accounted for 73 percent, while Millennials (from 1981 to 1996) and Gen X (from 1965 to 1980) were 75 and 65 percent, respectively. Consequently, it demonstrates that Vietnamese Generation Z consumers are concerned about the negative environmental impacts. Additionally, the latest statistics were conducted in January 2023 (Statista Research Development 2023) with the respondents aged from 16 to 29 years old. In Figure 4, the survey revealed that most Gen Z participants (95 percent) were keen to invest in products from companies committing to environmentally friendly solutions for improved living. The Vietnamese youth demonstrated an environmental concern, encompassing air pollution and global warming.

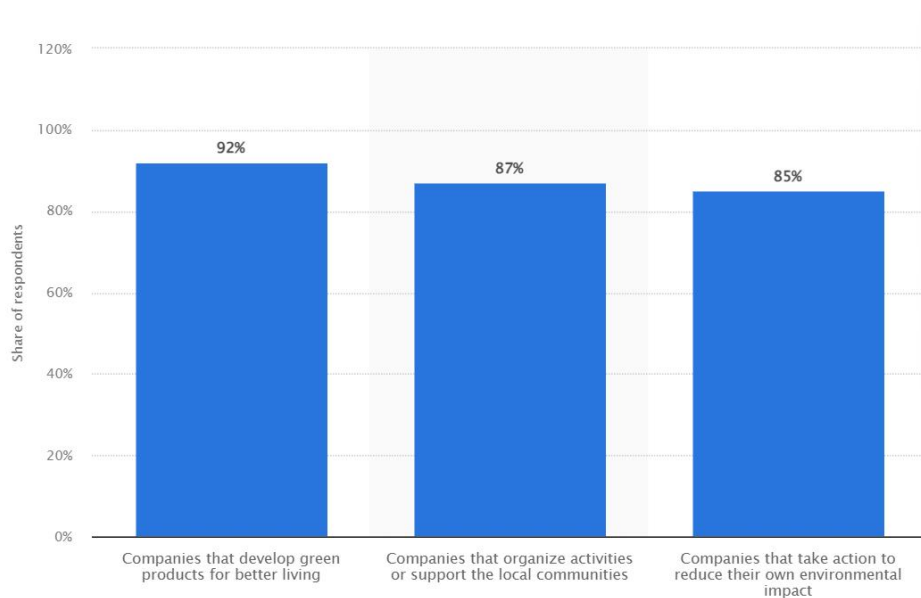


FIGURE 4. Generation Z (aged 16-29-year-old) showed high interest in companies committing to environmentally friendly solutions for improved living (Decision Lab 2023)

However, in the survey of Decision Lab (Huynh n.d.) that surveyed Vietnamese consumers' perception of the importance of environmental issues, when asked



about their willingness to perform environmental protection, Generation Z showed a low tendency to recycle or spend extra expenses on eco-friendly products. This behavior is interesting since they were reported as one of the highest groups with a vital environmental concern. Huynh (n.d.) pointed out that the conflict is the lack of means (e.g., money or effort). In the market, products that align with eco-friendly standards are usually priced higher than conventional products, approximately 75 to 80 percent more expensive (Kearney 2020). Therefore, it explains that Generation Z consumers prefer less costly eco-friendly products. In that case, their intention to purchase can be enhanced.

## **4 RESEARCH METHODOLOGY**

In this chapter, the research objectives will be introduced. Moreover, the research method and the process of data implementation will be explained. After the data collection, the research method analysis will be discussed in-depth.

### **4.1 Research objectives**

The research questions presented in chapter two are designed based on the customer-centric concept. All the questions aim to understand Gen Z consumers' viewpoints about their behavior toward purchasing eco-friendly products; therefore, providing suggestions for Vietnam's e-commerce companies in building a concept that best meets consumers' needs. Customer-centricity's strategy is to create values that fulfill the consumer's requirements (Sharabi 2015). In order to implement the insightful and precise analysis, it is crucial to have a clear and detailed source of data from the target consumer group - Vietnamese Gen Z.

For that purpose, this chapter will introduce the type of research data method, research design, and data collection and analysis process. This chapter's output is to define the factors of Gen Z consumers' purchasing intention which drives their behavior toward eco-friendly products and their expectations for shopping sustainably on e-commerce platforms. The research analysis will be employed in the study based on the antecedents and the mediator of earlier discussed theoretical frameworks.

As discussed, the research objective is defined as executing the most suitable research method and achieving insightful results supporting the outcome. The research objective of the thesis mainly focuses on (1) the factors that impact the consumers' purchasing behavior of Vietnamese Gen Z e-commerce consumers toward eco-friendly products, and (2) the target audience's preferences and expectations for e-commerce platforms to improve their sustainable initiatives.

## 4.2 Research design and implementation

In the context of this thesis, quantitative research was selected as the method for the data collection and analysis process. Thanks to distinct benefits aligning with the research objective, quantitative research methodology is considered the final choice. First, this method is characterized by its definitive and generalized precision, as highlighted by Sukamolson (2007). The quantitative approach is known for its efficiency, allowing researchers to save valuable time and resources (Daniel 2016), which is particularly advantageous in large-scale studies where a vast amount of data needs to be collected and analyzed. Furthermore, one of the primary aims of quantitative research is to maintain objectivity to minimize the researcher's biases in the data collection (Wright et al. 2016). Unlike other research methods, quantitative research relies on structured surveys that reduce the potential influence of researchers on participant responses. Thanks to the reliance on numerical measures, the finding of the research study remains as generalized and objective as possible, ensuring that subjective perspectives can not influence the outcomes. The focus of the research result is to gain insights from the consumers' perspectives; thus, it is crucial to avoid the researcher's biases and guarantee the objectivity of the data during the data collection process. It reconfirms the appropriateness of selecting the quantitative research methodology in the context of this thesis.

The questionnaire survey is identified as the quantitative research approach. The advantages of a questionnaire survey have been mentioned as "less cost, sample accessibility, efficiency in time, anonymity and topic coverage" (Cooper and Schindler 2014, Dalati and Gómez 2018). Google Form was chosen as the platform to create survey questions and collect data from respondents. The questionnaire survey was posted on the author's Facebook account. Although being a university student in Finland, the author has a board Vietnamese community on Facebook with around 400 to 500 connections. The people on the author's Facebook account range from 16 to over 26 years old and currently live in Vietnam and abroad. The survey post was published on Facebook with a "Friends only" setting on October 25th, 2023, and lasted for two weeks until November 8th, 2023. The survey was written in Vietnamese to convey the information seamlessly to the respondents and procure valuable insights.

Thanks to the wide variety of Vietnamese connections on the author's Facebook personal account, especially Gen Z (aged 16 to 26 years old), the survey met the relevance of the thesis target group and reached a higher responsive level. Therefore, it is the main reason the author chose her Facebook personal account as a platform for the data collection process. Finally, the questionnaire survey collected 100 responses from Vietnamese Generation Z aged 16 to 26-year-old living in Vietnam and abroad.

The target data group is Vietnamese Gen Z e-commerce consumers aged between 16 and 26. The reason why the author chose this age range (from 16 to 26-year-old), while Gen Z varies from 11 to 26-year-old, was because this age group is considered the most active in purchasing on social platforms, readily adapts to shopping trends, and is well-acquainted with many business models, especially e-commerce platforms (Nguyen 2023, Pham 2022).

The survey consists of 6 sections in total: (1) Demographic information, (2) The attitude of Gen Z consumers toward eco-friendly products on e-commerce platforms, (3) Social influence on Gen Z consumers with purchasing eco-friendly products, (4) Gen Z consumers' beliefs in the positive impact on the environment when purchasing eco-friendly products, (5) Gen Z consumers' environmental concerns and the importance of environmentally friendly products, (6) Gen Z consumer's inclinations and pain points in purchasing eco-friendly products on e-commerce platforms, (7) Gen Z consumers' needs and expectations for e-commerce's current sustainable initiatives.

(1) assists the researcher in understanding the diversity of the mass data of participants. This information will be invaluable for assessing the reliability and validity of the quantitative research. (2), (3), (4), and (5) are based on four antecedents and a mediator presented in the Extended TPB Framework. Next, (6) surveys the current shopping experience and the barriers to eco-friendly products. Finally, (7) is related to the modifier of the theoretical framework, which describes how well e-commerce companies' sustainable perceived images manage and meet consumer's expectations. (6) must be added before the seventh section since the author wants to identify the Vietnamese Gen Z consumers' impressions of their current experience with sustainable shopping

and determine their pain points in the customer journey. Therefore, it strengthens the respondents' answers in (7) and supports the researcher in analyzing the core pain points in e-commerce's sustainable initiatives and providing valuable recommendations. Thanks to these sections, all of the fundamental factors of the Extended Theory of Planned Behavior will be analyzed based on the consumers' viewpoints, which align with the consumer-centric research objective.

