

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics



Bachelor Thesis

**Vietnamese Consumers Behaviour Towards
Environmentally Friendly Products**

Do Ha Linh

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

BACHELOR THESIS ASSIGNMENT

Ha Linh Do

Economics and Management

Economics and Management

Thesis title

Vietnamese Consumers Behavior Towards Environmentally Friendly Products

Objectives of thesis

The aim of the bachelor thesis is to determine and to evaluate the consumers behavior towards environmentally friendly products in Vietnam.

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

Methodology

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

To fulfill the aim of the thesis the selected methods will be employed as following:

- survey of consumers' behavior based on own questionnaire
- hypotheses testing

The proposed extent of the thesis

30 – 40 pages

Keywords

Consumer, consumers' behaviour, environmentally friendly product, survey, Vietnam.

Recommended information sources

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Expected date of thesis defence

2022/23 WS – FEM

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Declaration

I declare that I have worked on my bachelor thesis titled ""Vietnamese Consumers Behavior Towards Environmentally Friendly Products" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on 28/11/2022

_____Do Ha Linh_____

Acknowledgement

I would like to thank Ing. Lenka Rumánková, Ph.D for her advice and support during my work on this thesis.

Vietnamese Consumers Behaviour Towards Environmentally Friendly Products

Abstract

The world is facing many environmental problems requiring strategies to overcome those difficulties. Raising awareness in society will surely be helpful to the environment, and one of the strategies is to use environmentally friendly products. In recent years, green consumption has been quite popular in developed and developing countries. In Vietnam, environmentally friendly products are gradually participating in the lives of Vietnamese people. Although they are interested and positive responses have been received, the sustainable lifestyle is still not widely accustomed to. The objective of this study is to determine the factors affecting the green consumption behavior of consumers in Vietnam by studying their attitudes and decisions toward concerns about eco-friendly products and the environment. In addition, this thesis makes some recommendations on consumers' characteristics to focus on based on the regularity of using eco-friendly products. A total of 123 respondents was collected through the questionnaire used for the analysis part of this thesis. With the implementation of descriptive statistical analysis and hypothesis testing, a few assumptions on the regularity of using eco-friendly products were verified along with the valuation levels of consumers between various aspects of eco-friendly products.

Keywords: Consumer, consumers' behaviour, environmentally friendly product, survey, Vietnam

Chování vietnamských spotřebičů k produktům šetrně životnímu prostředí

Abstrakt

Svět čelí spoustě problémům životního prostředí, které vyžadují strategie k překonání těchto potíží. Zvyšovat povědomí ve společnosti jistě může pomoci životnímu prostředí a jednou ze strategií je užívání produktů jich šetrné. V nedávných letech "zelená" spotřeba se stala velmi populárním v rozvinutých a rozvojových zemích. Ve Vietnamu se produkty šetrné životnímu prostředí postupně stávají součástí obyvatelů. I přestože se zajímají a dostávaly se kladné odezvy, nejsou však plně zvyklí na udržitelný životní styl. Předmět této studie je určit faktory ovlivňující chování "zelené" spotřeby ve Vietnamu studováním postoje a rozhodnutí zdejších spotřebitelů ohledně obav o ekologicky šetrné produkty a životního prostředí. Kromě toho tato práce uvádí některá doporučení týkající se charakteristik spotřebitelů, na které se zaměřit na základě pravidelnosti používání ekologických produktů. Prostřednictvím dotazníku použitého pro analytickou část této práce bylo shromážděno celkem 123 respondentů. Zavedením deskriptivní statistické analýzy a testování hypotéz bylo ověřeno několik předpokladů o pravidelnosti používání ekologických produktů spolu s úrovněmi hodnocení spotřebitelů mezi různými aspekty ekologických produktů.

Klíčová slova: Spotřebitel, chování spotřebitelů, ekologicky šetrný výrobek, průzkum, Vietnam

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1 Introduction

Humans and the environment are deeply connected. The Earth has already been existing from the moment each of us is born. However, in the past, people did not realize that the importance of protecting the environment also means protecting life for future generations. It was not until recent years with the significant development in the global economy that many environmental problems emerged. For example, global warming, the greenhouse effect, forest fires, etc. The Earth is signaling the need for attention, the need to preserve the environment, and the need for people to unite and do everything to ensure a better future for generations to come.

Realizing these issues, consumers are now paying attention to the negative impacts on the environment in consuming products. They start to believe in the movements of environmental preservation and start acting on it. When consumers pay more attention to environmental issues, they learn more about buying, using, and disposing of environmentally friendly products or green products since such products are believed to be helpful for the Earth in the battle against pollution of any kind. In the past, green products were still a little-known concept in the market until recent years. This concept has received more attention from consumers because of the positive impact it has on the environment.

It can be said that replacing all products that are harmful to the environment such as plastic bags or plastic products with environmentally friendly products is still facing many difficulties and problems, especially for developing countries like Vietnam since this country is still facing major issues as problematic as environmental preservation. Therefore, the positive impact of good thoughts and actions from consumers towards green products will contribute to making them no longer just short-term and temporary solutions but long-term and possibly bringing fruitful rewards. Along with that, the assessment of actual consumer behavior in Vietnam will contribute to promoting awareness for the use of environmentally friendly products, and these are the goals that this thesis is aiming for.