As mentioned, the survey questions were built based on the antecedents and mediator identified in the theoretical framework - the Extended TPB Model in chapter two. They comprise the four antecedents (attitudes toward eco-friendly products, subjective norms, perceived consumer effectiveness, and environmental concern), along with the company's perceived sustainable image factor as a mediator. This is designed to guarantee that the questionnaire survey can include all the areas that need the respondents' inputs for analysis. In addition, when designing the questions with the foundation of a theoretical framework, the survey can maintain reliability, comprehensiveness and impartiality throughout the research data process. Appendix 1 presents the list of questions and answer choices for the quantitative research.

### **4.3 Analysis of the factors influencing Vietnamese Generation Z consumers toward eco-friendly products**

#### **4.3.1 Demographic information**

Awa, Baridam, and Nwibere (2015) strongly presented that demographic information is significantly crucial in the data collection process when the study relates to e-commerce adoption. It helps the researcher to segment the large number of participants based on their characteristics. In the research objective, the target age group is Vietnamese Generation Z aged from 16 to 26 years old. The first question divides this age range into three small groups: 16 to 17, 18 to 22, and 23 to 26. The purpose is to differentiate students studying in high school from 16 to 17, students in university or in college from 18 to 22, and

working professionals aged 22 or above. Each of these groups will have different awareness, mindset, and capabilities to experience sustainable shopping. Therefore, it is crucial to segment this piece of data in detail.

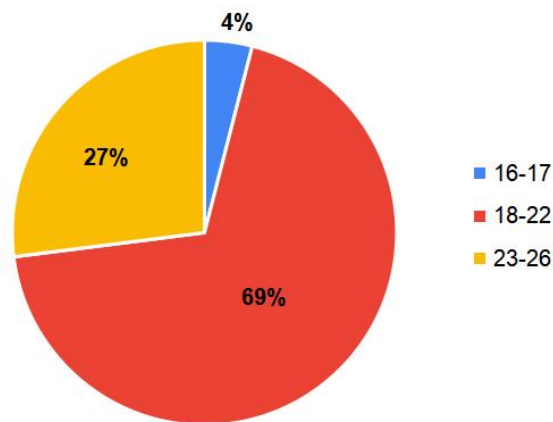


FIGURE 5. Age groups of respondents in the questionnaire survey

The pie chart in Figure 5 covers three age groups in the target consumers. The share of respondents from 18 to 22 accounts for 69%. The age group 23-26 shares 27% of the pie chart and 4 responses stated the age group from 16 to 17 years old. All surveyed respondents are in the targeted age range (16-26). Therefore, it generalizes the research's results for the targeted Vietnamese Gen Z consumers as stated earlier.

In addition, e-commerce adoption varies by gender and geographical location, thus, it is essentially important to analyze these pieces of data (Awa et al. 2015). Moreover, biases will be recognized in whether any groups have better opportunities to participate in e-commerce platforms.

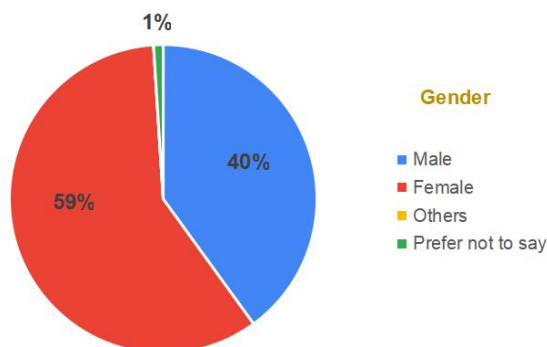


FIGURE 6. Gender of respondents from questionnaire survey

In the pie chart from Figure 6, the percentages of male and female respondents are relatively similar, with 40% and 59% respectively. There is one respondent who refused to share their gender information, and no one reported “Others”. However, it is obviously seen that the significance of the gender share is not noteworthy.

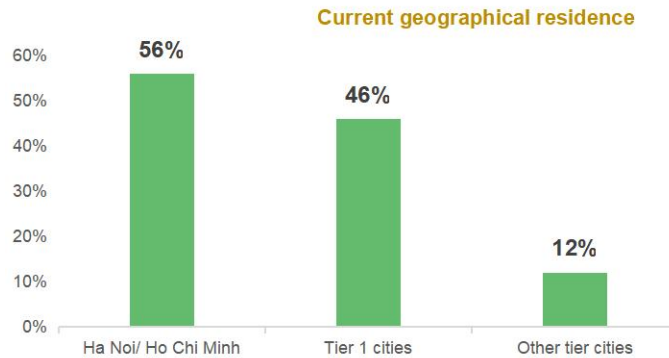


FIGURE 7. Geographical distribution of respondents from questionnaire survey

In Figure 7, The current geographical location was provided in the survey based on the cities respondents currently reside. The answers are categorized into three options, which are Ha Noi or Ho Chi Minh (special metropolises), tier 1 cities and lower-tier cities. In Vietnam, cities in the same tier have similar economic and social development, population size and labor and consumption rates. Consequently, the answer choices are divided into tiers, which reduces time-consuming for both the researcher and participants. From the bar chart, the share of residences from the two Vietnam metropolises (Ha Noi/Ho Chi Minh) and the tier 1 cities was reported quite equally (56% and 46% respectively). There is a 12% share from the lower-tier cities.

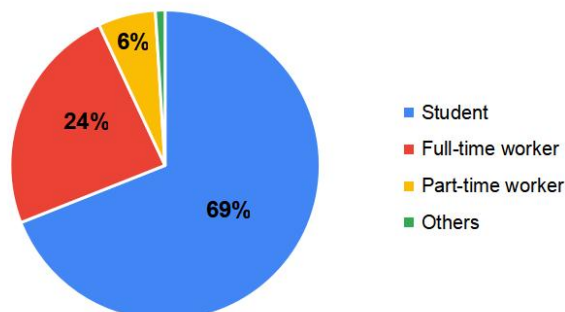


FIGURE 8. Occupation of respondents from questionnaire survey

In the context of this thesis, demographic information also requires respondents to provide information related to their current occupation and income range,

which will help the target audience's analysis. In Figure 8, categorized by occupation status, the largest contributor is students (69%). It is understandably explained by the share of age group (18-22). In Vietnam, after graduating from high school at the age of 17, students usually tend to go straight to university or college, which is a 4-year period (18-22). As a result, the portion of students dominates the pie chart. Full-time workers account for 24%, while part-time workers take 6% of the chart. The amount of other occupation is not significant with 1%.

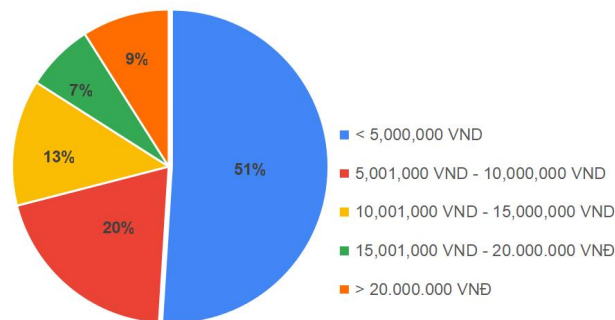


FIGURE 9. Income range of respondents from questionnaire survey

Next, the monthly income range is collected. From the Figure 9 pie chart, the respondent group who earns less than 5,000,000 Viet Nam Dong a month dominates (51%) with over half of the participants. This reconfirms the majority of Vietnamese Gen Z consumers are students with low monthly average income compared to Vietnamese workers' average income per month is 6,700,000 Viet Nam Dong per month in 2022 (Le 2022). The other half of the pie chart demonstrates the share of the four remaining groups with 20%, 13%, 7% and 9% respectively. These income ranges are approximately equal to or higher than Vietnamese workers' monthly average income, which is considered as one factor impacting consumption level and shopping behavior among the respondents.