2 Objectives and Methodology

2.1 Objectives

For Vietnam, although the consumption of environmentally friendly products is no longer a new concept when it is mentioned, it is still not considered a daily habit for consumers. There have been many organizations and individuals' propaganda to bring about actions for the environment from the community, and many questions and doubts were raised about whether this is just a trend or a momentary action. The purpose of this bachelor's thesis is to identify the views and evaluate the behavior of consumers towards environmentally friendly products in Vietnam. At the same time, it shows what are the possible characteristics of consumers which can affect their decision on the regularity of using environmentally friendly products, by using the survey method with questions and making assumptions for testing. Finally, based on the collected results determine the importance of using environmentally friendly products, and analyze the difficulties or hesitations in using those products.

A few partial objectives achievable in the process of writing this thesis are:

- To evaluate what the consumers usually value highly when choosing environmentally friendly products
- To purpose areas in which manufacturers should be focusing when studying the factors affecting the Vietnamese consumer behaviours towards environmentally friendly products.

2.2 Methodology

2.2.1 Structure of the thesis

The thesis will be divided into 5 main parts:

The first part will introduce and provide general information about the selected topic, reason, and research purpose of the thesis.

The second part lists the methods used to analyze the data. The main purpose of this section is to explain the methods that will be used in the thesis. There will also be assumptions being made to design a survey serving the test of such hypotheses. To test such hypotheses, descriptive statistics and hypothesis testing using the Chi-squared test will be studied to support the later analytical part.

The third part will be the literature overview. In this section, there will be an in-depth study of the resources related to the theory of consumer behavior, and the current plastic waste situation affecting the environment and leading to an increase in the market share of environmentally friendly products. Then, this part also helps understand the current situation of environmentally friendly products and the movement in favor of them in Vietnam.

Next, the fourth part is to collect, make assumptions and analyze the results obtained through the methods used. Factors affecting consumer behavior will be indicated.

The last part will conclude and point out the factors affecting the decision of Vietnamese consumers towards environmentally friendly products.

2.2.2 Descriptive statistics

According to (Rumsey, 2010) “Descriptive statistics are numbers that describe a data set in terms of its important features.” This means that if the data are categorical (meaning they can be divided into groups such as education level or hair color) they are typically summarized using the number of individuals in each group, and in this case will be called frequency or using the percentage of each group based on the total number of collected data and will be called relative frequency.

According to (Seemon, 2014), there are two main types of variables when it comes to statistics, categorical (or qualitative) and numerical (quantitative). If the data being collected is a non-numeric one, it will be called categorical, and this type of variable can be divided into two subtypes: ordinal (the data can be divided into groups with an order given the correct context such as level of education) and nominal (the data has no order when dividing into groups given the correct context such as genders). The second type of variable is numerical which can be reported on a numerical scale where all the basic operations such as addition, subtraction, multiplication, etc. can be applied. Same as with the categorical variable, the numerical one can also be divided into two subtypes, discrete and continuous. The discrete variables are often finite or countable numbers of values such as the number of children and number of rooms. The continuous variables describe any numerical value over an interval such as height or weight.

There are a few types of measurements we should be focusing on when referring to descriptive statistics. These can be the measures of center or the measures of variability.

For the measures of center, it is common practice to use or calculate the mean, the median or the mode of the data set. The mean of a dataset refers to the sum of all values divided by

the total number of values (Bhandari, 2020). The mean value often explains the average value of a given dataset. The formula of mean value can be interpreted as follows (for a sample mean):

$$\bar{x} = \sum x/n$$

Where \bar{x} is the mean value

$\sum x$ is the sum of all values

n is the total number of values

Or for a population mean:

$$\bar{X} = \sum X/N$$

Where \bar{X} is the mean value

$\sum X$ is the sum of all values

N is the total number of value

Another measure of center we often use when analyzing the dataset is the median. The median refers to the exact value in the data set which divides the data into the highest 50% and lowest 50% when ordered. To find the median value, first, we need to order the dataset in an ascending or descending order, then apply the following formula for the position of the median in the ordered dataset:

$$(n + 1)/2$$

Where n is the total number of values

The last measure of center in descriptive statistics is the mode value. “The sample mode of a set of sample data is the most frequently occurring value.” (Shafer & Zhang, 2013)

For the measures of variability, the most common measurements are the variance and the standard deviation of a dataset. Contrary to the measurements of the center which is often focusing on explaining some exact values, the variance or the standard deviation focuses on the variability between data given in a dataset and answers the question of how variable are the data. According to Seemon (2014), the variance of a dataset is defined as the mean of the squares of the deviations of the individual data values from their mean. The formula to calculate the variance can be seen as follows:

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

Where σ^2 is the variance

x_i is the individual data value

\bar{x} is the mean of the dataset

n is the total number of values

Another measure of variability is the standard deviation. The standard deviation can be calculated by the square root of the variance and it provides a summary of the variability. This also reflects how scattered are the measurements from the mean (Seemon, 2014). Below is the formula for calculating the standard deviation:

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

Where σ is the standard deviation

x_i is the individual data value

\bar{x} is the mean of the dataset

n is the total number of values

2.2.3 Hypotheses testing

“A hypothesis test is a statistical procedure that’s designed to test a claim” (Rumsey, 2010). A hypothesis is an assumption made so that it can be tested on whether or not it is true. To test such hypotheses, we can use several testing methods. Below is a list of steps when we want to test a hypothesis:

- Forming the hypotheses: There are often two types of hypotheses in each hypothesis test, one is the null hypothesis, denoted H_0 , assuming the statement about the population parameter to be true unless stated otherwise. The second one is the alternative hypothesis, denoted H_a , assuming the contradiction of the null hypothesis which is accepted to be true if there exists evidence in favor of it. (Shafer & Zhang, 2013)
- Take a random sample of individuals from a population by a few data-gathering methods such as surveys, and interviews. In this article, we will be using a questionnaire to collect data for our chosen population.
- Determine a significant level. A significant level or α level refers to the threshold that determines whether a study result can be considered statistically significant

after performing the planned statistical tests. It is most often set to 5% (or 0.05). (Fundamentals of Statistics, n.d.)

- Analyze the data we collected using suitable methods such as Pearson correlation, Chi-squared method, and t statistics,.. to achieve the p-value. This p-value then will be compared to the significant level α .
- Conclusion on the hypothesis: reject H_0 if $p \leq \alpha$ and do not reject H_0 if $p > \alpha$ (Shafer & Zhang, 2013)

Contingency tables are often used to demonstrate the relationship between two or more categorical variables. Below is an example of a contingency table with two categorical variables A and B, each has two categories. The table demonstrates the frequencies of each category of the two variables.

Var A/Var B	1	2	Total
1	n11	n12	n1x
2	n21	n22	n2x
Total	nx1	nx2	n

Table 1: Contingency table (Table is made by author using Excel)

There are three types of contingency tables: 2x2 which is often used when the variables only have two categories each; the MxN table refers to the table of two variables with two or more categories and the last is multiple 2x2 contingency tables which usually occurs when merging categories of the MxN tables.

To analyze a contingency table, the methods often being used are Chi-squared test or Fisher's exact test. To calculate using the Chi-squared test, the first step is to check if the frequencies in the contingency tables are greater than 5. If this is not the case, we would prefer to use Fisher's exact test for 2x2 contingency tables or merg MxN tables to 2x2 tables. (Hlavsa, 2016)

The second step is to calculate the expected frequency of the cells in the contingency table. The formula to calculate this is as follows:

$$Expected\ frequency = \frac{row\ total \times column\ total}{n}$$

Where row total is the total frequency of a chosen row

Column total is the total frequency of a chosen column

n is the total number of frequencies (Kozak, 2014)

After calculating these, we can then calculate the X^2 (Chi squared) using this formula:

$$X^2 = \sum (O - E)^2 / E$$

Where O is the observed frequency (the real frequency)

E is the expected frequency as calculated above (Kozak, 2014)

The next step is to calculate the degree of freedom which is calculated by:

$$df = (r - 1)(c - 1)$$

Where df is degree of freedom

r is number of rows in the contingency table

c is number of columns in the contingency table (Hlavsa, 2016)

The last step is to compare the X^2 value and the degree of freedom with the corresponding critical value in the appendix table. If it is bigger than the critical value, we can reject the null hypothesis.

Another method is to use computer software to simplify the computation process and get a p-value for the test and compare it with the chosen α level to reject or fail conclude the failure to reject the null hypothesis (Hlavsa, 2016).

2.2.4 Survey based on own questionnaire

In statistical study, one of the most common methods when collecting data is using surveys. A survey collected with the whole population is called census survey while a survey collecting only a fraction of the population is called sample survey. (Seemon, 2014)

Kotler (2017) defines survey as “the most widely used method for primary data collection, is the approach best suited for gathering descriptive information”. Its major advantage is the flexibility. Using survey can help the researchers obtaining different kinds of information based on their specific requirements.

Information collected in a survey is used to obtain a composite profile of a population. They can provide information for a specific administrative, commercial or for a scientific purpose (Scheuren, 2004).

There are four different stages when doing a survey according to Seemon (2014). It includes planning, execution, analysis, and preparation of the report. At the planning stages, there is a few things to notice when evaluating the plan:

The target population is well defined, and the representatives of the mentioned population is matched.

The next step is to collect the information. This is often executed via survey, interviews, focus groups (Kardes, Cronley, & Cline, 2014). The questionnaire is one of the most common instruments when doing research. A questionnaire is often made of closed-end questions such as multiple choice questions or scale questions and open-end questions which allow the respondents to answer on their own words (Kotler & Armstrong, 2017).