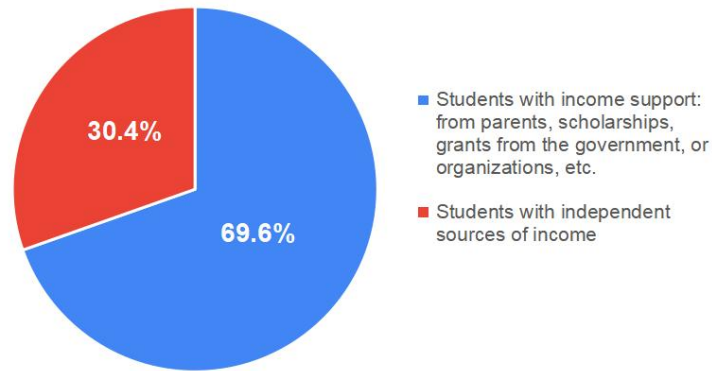


FIGURE 10. Income resources of student respondents from questionnaire survey

In Figure 8, the researcher recognized the majority of the portion of students as participants (69%). Thus, another question required respondents to provide their income source, especially for the respondents' choice of Student in the previous question. The pie chart in Figure 10 demonstrated the results. Normally, most Vietnamese students earn income support from external sources, such as parents, scholarships, governments, or other organizations, etc. Undoubtedly, 69.6% of surveyed students reported being supported by their monthly income from the mentioned sources, while 30.4% of participants are independent of their income per month.

#### 4.3.2 The attitude of Generation Z consumers

According to Chen et al. (2022), one of the four antecedents is attitude toward eco-friendly products, which significantly impacts consumer's intention to make a purchase. For that reason, the second section of the survey relates to the perception of Vietnamese Gen Z consumers regarding eco-friendly products.

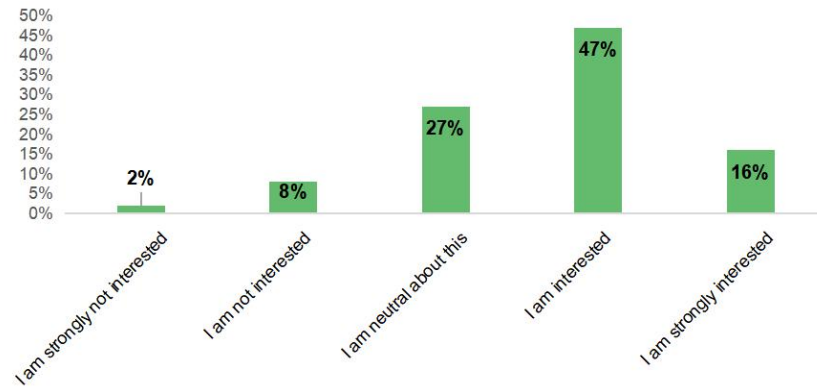


FIGURE 11. Interest level in purchasing eco-friendly products on e-commerce platforms.

First, the respondents are asked to rate their interest in purchasing eco-friendly products on e-commerce platforms. Based on Figure 11, the majority of respondents are interested in purchasing eco-friendly products on e-commerce platforms, which accounted for 47%. The second largest portion comes from participants who are neutral about this topic (27%). 16 over 100 respondents stated a strong interest in e-commerce's sustainable shopping. The minority (10%) represents consumers who show low or completely no interest. In conclusion, most of the respondents report that their interest rates for eco-friendly products on e-commerce are relatively high.

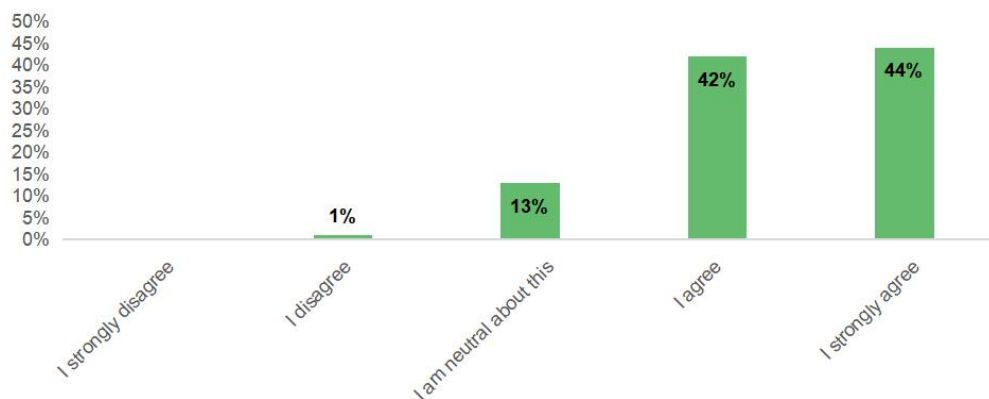


FIGURE 12. Statement "In my opinion, purchasing eco-friendly products is a solution for environmental protection and natural resources reservation"

In order to support the analysis of consumer attitude, the statement is provided to evaluate the respondent's opinions. According to Figure 12, the statement is "In my opinion, purchasing eco-friendly products is a solution for

environmental protection and natural resources reservation". Similarly, the respondents agree or strongly agree with the given statement (42% and 44% respectively). Only 13% of participants responded neutrally, and one person disagreed with this opinion. As a result, Vietnamese Gen Z consumers show high interest and positive perceptions about purchasing eco-friendly products on e-commerce platforms.

### 4.3.3 Social influence

In the third section, social influence is analyzed based on two given statements. These sentences are designed to rate how subjective influence can impact Vietnamese Gen Z consumers' purchasing intention toward eco-friendly products.

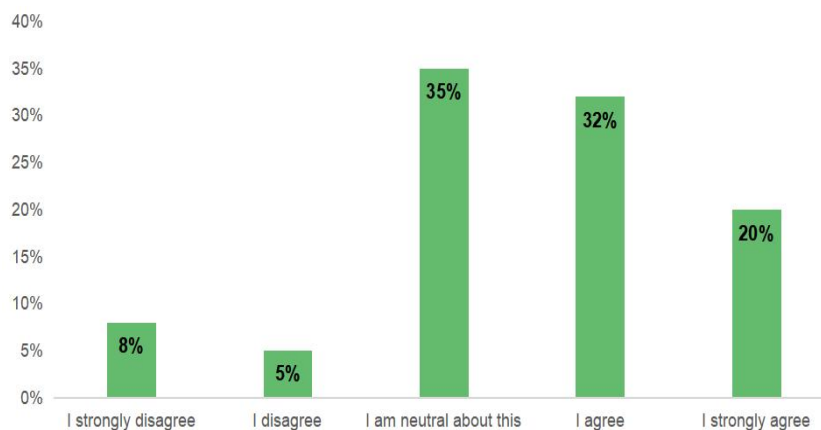


FIGURE 13. Statement "I believe that when I buy eco-friendly products, people will have a good impression and positive perception of me"

In Figure 13, the first statement of section three disclosed "I believe that when I purchase eco-friendly products, other people will have a good impression and positive perception of me." 52 over 100 responses demonstrated that they agree or strongly agree with the statement. The share of neutral answers accounted for 35% while 8 participants did not consent to this statement. Nevertheless, the portion of people with positive perceptions about their actions that can be taken into account by other people is comparatively significant.

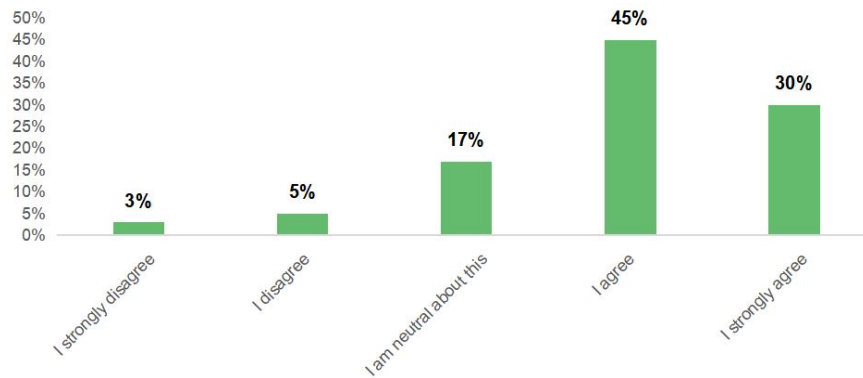


FIGURE 14. Statement “When people surrounding me buy eco-friendly products on e-commerce platforms, it can influence me to do the same.”

The second statement relates to the impact of society’s purchasing behavior on an individual referred to Figure 14. This means that when observing others engage in shopping for eco-friendly products on e-commerce platforms, one’s behavior can be influenced and emulate their actions. The first and second highest columns are consumers who agree and completely agree with the provided statement (45% and 30% respectively). There is an amount of 17% of consumers remain neutral. A minority (8%) disagrees with the social impact on their behaviors, however, the figure is not significant among 100 responses. It is undoubted that the influence of other individuals or society in general is strongly significant based on the level of respondents’ agreement.

#### 4.3.4 Gen Z consumers' beliefs in the positive impact on the environment

Unlike the previous section, the third segment presented two statements that describe the belief and commitment of an individual in making an impact.

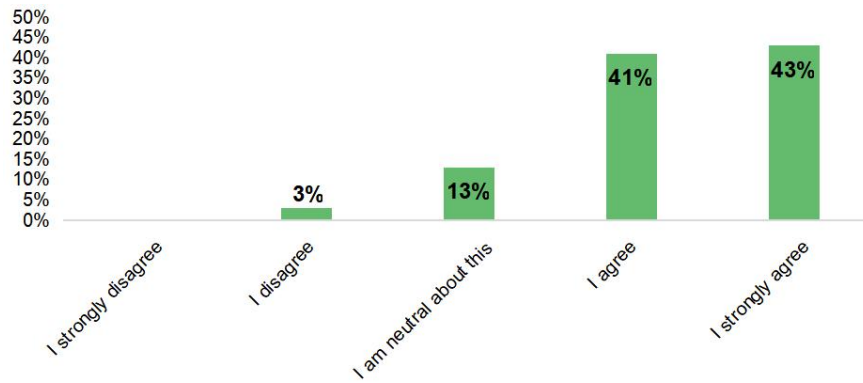


FIGURE 15. "In my opinion, when every consumer buys products from eco-conscious companies, it can have a positive impact on society"

In Figure 15, the respondents were required to rate whether they believe consuming products from eco-conscious companies can affect positively society and the environment. It is distinctly seen that 84% of Gen Z responded with high belief, while only 3 participants disagreed.

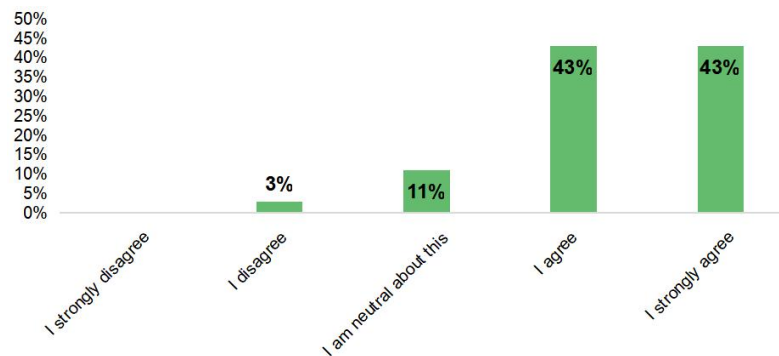


FIGURE 16. Statement "Individuals can make a difference in reducing pollution and conserving natural resources. So when I purchase eco-friendly products, it matters."

The Figure 16 strengthens the answers to the previous statement. The share of agreed and strongly agreed participants is relatively similar (86%). They accepted the fact that "Individuals can make a difference in reducing pollution and conserving natural resources. So when I purchase eco-friendly products, it matters". The minority of disagreed respondents is 3%.

#### 4.3.5 Gen Z consumers' concerns about the environment and the importance of environmentally friendly products

As mentioned, the fourth section analyzes the Vietnamese Gen Z consumer's awareness and concerns about the environment. In order to understand the environmental concern of the target audience, respondents were required to provide the frequency of searching eco-friendly product information on e-commerce platforms.

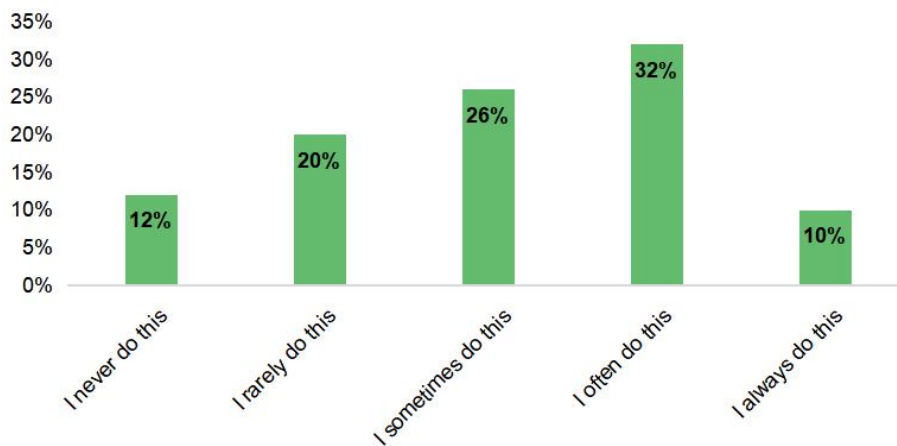


FIGURE 17. How often do you search for information about the environmental impact of the products you purchase on e-commerce platforms?

From Figure 17, it is distinct that Vietnamese Gen Z do not tend to seek sustainable items, which the share of the two columns "I never do this" and "I rarely do this" accounts for 32% of the overall data. Whereas, consumers stated "I sometimes do this" is the second contributor (26%). Around 42% of participants said that they are interested in exploring eco-friendly products, which they often or always do.

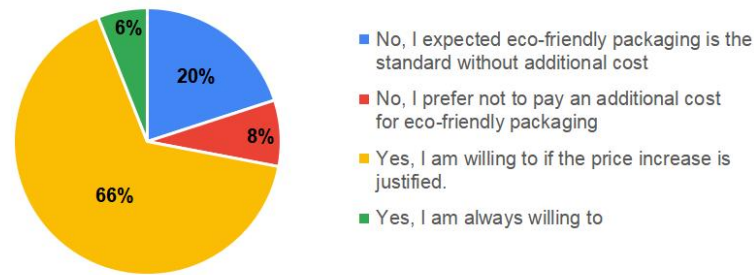


FIGURE 18. Are you willing to pay an additional fee for products sent in eco-friendly packaging materials?

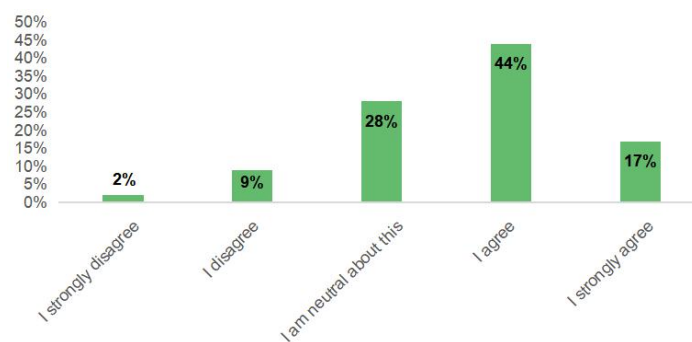


FIGURE 19. Are you willing to choose to buy eco-friendly products on e-commerce platforms, even if delivery times may be longer?

Consumers tend to pay 75 to 80 percent more expensive prices than conventional products (Kearney 2020). Consequently, the two following questions in Figure 18 and 19 place respondents with a situational context, which will be required for their willingness in deciding to buy eco-friendly products on e-commerce platforms. The pie chart in Figure 18 required the respondents to rate their willingness to pay additional costs for eco-friendly packaging, while the bar chart in Figure 19 asked participants' opinions about the longer delivery time of eco-friendly products compared to other items. Most respondents are currently willing to pay an extra fee (72%) in Figure 18 or wait longer for delivery packages (61%) in Figure 19. The additional cost is highly agreed upon by Gen Z consumers since they have a stronger intention of eco-friendly products whether the increased fee is appropriate. These figures are understandable since the willingness to pay extra for eco-friendly products among Gen Z is higher than other generations (identified in chapter three). On the other hand, in Figure 18, 20% of respondents stated "I expect eco-friendly packaging to be a

standard without additional costs”. Only 11 participants did not accept the longer delivery time referred to Figure 19. This demonstrates that Vietnamese Gen Z will be more comfortable with delivery time than paying an extra fee. This is understandable since the majority of monthly income below 5,000,000 Viet Nam Dong is comparatively significant. Therefore, their concerns with additional costs still remain.

The largest contributors in this section are positively aware of the environment, which tend to search for products’ impacts on the ecology and show a high willingness to pay extra fees or receive eco-friendly packages longer than usual. As a result, Vietnamese Gen Z consumers demonstrate a relatively high awareness of the environment.

#### **4.3.6 E-commerce platforms’ sustainable perceived image**

In the second research question, the thesis analyzes the company’s viewpoints, in order to provide recommendations for improving the presentation of eco-friendly products on e-commerce websites. Thus, these suggestions can meet the Gen Z consumers’ expectations and attract more new customers.