A checklist can be used to evaluate the whole process of surveying:

- Target population is well defined
- Sample matches the target population
- Sample is randomly selected
- Sample size is large enough
- Nonresponse is minimized
- Type of survey is appropriate
- Questions are well worded
- Survey is properly timed
- Personnel are well trained
- Proper conclusions are made (Rumsey, 2010)

This thesis will be using questionnaire conducted in online form, meaning the use of digital platforms such as Google Forms for creating the survey and Facebook, Instagram, Discords, etc. for distributing it will be implemented. The questionnaire will be strictly used for the purpose of this thesis.

The questionnaire will be consisting of three parts: The first part will be general information section, asking respondents to fulfill basic information about themselves to get a overview of the sample population.

The next part will be the regularity of respondents using environmentally friendly products. The last part of the survey will focus on motivations both personal and from surrounding environment. A few factors will be asked and the respondent will pick an answer based on a Likert scale. Another question in this part is the evaluation of the current EFPs on the current

market by the respondents. This question will be in the form of numerical rating scale. (Questionnaires and Surveys, 2015)

A questionnaire-based survey approach was adopted in order to test and quantify the relationships hypothesized as follow:.

- **Hypothesis 1:** There is no dependency between gender and frequency of using EFPs in a month
- **Hypothesis 2:** There is no dependency between age and frequency of using EFPs in a month
- **Hypothesis 3:** There is no dependency between occupation and frequency of using EFPs in a month
- **Hypothesis 4:** There is no dependency between education level and frequency of using EFPs in a month
- **Hypothesis 5:** There is no dependency between monthly income and frequency of using EFPs in a month.

The questionnaire survey was created through Google Forms and was distributed through social media channels such as Facebook, Instagram, Discord, etc. to investigate the factors which influence Vietnamese consumers' behavior towards environmentally friendly products. The questionnaire consists of 13 questions with the aim to help the author have a more detailed look into the general demographics and test the hypotheses. These 13 questions are divided into three parts with 10 single-choice questions and 3 multiple answers questions. The questionnaire received 130 respondents, and after evaluating the response, 123 respondents were deemed sufficient for data analysis.

3 Literature Review

3.1 Consumer and consumer behavior

3.1.1 Consumer Definition

Everyone has been a consumer. In the simplest sense, a consumer is an object that buys goods or services for their own use (Cambridge Dictionary, n.d.). The consumer is divided into 2 types of consumption units: individual consumer and organizational consumer. (Ai-Jeraisy, 2008)

- Organizational consumers: are organizations or companies, or government agencies that need to buy products such as machinery, stationery, etc. to serve the functions and goals of their organization (e.g. research centers needing microscopes for their research, or industrial companies needing raw materials, spare parts for production, construction. (Kardes, Cronley, & Cline, 2014)
- Individual consumer: any individual who buys goods or uses certain services for his or her own purposes (for example, to buy clothes, shoes, or to visit a doctor) or to buy food for their family every day. In other words, these subjects buy goods to satisfy their own needs or their loved ones. (Kardes, Cronley, & Cline, 2014)

When talking about this aspect, we need to distinguish between customer and consumer. These are phrases that may be similar in some aspects, but in the business world they have many different characteristics and each company needs to be clearly differentiated for an optimal marketing strategy.

Customers are people who pay and buy goods and services, maybe they are not direct consumers but just people who buy products and then give them to another person. That person then becomes a consumer (Rice, 2010). A customer however can resell the goods or services to others. According to Ai-Jeraisy (2008), a consumer is a person who searches for goods and services to buy, use, evaluate or possess for the purpose of consumption, or activities of individuals, families, or organizations.

For example, a mother buys milk for her child, in this case, the mother is the customer and the child will be the consumer.

More specifically, the key difference between customer and consumer can be summed up as: The customer is the person who buys the product or service while the consumer is the person who directly uses the product. Customers can also be consumers, but not in all cases.

3.1.2 Consumer Behavior Definition

Kardes (2014) coins the term consumer behavior as all the activities related to the action of purchasing, using, and disposing of goods and services. This also includes the consumer's emotional, mental and behavioral responses both before, during, and after consuming. However, according to Wayne D. Hoyer (2017), consumer behavior is the totality of a consumer's decisions. These decisions are the acquisition, consumption, and dispositions of goods, services, activities, experiences, people, and ideas by (human) decision-making units over time. Barmola (2010) believes that consumer behavior is a psychological part of an individual which makes the difference in purchasing goods, services, etc.

Decision-making units according to Hawkins (2010) are the five units: Information gatherer, Key Influencer, Decision Maker, Purchaser, and User. In which, the definition of each of these units are as follows:

- The Information gather: The one who collects and provides information related to the decision
- The Key Influencer: The one who gives opinions to manipulate the decision
- The Decision Maker: The one in charge of choosing what product or service
- The Purchaser: The one who pays for or acquires the product or service
- The User: The one who actually consumes the product or service (Hoyer, MacInnis, & Pieters, 2017)

However, Hermann (2001 cited in (Bernhardsdóttir, 2015)) divides the decision-making units into three: Predominant leader (a single individual making a decision), Single groups (a set of individuals making a decision), and Coalition of Autonomous actors (non of the members has the authority of making a decision but can act for government).