##### **a. Gen Z consumer’s inclinations and pain points**

As mentioned, the majority of survey data demonstrate a positive intention for purchasing eco-friendly products on e-commerce platforms. The author added this section for an analysis of Vietnamese Gen Z consumers’ behavior when coming across eco-friendly product posts on websites. The respondents were asked to select multiple elements that can positively impact them in choosing eco-friendly products.



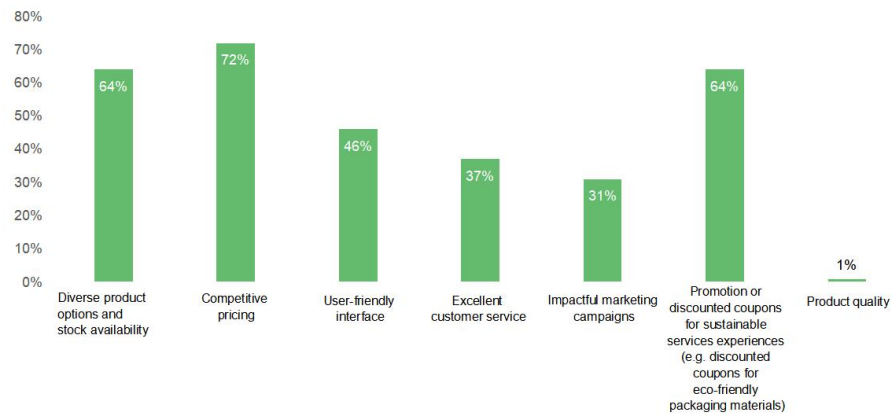


FIGURE 20. For e-commerce sites (e.g., Shopee, Lazada), what factors can influence your choice to purchase eco-friendly products?

From Figure 20, the top three factors that attracted consumers' attention are competitive pricing (72%), diverse product options and stock availability (64%), and promotion or discounted coupons for sustainable initiatives experience (64%). It is also significant to mention that Gen Z feels hooked by the user-friendly interface (46%) and excellent customer service (37%). Around 31% of consumers require Impactful marketing campaigns in order to affect their purchasing intention. Product quality seems not to be Gen Z's priority. Overall, the price-related factor is normally the highest concern of Gen Z consumers.

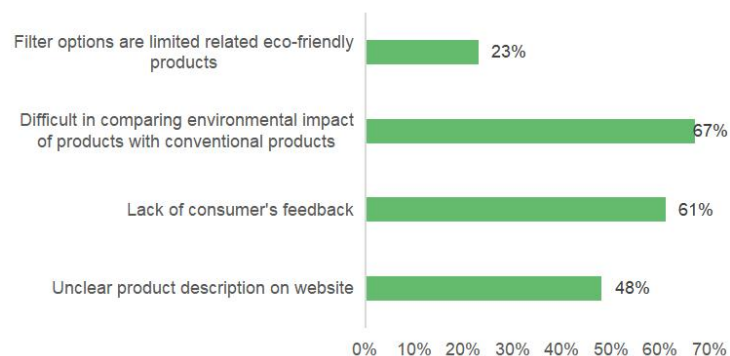


FIGURE 21. What difficulties do you encounter when searching and purchasing eco-friendly products on e-commerce platforms?

While searching for and experiencing purchasing eco-friendly products on e-commerce platforms, the consumer journey might appear several barriers. Since sustainable initiatives have recently been implemented, e-commerce platforms are in the process of improvement for better customer experience. The pain points and expectations of consumers are required to be analyzed.

From Figure 21, the most difficult challenge of the individual shopping experience is comparing the environmental impact of eco-friendly products with conventional products (67%). Consumers seem to lack product descriptions in order to recognize the difference in buying more eco-conscious items. Because of sustainable consumption trend is relatively new in Vietnam's e-commerce market, there is less consumer feedback or reviews about those products (61%). Thus, eco-friendly products have not built a strong trust within their consumers. Another pain point reported in the survey, that strengthens the fact that there is a lack of eco-friendly product information, is the product's descriptions are not well-presented and unclear on e-commerce sites (48%). Around 22% of participants expressed that the difficulty in the filter option settings is currently not diverse, which reduces the search engine for eco-friendly products.

Overall, the consumers' expectations fall into the price-related factors and diverse eco-friendly product choices. Consumers' pain points are noticeable since current e-commerce platforms seem to lack sustainable information and knowledge for consumers, especially first-time consumers.

#### **b. Gen Z consumers' needs and expectations for e-commerce's current sustainable initiatives**

Consumers' pain points are explored, which supports the analysis of consumer satisfaction with current e-commerce platforms' sustainable initiatives.

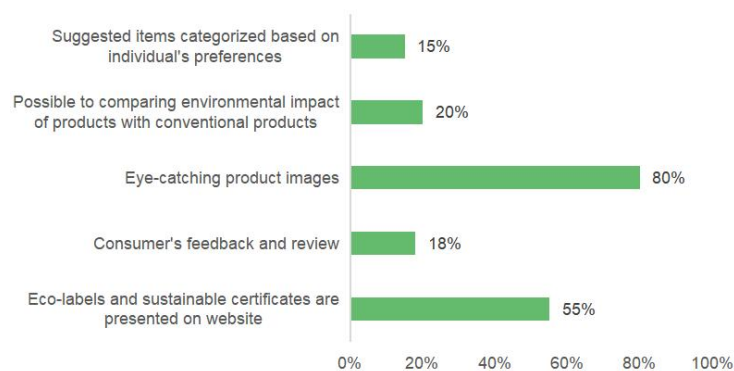


FIGURE 22. On e-commerce platforms, what features do you value in presenting eco-friendly products?

First, the respondents are asked about the valuable features of e-commerce sites in presenting eco-friendly products that they feel most satisfied with. According to Figure 22, despite the lack of sustainable product information, e-commerce platforms receive positive feedback thanks to the eye-catching product images (80%). Eco-labels and sustainable certificates are clearly presented on the site, which 55% of consumers are highly appreciated. The other options are relatively low, followed by consumer feedback and review (20%), comparing the environmental impact of products with conventional products (18%), and suggested items categorized based on individual preferences (15%).

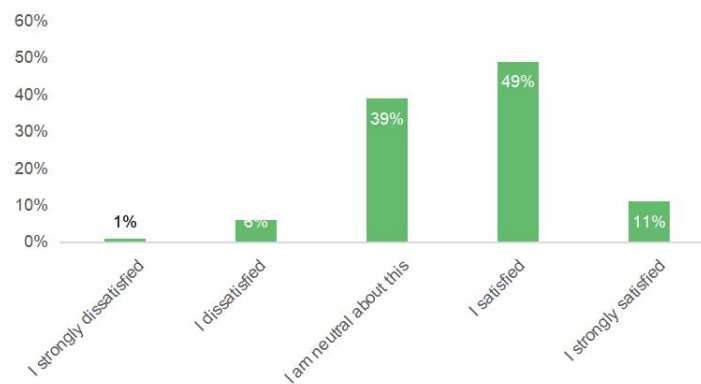


FIGURE 23. How satisfied are you with the interface of e-commerce platforms in presenting eco-friendly products?

The user interface is considered one of the top priorities of Vietnamese Gen Z. In the next question, the respondents rate their satisfaction level with the interface in presenting eco-friendly products on e-commerce platforms. In Figure 23, the share of consumers who feel satisfied or strongly satisfied with the current interface accounts for 60% of the chart. While 39% of surveyed participants remain neutral and only the majority stated their dissatisfaction (7%). However, this shows a promising signal for the current e-commerce platforms since most Vietnamese Gen Z participants expressed their satisfaction with how eco-friendly products are presented on the sites at the moment.

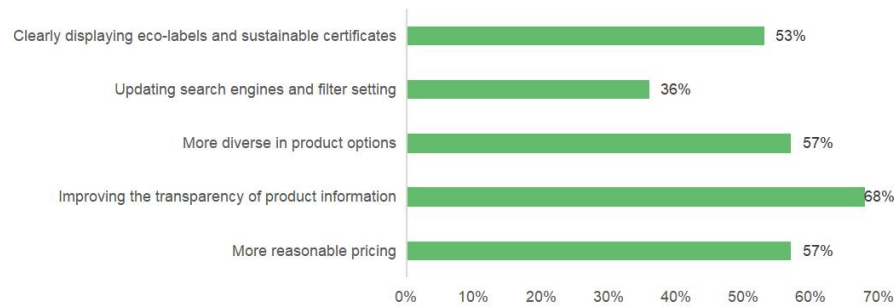


FIGURE 24. On e-commerce platforms, what changes or improvements would you like to see in providing and promoting eco-friendly products?