Most of the time, the consumer will have multiple or all of those previously mentioned roles defined by Hawkins (2010) when deciding on a product or service, for example, one may gather information about a gift, and decide to buy a gift but not the one who actually consumes the gift.

Figure 1 shows the definition of consumer behavior.

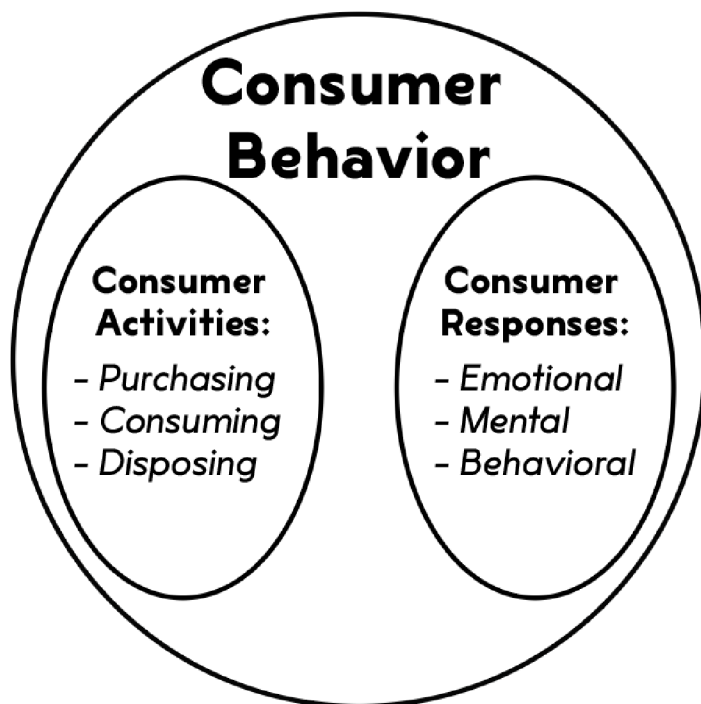


Figure 1 Consumer Behavior (source: Hoyer's definition 2017, Figure is made by author)

There are three sections of consumer activities: Purchasing, Consuming, and Disposing.

- Purchase activities according to Kardes (2014) is everything related to the way consumers acquire goods or services. These activities also include the stages leading up to the purchase such as finding and gathering information, evaluating of goods or services, choosing the providers, etc. A few other factors that may influence the purchase activities are purchase method, delivery options, warranty, etc. Hoyer (2017) offered a few methods of acquiring goods or services in the purchase activities. They can be from buying which is the most common way of acquiring goods or services, or from trading, renting/leasing, bartering, gifting, finding, or stealing.
- Consume activities describe where, when, and how the consumer uses the goods or services. It explains the place of consumption such as a movie ticket at a movie theater, the time of consumption such as buying a sweater for the upcoming winter season, or how the consumption is made such as immediately as a haircut or delayed as a gift for Christmas. (Kardes, Cronley, & Cline, 2014). Hoyer (2017) defines the way of using goods or services can include what we use as well as how we store and organize them in our homes. They also believe that the

way we see things organized is different from each other; what seems to be organized to a person may not be under the eyes of another.

- Dispose activities in Kardes (2014)'s words are the activities revolving around how the consumer gets rid of a product and/or packaging after consumption. These activities can be discarding, recycling, reusing, or resale. A person may choose to discard the wasted food packages but recycle the wasted food to be fertilizers. While Hoyer (2017) states three possible ways of disposing of a product: Finding a new use for it instead of disposing of it, getting rid of it temporarily such as renting or lending, and getting rid of it permanently such as throwing away, trading, recycling, selling, etc.

The consumer response also consists of three types of responses: Emotional, Mental, and Behavioral.

- Kardes (2014) states that emotional responses are the responses that reflect the emotions, feelings, and moods of a consumer. These emotional responses can be identified as individual and basic entities such as happiness, surprise or sadness, or global feelings, divided into two dimensions arousal and pleasure. (Debora, Anna, Lucio, & Giuliano, 2020)
- Mental responses focus on a wide area. It includes all of the consumer's thought process, opinions, beliefs, attitudes, and intentions about products or services. (Kardes, Cronley, & Cline, 2014) These responses often describe how the consumer evaluates a product or service, and what kind of opinion they believe, what may motivate them to acquire or consume.
- Finally, the behavioral responses involve all of the consumer's decisions and actions during the purchasing, consuming, and disposing of process. (Kardes, Cronley, & Cline, 2014)

3.1.3 Model of consumer behavior

The model of consumer behavior according to Hoyer (2017) consists of 4 main sections: The psychological core, the process of making a decision, the consumer's culture, and the consumer outcomes and issues.