The next question related to the improvements that consumers would like e-commerce to implement in offering and marketing eco-friendly products. From the chart in Figure 24, it is clearly seen that 68% of respondents want the product information's transparency to be improved. Along with that, more competitive pricing and more diverse product options are the second largest amount with 57% equally. With the aim to promote eco-friendly products, eco-labels and sustainable certificates should be displayed more clearly and eye-catching (53%). Moreover, improvements in search engine and filter option settings are also required by 36% of consumers.



FIGURE 25. How can e-commerce sites better convey the environmental benefits of products to increase your interest in shopping?

In order to understand the factors that drive consumers' attention regarding eco-friendly products, the respondents are required to choose multiple choices among the above answer options. Most given factors are highly picked by participants. In Figure 25, they include cooperating with environmental

organizations to promote consumer awareness campaigns (64%), offering rewards or trial experience for purchasing eco-friendly products (60%), highlighting the sustainability of the product (55%), and providing detailed information about the product's life cycle (54%). The survey collected no other answers compared to the given choices.

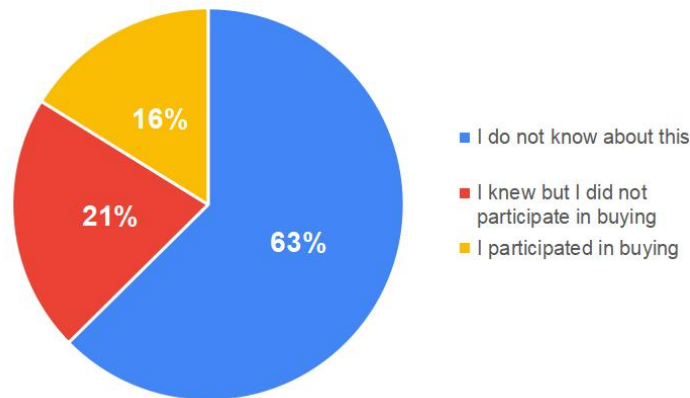


FIGURE 26. Do you know about shopping campaigns on e-commerce sites targeting eco-friendly products, like the "Choose Green with Shopee" campaign?

The additional question which designed to test the consumer's knowledge about e-commerce sustainable campaign. The provided campaign is "Choose Green with Shopee" from the Shopee e-commerce platform (identified in chapter three). In Figure 26, the majority had no perception of this campaign with 63%. There is a share of consumers who knew about this campaign, however, they had not used to purchase eco-friendly products (21%). Lastly, 16% reported that they feel interested and experienced shopping sustainably through this campaign. Overall, it can be seen that an impactful campaign from the leading e-commerce platform - Shopee, is not well aware among most Gen Z consumers. Whether the potential to raise consumers' attention of the campaign remains low or the benefits from it are not attractive enough for the consumers, which leads them to make a purchase.

#### 4.4 Validity, reliability, and limitations

Although the survey results collected responses from the target audience (16-26-year-old), the majority of the participants are between 18 to 22 years old (69%). Nevertheless, those under 16 years old do not widely use online shopping on their own device and still lack opportunities to acknowledge environmental issues. Therefore, the results will be analyzed about the most suitable and relatable age group. Additionally, it is recognized that the research findings do not capture the perspectives of the 16-17 age group as they constituted only 4% of the overall demographic.

Similarly, geographical residence witnessed the dominant percentage of the respondents from two special metropolises (Ha Noi/Ho Chi Minh). While tier 1 cities and other tier cities accounted not significantly (12% equally). Therefore, the surveyed Gen Z consumers can not be representative of all three options.

Additionally, according to the survey, certain questions provided an "Other" option, allowing participants to input their views in text format. However, none of the participants chose to utilize this option.

Finally, the survey results above are the representatives for a group of Vietnamese Generation Z community, who showed their behavior and characteristics toward eco-friendly products purchases. Therefore, the survey results do not covered all purchasing behaviors of the Vietnamese people aged from 16 to 26 years old.

#### **4.5 Ethical considerations**

Since the questionnaire survey collected the personal information of participants, several ethical issues were taken into account in the examination of privacy in the study. All the responses were done voluntarily. The participants were not required to provide their names, and the author committed to anonymity in data utilization. At the beginning of the survey, the thesis topic and purposes were provided to give the participants a brief understanding. Additionally, the respondents were informed that they had the right to terminate their answers or

withdraw from the survey anytime. The survey only collected the respondents of the target age group from 16 to 26 years old.

Respondents' personal information in this study will be treated with utmost confidentiality and stored securely. The interview data collected will be solely utilized for the current study. In the case of reuse for future studies, permission from the participants was required for access. When the participants are willing to review the conclusions drawn from their responses, the author is committed to providing them with the article.

## **5 RESEARCH'S SUMMARY**

In this section, the analysis of collected insights from the survey will be discussed. The research's summary will be divided, which based on two main research objectives: (1) the factors that impact the consumers' purchasing behavior of Vietnamese Gen Z e-commerce consumers toward eco-friendly products, and (2) the target audience's preferences and expectations for e-commerce platforms to improve their sustainable initiatives.

### **5.1 Clarification about Vietnamese Gen Z consumers**

Before an in-depth discussion about the other topics, the clarification about the target research group needs to be explained. Due to the research results, most Vietnamese Gen Z consumers are students. The students with low average monthly income (less than 5,000,000 Viet Nam Dong) account for most participants. Since their monthly income comes from other external sources, they seem dependent and not flexible in their budget. Therefore, they would prioritize purchasing products at reasonable prices. This behavior has been well-explained due to price-related factors being a high concern among Vietnamese Gen Z consumers. In conclusion, the purchasing behavior of Vietnamese Gen Z consumers is characterized by a meticulous assessment of product prices, and there exists a need for more intention to purchase high-priced products. Consequently, products commanding a higher price point may not be the primary preference for this target audience.

### **5.2 Factors influencing Vietnamese Gen Z consumers' intention toward eco-friendly products on e-commerce platforms**

According to the factors identified in chapter two, there are four antecedents influencing consumer intention, including Attitude toward eco-friendly products, Social influence, Consumers' beliefs in the positive impact on the environment and Consumers' environmental awareness and concern. From the research results, the discussion about the relationship between the identified antecedents



and a mediator with Vietnamese Gen Z consumers will be explained in this section.

### **5.2.1 Attitude toward eco-friendly products**

As revealed in the survey findings, Vietnamese Gen Z consumers demonstrate a favorable attitude towards eco-friendly products. The participants not only express a heightened interest in such products but also view the act of purchasing them as a meaningful contribution to environmental protection. This attitudinal stance reflects a conscious choice among Gen Z consumers to align their purchasing decisions with sustainability and environmental responsibility values.

As Ajzen (1991) stated, in a positive evaluation of the action's outcomes, individuals tend to show a favorable attitude and intend to perform the specific behavior. In this context, Vietnamese Gen Z consumers perceive making an eco-friendly purchase as a result that positively impacts the environment. Therefore, this favorable attitude is considered a motivational factor that tends to hold Gen Z consumers to engage in purchasing eco-friendly products.

### **5.2.2 Social influence**

A study conducted by Yes Lifecycle Marketing (Salpini 2017) showcased that over 80 percent of Gen Z consumers stated that social media influenced their shopping behaviors. This significant percentage can be explained by the rapid development of digitalization and the expansive reach of contemporary social media platforms, as the author mentioned in chapter one. The questionnaire survey of the thesis further strengthens this finding, revealing that others' perceptions or behaviors notably impact most Vietnamese Gen Z consumers. They tend to mirror trending actions on social media often. Furthermore, the significant behaviors of individuals within their immediate circles, such as family, friends, and colleagues, exert a considerable influence on Generation Z. Therefore, it is seen that Gen Z consumers show a tendency to easily be influenced by societal trends and the actions of those around them.

According to the questionnaire survey, the prioritization of self-image emerges as a significant factor influencing consumers' purchasing intentions. This inclination can be explained by the prevalent preference among respondents for cultivating a favorable perception among their peers. Additionally, adopting eco-friendly products is perceived as a purposeful and meaningful choice, particularly among consumers belonging to Generation Z. Consequently, given the strong inclination of Vietnamese Generation Z individuals to project a positive self-image, there exists a corresponding intention to engage in the purchase of eco-friendly products.

In conclusion, the prevalent impact of social influence stands out as one of the primary motivational factors behind the purchasing intentions of Vietnamese Generation Z toward eco-friendly products.

### **5.2.3 Consumers' beliefs in the positive impact on the environment**

As concluded in section 5.2.1, a significant and noteworthy proportion of Vietnamese Generation Z consumers emerge as distinctly favorable in their attitudes toward procuring eco-friendly products. This observed inclination matches the conceptual framework highlighted by Cleveland et al. (2005), which elucidates the relationship between consumer behaviors and their implications for sustainability, particularly in addressing prevalent environmental concerns.

Cleveland et al. (2005) underscored the importance of individuals engaging in a thoughtful assessment of how their consumption patterns contribute to addressing and preventing environmental issues. Consumers tend to exhibit a heightened awareness and a sense of responsibility in this context. They view their purchasing decisions as transactions and intentional acts that carry implications for the broader environmental landscape.

Consequently, Vietnamese Generation Z consumers hold strong beliefs that they perceive their choices, especially those associated with the procurement and utilization of eco-friendly products offered by eco-conscious companies, as significant contributions with positive impacts on both the environment and society. This strong belief suggested a deeper understanding and engagement

with sustainability practices among Vietnamese Generation Z consumers, impacting their purchasing decisions purposefully and positively.

#### **5.2.4 Consumers' environmental concerns**

Vietnamese Generation Z consumers exhibit a notable environmental consciousness, evidenced by a heightened interest in researching the environmental impacts of products. The positive attitude towards eco-friendly products and a favorable perception of the consequential effects of such purchases underscores their genuine ecological concerns.

Including two situational questions serves as a framework, placing consumers in scenarios involving the procurement of eco-friendly products. These noteworthy examples include assumptions like the additional cost associated with eco-packaging or extended delivery times. Even when confronted with these potentially negative scenarios, Vietnamese Generation Z consumers display a resilient intention to continue their preference for purchasing eco-friendly products through e-commerce platforms.

Nevertheless, on the other hand, a segment of Vietnamese Generation Z consumers displays a limited inclination to prioritize environmental considerations or view eco-friendly materials as an added expense. This group believes that companies should refrain from raising prices for sustainable items. This number of Vietnamese Gen Z is not significant; however, it is noteworthy to understand that they are still price-related aware toward purchasing and do not have strong environmental concerns.

As a result, environmental concern is a crucial force behind Generation Z consumers' intention to make sustainable purchases. Whether or not they are well aware of the environment, this factor will lead to their consumption considerations.

### **5.3 Consumer's pain points and Recommendations for e-commerce improvements to meet consumers' expectations**

Referring to the survey results, the consumer's pain points have been listed as A limited variety of product selections with competitive prices, Unclear product description related to sustainability information, Limited impactful sustainable campaigns, and Limited trial experience with sustainable initiatives.

From the e-commerce platforms' viewpoints, several implications need to be considered to attract more Vietnamese Generation Z consumers and encourage them to purchase eco-friendly products.

### **5.3.1 Diverse product selections with competitive prices**

Firstly, there is a necessity for a more extensive collection of eco-friendly products to be made available on e-commerce platforms. The current limitations in product selection hinder consumers from effectively comparing options and finding suitable choices for purchase. Notably, e-commerce platforms should strategically present a diverse range of eco-friendly products, focusing on those that resonate with the preferences and trends among Generation Z consumers. The familiar or trendy items with this demographic's preferences can effectively force them to explore and adopt the sustainable versions of these products, leveraging the positive experiences they have had with them previously.

Additionally, the price-related concern among Generation Z consumers calls for a strategic approach to pricing. Offering competitive and reasonable pricing is crucial to attract more sales and enhance the accessibility of eco-friendly products. However, it is imperative to acknowledge that implementing this pricing strategy may necessitate a deep investment of time and effort since the current market dynamics often position eco-friendly products at a higher price than their conventional counterparts. E-commerce platforms can meet Gen Z consumers' expectations by balancing the imperative of competitive pricing with the market realities of eco-friendly products. Consequently, it is impactful in promoting sustainable consumption among Vietnamese Gen Z consumers on e-commerce platforms.

### **5.3.2 Clear product description related to sustainability information**

A notable concern on e-commerce platforms in Vietnam is the need for more information concerning sustainability and eco-friendly products. Since the adoption of sustainable consumption has emerged recently, there exists a need for more understanding among Vietnamese Generation Z consumers regarding these crucial topics. As a result, there is a pressing need to improve the presentation of eco-friendly products by including comprehensive sustainability information and knowledge. This improvement should encompass details such as the sustainable materials used in the product and insights into the product's life cycle.

Recognizing the visual orientation of Generation Z, an additional compelling factor lies in the inclusion of eye-catching imagery. E-commerce platforms take advantage of this factor by leveraging informative posts and visually appealing images that align with the trends among Generation Z consumers. This strategic combination has the potential to educate and captivate Generation Z's interest, thereby attracting a more extensive consumer base from this demographic group.

### **5.3.3 Impactful sustainable campaigns**

While numerous sustainable campaigns have been launched by e-commerce platforms in Vietnam (discussed in Chapter 3, Section 3.2), their impact on consumers, particularly Generation Z, could have been more memorable. Another implementation revolves around a reflection on evaluating both the scope and immediacy is essential. There is a compelling need for a strategic shift toward transmitting impactful messages that make good impressions on the target audience. To enhance the effectiveness of these campaigns on the platforms, e-commerce companies should consider integrating marketing strategies that align with the preferences of Generation Z. For instance, collaborating with Key Opinion Leaders (KOL) and Key Opinion Consumers (KOC) or leveraging viral trends, are the solutions worth exploring to deliver

sustainable messages. The brands featured in these campaigns should be thoughtfully selected to align seamlessly with the discerning preferences of Generation Z consumers.

In essence, the success of future sustainable campaigns should consider a multifaceted approach encompassing impactful messaging, strategic marketing collaborations, and careful alignment with the brand choices Generation Z favors.

#### **5.3.4 Consumer's trial experience or benefits**

Finally, a noteworthy concern arises from the limited consumer experiences associated with eco-friendly products, particularly for those venturing into this realm for the first time. E-commerce platforms have the potential to address this issue by providing trial experiences or promotional incentives, such as discounted coupons or reward points leading to free delivery. These promotions are pivotal in capturing consumer attention towards eco-friendly products.

The strategic utilization of generous benefits, especially during promotional campaigns, can leave a lasting impact on consumers. By offering these incentives, e-commerce platforms can foster a sense of curiosity and willingness among consumers to explore and purchase eco-friendly products for trial. The resulting positive experiences, coupled with the perceived quality of the products, can significantly influence consumer behavior, generating a greater likelihood of commitment to eco-friendly offerings on these platforms.

## 6 DISSUCSSION AND CONCLUSION

### 6.1 Discussion

At the beginning of the thesis, there are two main research questions, “*What are the key factors influencing the purchasing behavior of Vietnamese Generation Z e-commerce consumers regarding eco-friendly products?*”, and “*From the e-commerce platform standpoint, which improvements can they make to attract more Vietnamese Generation Z consumers and encourage them to purchase eco-friendly products?*”.

In order to answer the first question, two sub-questions were provided, consisting of “*What are the motivational factors that make Vietnamese Generation Z consumers have the intention to purchase eco-friendly products?*”, and “*To what extent are Vietnamese Gen Z consumers aware of environmental impacts when making consumer choices?*”. Based on an in-depth analysis of quantitative research, the sub-questions have been explained as follows. With the application of the four antecedents of the Extended TPB Model, it is clearly seen that Vietnamese Gen Z consumers’ purchasing motivational factors include attitude toward eco-friendly products, social influence, beliefs in the positive impact on the environment, and environmental concern. These factors are considered key forces behind the consumers’ purchasing intention regarding eco-friendly products on e-commerce platforms. Additionally, Vietnamese Gen Z consumers demonstrated high concern for environmental impacts when purchasing products on e-commerce. This has been answered in detail in chapter five, section 5.2.4.

For the second question “*From the e-commerce platform standpoint, which improvements can they make to attract more Vietnamese Generation Z consumers and encourage them to purchase eco-friendly products?*”, several implementations related to the four pressing pain points among Vietnamese Gen Z consumers in the survey, consisting of a limited variety of product selections with competitive prices, unclear product description related to sustainability information, limited impactful sustainable campaigns, and limited

trial experience with sustainable initiatives. In chapter five, section 5.3, the author suggested various implementations that e-commerce platforms in Vietnam can apply in order to meet Gen Z consumers' expectations and attract more sales regarding eco-friendly products.