The psychological core

Consumer behavior is affected by the amount of effort and these efforts are influenced by motivation, ability, and opportunity (Hoyer, MacInnis, & Pieters, 2017). Among them,

motivation is defined as “an inner state of activation with the activated energy directed to achieving a goal”. However, Hawkins (2010) points out that motivation is the reason for behavior, and Kotler (2017) also coins the term as “a need that is sufficiently pressing to direct the person to seek satisfaction” while Solomon (2019) defines it as “goal-oriented in that they drive us to satisfy a specific need”. The motivation of a consumer is influenced by:

- Personal relevance is things that can directly affect the self and can impact significantly the life of consumers (Hoyer, MacInnis, & Pieters, 2017). The more important the issue or situation is to the consumer, the higher the level of involvement is, and they tend to think very carefully about the implications of the available information. (Kardes, Cronley, & Cline, 2014)
- According to Solomon (2019) “Self-image congruence models predict that products will be chosen when their attributes match some aspect of the self”. Hawkins (2010) points out that one’s belief and feeling about oneself is the definition of Self-concept. Self-concept is also called self-image and it reflects the consumer’s identity based on their possessions, “we are what we have” (Kotler & Armstrong, 2017)
- Values are abstract beliefs that guide people on what should be regarded as important or good. The consumer is more willing to be exposed to and process information when they find it matches their values (Hoyer, MacInnis, & Pieters, 2017). According to Solomon (2019), values are defined as “a belief about some desirable end-state that transcends specific situations and guides selection of behavior”. There are specific values that motivate people across different cultures but Solomon (2019) has pointed out eight distinct types of consumer values: Efficiency (products which aimed at providing convenience), Excellence (experience of quality is the prime motivation), Status (when the consumer pursues in success), Esteem (satisfaction of processing is in focus), Play (value of having fun in consuming), Aesthetics (search for beauty in consumption), Ethics (motivations behind) and Spirituality (experiencing magical transformations or sacredness in the consumption).
- Needs are the last factor that motivates consumers. Most researchers use the concept of Maslow’s list of needs to guide their study on consumer needs and it was built from the Drive theory. The drive theory points out that people have several basic psychological needs such as food, water, air, etc. (Kardes, Cronley,

& Cline, 2014). From this, Maslow (1943) developed a pyramid of needs. Figure 2 shows Maslow's pyramid of needs.

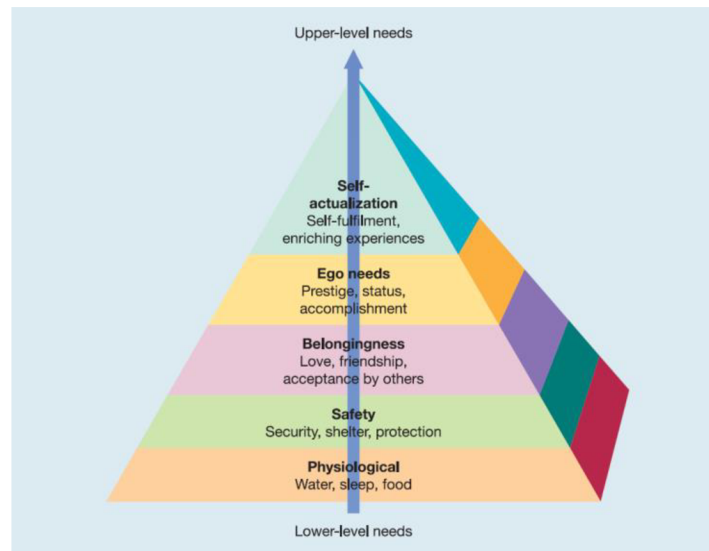


Figure 2 Maslow's pyramid of needs (source: *Consumer Behaviour A European Perspective*)

Hoyer (2017) argues that Maslow's hierarchy is a good starting point but still restrictive and incomplete due to the needs are not always ordered exactly like the hierarchy due to the differences between people and cultures thus offers another way to categorize needs: social and personal needs or functional, symbolic, and hedonic needs.

- Social needs are related to other individuals such as the need for status drives the desire to have other people hold us in high regards
- Personal needs on the other hand are not related to other individuals
- Functional needs “motivate the search for products that solve consumption-related problems”
- Symbolic needs refer to how we see ourselves and how other people see us
- Hedonic needs refer to “sensory stimulation, cognitive stimulation, and novelty (nonsocial hedonic needs) and needs for reinforcement, sex, and play(social hedonic needs)” (Hoyer, MacInnis, & Pieters, 2017)

Kardes (2014) believes that Maslow's hierarchy can be simplified into three key elements: Power, Affiliation, and Achievement.

- The power element is defined as the consumer's desire to control people, objects, and the environment. Solomon (2019) thinks that many products and services can offer consumer the feeling of mastery over their surroundings.

- The affiliation element refers to the need for belongingness and friendship (Kardes, Cronley, & Cline, 2014). It is referred to the products or services that are ‘consumed’ in groups and discard loneliness such as sports (Solomon, 2019).
- The last one is the accomplishment and it points to the need to accomplish difficulties and to be successful (Kardes, Cronley, & Cline, 2014).

The process of making decision

According to Hawkins (2010), the consumer’s decision-making process consists of 4 stages: Problem recognition, Information search, Alternative evaluation and Selection, and the Postpurchase process.