The significance of this thesis for the business lies in the provision of valuable insights into the market context and consumer trends regarding sustainability, consumers' expectations, and pain points in purchasing eco-friendly products on e-commerce platforms. With the application of these insights, e-commerce platforms in Vietnam are able to understand a potential group for the eco-friendly product category, which is Gen Z consumers aged from 16 to 26 years old. Moreover, by implementing the suggested solutions for sustainable initiatives, e-commerce platforms will meet the consumers' needs and increase sales.

## **6.2 Future Research and Limitations**

In the context of future research, there are some recommendations from the author. The target group for research can be expanded, not only Generation Z (16-26-year-old) but also all the age groups in Vietnam or other generations, such as Millennials. Thanks to the expansion, the study can deeply understand more characteristics, expectations, and pain points of each target group. Consequently, it enhances the understanding of the larger demographic of Vietnamese consumers' purchasing behavior toward eco-friendly products. Moreover, the theoretical framework can be changed or added compared to the Theory of Planned Behavior (TPB) as in this thesis.

One notable limitation to consider is the author's limited marketing knowledge in this particular domain, given that their academic background is not in marketing. A more extensive understanding of marketing principles, especially by individuals with a background in marketing, could potentially yield more robust and insightful conclusions, particularly in the thorough analysis of consumers' personas.



### **6.3 Conclusion**

In conclusion, it is evident that the market dynamics and the preferences of Vietnamese consumers present a promising avenue for the expansive growth of e-commerce platforms in promoting eco-friendly products. Notably, the potential for sustainable consumption is particularly pronounced among Vietnamese Generation Z consumers. Given appropriate strategies and initiatives from e-commerce platforms, there is a considerable likelihood that Vietnamese Generation Z consumers will increasingly engage in purchasing eco-friendly products.

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## APPENDICES

Appendix 1. Lists questions and answers in questionnaire survey

*Notice: All information will be confidential and used for research purposes only.*

### I. Demographic information

#### **Question 1: Which age group are you in?**

Answer choices (single answer allowed):

- 16 to 17 years old
- 18 to 22 years old
- 23 to 26 years old

#### **Question 2: What is your gender?**

Answer choices (single answer allowed):

- Male
- Female
- Others
- Prefer not to say

#### **Question 3: What is your current occupation?**

Answer choices (single answer allowed):

- Student (Respondents will be directly to question 4 if choose)
- Full-time workers ((Respondents will be directly to question 5 if choose)
- Part-time workers (working hours: less than 48 hours per week) (Respondents will be directly to question 5 if choose)
- Others (Respondents will be directly to question 5 if choose)

#### **Question 4: What is your income resources?**

Answer choices (single answer allowed):

- Students with income support: from parents, scholarships, grants from the government, or organizations, etc.
- Students with independent sources of income

**Question 5: What is your income range?**

Answer choices (single answer allowed):

- < 5,000,000 VND
- 5,001,000 VND - 10,000,000 VND
- 10,001,000 VND - 15,000,000 VND
- 15,001,000 VND - 20,000,000 VND
- > 20,000,000 VND

**Question 6: Where are you currently residing?**

Answer choices (single answer allowed):

- Ha Noi/Ho Chi Minh
- Tier 1 cities (Hai Phong, Da Nang, Can Tho, Hue, Vinh, Da Lat, Nha Trang, Quy Nhon, Buon Ma Thuot, Thai Nguyen, Nam Dinh, Viet Tri, Vung Tau, Ha Long, Thanh Hoa, Bien Hoa, My Tho, Thu Dau Mot, Bac Ninh, Hai Duong, Pleiku, Long Xuyen.)
- Other tier cities

**II. Attitude of Gen Z consumers toward eco-friendly products****Question 7: Choose your level of interest in purchasing eco-friendly products on e-commerce platforms.**

Answer choices (single answer allowed):

- I am not at all interested.
- I am not interested.
- I am neutral about this.
- I am interested.
- I am strongly interested.

**Question 8: In my opinion, purchasing eco-friendly products is a solution for environmental protection and natural resources reservation.**

Answer choices (single answer allowed):

- I strongly disagree.
- I disagree.

- I am neutral about this.
- I agree.
- I strongly agree.

### **III. Social influence on Gen Z consumers with purchasing eco-friendly products**

**Question 9: I believe that when I buy eco-friendly products, people will have a good impression and positive perception of me.**

Answer choices (single answer allowed):

- I strongly disagree.
- I disagree.
- I am neutral about this.
- I agree.
- I strongly agree.

**Question 10: When people surrounding me buy eco-friendly products on e-commerce platforms, it can influence me to do the same.**

Answer choices (single answer allowed):

- I strongly disagree.
- I disagree.
- I am neutral about this.
- I agree.
- I strongly agree.

### **IV. Gen Z's belief in the positive impact on the environment when purchasing eco-friendly products**

**Question 11: In my opinion, when every consumer buys products from eco-conscious companies, it can have a positive impact on society.**

Answer choices (single answer allowed):

- I strongly disagree.
- I disagree.

- I am neutral about this.
- I agree.
- I strongly agree.

**Question 12: Individuals can make a difference in reducing pollution and conserving natural resources. So when I purchase eco-friendly products, it matters.**

Answer choices (single answer allowed):

- I strongly disagree.
- I disagree.
- I am neutral about this.
- I agree.
- I strongly agree.

#### **V. Gen Z consumers' concerns about the environment and the importance of eco-friendly products**

**Question 13: How often do you search for information about the environmental impact of the products you purchase on e-commerce platforms?**

Answer choices (single answer allowed):

- I never do this.
- I rarely do this.
- I sometimes do this.
- I often do this.
- I always do this.

**Question 14: Are you willing to pay an additional fee for products sent in eco-friendly packaging materials?**

Answer choices (single answer allowed):

- No, I expected eco-friendly packaging is the standard without additional cost
- No, I prefer not to pay an additional cost for eco-friendly packaging
- Yes, I am willing to if the price increase is justified.
- Yes, I am always willing to

**Question 15: Are you willing to choose to buy eco-friendly products on e-commerce platforms, even if delivery times may be longer?**

Answer choices (single answer allowed):

- I strongly disagree.
- I disagree.
- I am neutral about this.
- I agree.
- I strongly agree.

## **VI. Consumer behavior and pain points of Gen Z in purchasing eco-friendly products on e-commerce platforms**

**Question 16: For e-commerce sites (e.g. Shopee, Lazada), what factors can influence your choice to purchase eco-friendly products?**

Answer choices (multiple answers allowed):

- Diverse product options and stock availability
- Competitive pricing
- User-friendly interface
- Excellent customer service
- Impactful marketing campaigns
- Promotion or discounted coupons for sustainable services experiences (e.g. discounted coupons for eco-friendly packaging materials)
- Product quality
- Others

**Question 17: What difficulties do you encounter when searching and purchasing eco-friendly products on e-commerce platforms?**

Answer choices (multiple answers allowed):

- Unclear product description on website
- Lack of consumer's feedback

- Difficult in comparing environmental impact of products with conventional products
- Filter options are limited related eco-friendly products
- Others

## **VII. Perceptions of sustainability of e-commerce platforms: Gen Z consumer needs and expectations**

### **Question 18: On e-commerce platforms, what features do you value in presenting eco-friendly products?**

Answer choices (multiple answers allowed):

- Eco-labels and sustainable certificates are presented on website
- Consumer's feedback and review
- Eye-catching product images
- Possible to comparing environmental impact of products with conventional products
- Suggested items categorized based on individual's preferences
- Others

### **Question 19: How satisfied are you with the interface of e-commerce platforms in presenting eco-friendly products?**

Answer choices (single answer allowed):

- I strongly dissatisfied.
- I dissatisfied.
- I am neutral about this.
- I am satisfied.
- I am strongly satisfied.

### **Question 20: On e-commerce platforms, what changes or improvements would you like to see in providing and promoting eco-friendly products?**

Answer choices (multiple answers allowed):



- More reasonable pricing
- Improving the transparency of product information
- More diverse in product options
- Updating search engines and filter setting
- Clearly displaying eco-labels and sustainable certificates
- Others

**Question 21: How can e-commerce sites better convey the environmental benefits of products to increase your interest in shopping?**

Answer choices (multiple answers allowed):

- Highlighting the sustainability of the product
- Cooperate with environmental organizations to promote consumer awareness campaigns
- Providing detailed information about the product's life cycle
- Offering reward or trial experience for purchasing eco-friendly products
- Others

**Question 22: Do you know about shopping campaigns on e-commerce sites targeting eco-friendly products, like the "Choose Green with Shopee" campaign?**

Answer choices (single answer allowed):

- I do not know about this.
- I knew but I did not participate in buying.
- I participated in buying