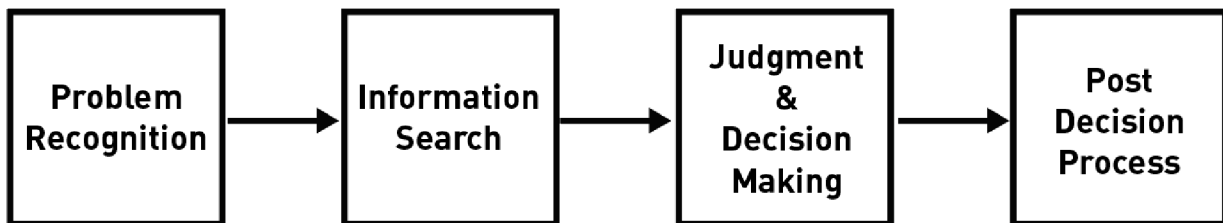


Figure 3 Process of making decision (source: Figure is made by author based on Hoyer (2017)'s model)

Solomon (2019) on the other hand proposed 5 stages in the consumer’s decision-making process: Problem recognition, Information search, Evaluation of alternatives, Product choice, and Outcomes which divide the evaluation and selection into separate stages.

Problem recognition according to Kotler (2017) is the first stage of the buying process in which someone recognizes a problem or need that can be met by acquiring goods or services. Solomon (2019) believes that problem recognition occurs whenever the consumer notices a significant difference between their current state and some ideal or desired state.

After the recognition of the problem, the consumer will be looking for information. In the information search stage there are two types of search: Internal and External search:

- Internal search includes recall of brands (consumer will be recalling a set of 2-8 brands known as consideration), recall of attributes (consumer will be recalling diagnostic information – helps discriminate among objects, and salient attribute – helps point out top attribute), recall of evaluations (consumer will be recalling past evaluations or attitudes), recall of experience (consumer will be recalling autobiographical memory such as images or the effect associated). (Hoyer, MacInnis, & Pieters, 2017).

- External search includes retailer search (consumer visits or contacts stores to collect information), media and social media search (information received from advertising, online ads, etc.), interpersonal search (word of mouth – advice from friends, colleagues, family members, or other consumers and review sites, etc.), independent search (independent sources such as books or non-sponsored websites), experiential search (consumer uses product trials or samples) (Hoyer, MacInnis, & Pieters, 2017). Searches from an external source tend to be greatest among consumers who are moderately knowledgeable about the product (Solomon, 2019)

The third stage of the decision-making process is to judge and decide. According to Cambridge Dictionary (n.d.), judgment is “the ability to form valuable opinions and make good decisions”. Judgment according to Hoyer (2017) is the evaluation or estimate of the likelihood of events. Judgment can be based on likelihood and based on goodness/badness. While the judgment base on likelihood will be the estimation that something will break down, will be liked by others, and will satisfy needs, the judgment on goodness/badness focuses on the pros and cons of the features.

After the judgment process, the consumer will be coming to a decision. Decision-making is selecting a set of options or courses of action (Hoyer, MacInnis, & Pieters, 2017). Companies may try to get their brand on the consumer’s consideration set which is a group of brands the consumer thinks about when they need to make a purchase (Kardes, Cronley, & Cline, 2014). Brands may use the attraction effect – making the consumer compare between brands, and the compromise effect – making the brand appear as average, to manipulate the consideration set. Consumers after getting a consideration set can make their decision based on attributes (stimulus-based), based on brand alternatives drawn from memory (memory-based), or mixing both types (Kardes, Cronley, & Cline, 2014).

Hoyer (2017) defines the decision-making process based on cognitive and affective. The cognitive-based decision describes how consumers use information about attributes to make a decision. These attributes can be:

- Product quality: product quality can satisfy consumer’s needs
- Product features: a product feature can help it stands out in the eyes of consumers.
- Product styles and design: style and design can help a product adds value.
- Branding: Brands help consumers identify products that might benefit them.

- Packaging: attracts attention, describes the product, or helps make the sale.
- Labeling: supports the brand's positioning and personality.
- Product support services (Kotler & Armstrong, 2017).

Feeling-based or affective-based decision refers to the choices a consumer makes because they feel right rather than they think right and these decisions tend to give more satisfaction afterward (Hoyer, MacInnis, & Pieters, 2017). These feeling-based decisions can be divided into three subcategories:

- Appraisals and feelings: Our emotions are determined by the way that we think about them.
- Affective forecast: Consumers may predict how they may feel in the future after deciding on a product or service
- Imagery: Imagination made by consumers about how they will consume may influence the decision

After deciding on products or services, there can be multiple types of post-decision processes. A consumer can have dissonance or regret after a decision. Dissonance is a feeling of discomfort which usually happens if there is another attractive alternative to an important decision. Regret bears a more negative feeling when the consumer thinks they should have made another decision. Other than that, a consumer may learn and gain experience from the decision as well as feel satisfaction or dissatisfaction. Finally, a consumer may be choosing to dispose of the products or services by giving away, trading, discarding, selling, recycling, etc. (Hoyer, MacInnis, & Pieters, 2017).

The consumer's culture

The consumer is often influenced by social factors which can be from media, word of mouth, opinion leaders, reference groups, the diversity of consumers, or by psychological aspects (Hoyer, MacInnis, & Pieters, 2017).

Social factors are information that represents pressure from individuals, groups, or mass media that affect a consumer's behavior. A few worth-mentioning social factors are:

- Media and social media: People socialize and communicate in these communities to exchange information and opinions. (Kotler & Armstrong, 2017).
- Word of mouth: Koler (2017) believes that personal words and opinions from friends, family, associates, and other consumers tend to be credible in the eyes of a consumer. Solomon (2019) also agrees as the author points out that the information we obtain from those we know or talk to directly tends to be more

reliable and trustworthy. However, these opinions from the word of mouth can be a two-edged sword as they can also influence negatively.

- **Opinion leaders:** According to Solomon (2019), opinion leaders are those who are knowledgeable about products, and their advice is taken seriously by others. There are professional opinion leaders – people who are paid to give expert opinions and consumer opinion leaders – who can be a celebrity or an influential industry executives. Hoyer (2017) believes that opinion leaders have influence and their opinion is perceived as unbiased and credible thus making them a good use for marketing communications.
- **Reference groups:** Solomon (2019) and Hoyer (2017) both define the term reference groups as “an actual or imaginary individual or group conceived of having significant relevance upon an individual’s evaluations, aspirations, or behavior”. Dawson (2001) argues that the reference group theory is based upon the principle that people take opinions from other significant people as a basis for making choices and use of information. Hoyer (2017) also believes the reference groups can be divided into three types: Aspirational – admired groups and wish to be like but not a part of, Associative – groups we are actually a part of, and Dissociative – groups whose attitudes, values and behaviors are disapproved.

The consumer is also influenced by diversity. This diversity can be of many aspects:

- **Age:** There are multiple age groups the marketers can focus on when doing campaigns focusing on consumers such as teens and millennials, generation X, boomers, and seniors.
- **Gender and sexual orientation:** Kolter (2017) coins the term gender segmentation as the division of a market into different segments based on gender. According to Hoyer (2017), gender refers to a biological state while sexual orientation according to Oxford Dictionary is “a person's identity in relation to the gender or genders to which they are sexually attracted”. There are norms for each sex’s roles in most cultures and these can bring different consumer behaviors toward certain products or services.
- **Regional influences:** consumers can come from different backgrounds, from individualism to collectivism (cultures with more emphasis on individuals or connections between others), from horizontal to vertical orientation (people value

equality versus value hierarchy), or masculine versus feminine cultures (aggressive and more focus on individuals versus concerns with social relationships).

- Ethnic and religious influences: Countries such as the United States with a diversity of ethnicities and religions can make this type of influence an important aspect when developing strategies for targeting consumer behavior. A few ethnic groups can be mentioned in the US are Hispanic Americans with origins in countries such as in Mexico, and Puerto Rico, African Americans who take up 13% of US population and, Asian Americans – being the fastest growing subculture in the US (Hoyer, MacInnis, & Pieters, 2017).

Lastly, the consumer is influenced by psychological aspects such as Values, Personality, and Lifestyles. The values aspect has been mentioned earlier thus there are still Personality and Lifestyles of consumers.

Kardes (2014) believes that Personality is a set of unique characteristics that influence a person's responses to their environment. Personality is also the difference between people in terms of behavior patterns, feeling, and thinking (Hoyer, MacInnis, & Pieters, 2017). For the personalities, Ernest Tupes and Raymond Christal in 1961 (Johnson, 2019) presents a Five-factor Model which divides individual traits into five categories:

- Extraversion: defined as an individual's talkativeness and outgoingness in social situations
- Agreeableness: defined as the extent to which a person behaves towards other and maintain harmonious interpersonal relations
- Conscientiousness: describes a person's capacity to organize and work towards long-term goals
- Neuroticism: defined as the probability of a person experiencing negative moods and emotions
- Openness to Experience: defined as "the overall depth and breadth of an individual's intellectual, artistic, and experiential life" (McCrae & Costa)

Lifestyles term is defined as what people do and their motivation for their actions, and what those behaviors mean to other people (Aydin & Unal, 2016). Solomon however refers to this term as "a pattern of consumption reflecting a person's choices of how he or she spends time and money." A division of eight lifestyle segments was determined in 2003 according to

Aydın (2016): Innovators, Achievers, Experiencers, Believers, Makers, Strivers, and Survivors.

3.2 Study on environmentally friendly products in Vietnam

In recent years, environmental issues have always been a topic of discussion and attention such as global warming, the forests where many species of animals live are being destroyed due to imbalance caused by environmental waste pollution. According to the statistics of "Our world in data", there are about 300 million tons of plastic waste in the ocean from 460 million tons of plastic products produced worldwide in 2019 (website). In the span of 60 years since 1950, the production of plastic products has increased from 2 million tons to 460 million tons per year, equivalent to 230 times (Ritchie & Roser, 2022).

According to Vnexpress, a government newspaper in Vietnam, based on a report from the Vietnam Environment Administration, Vietnam generates about 60,000 tons of solid waste per day, and up to 60% of that is in urban areas. It is expected that with such a situation, by 2025, the amount of solid waste discharged will increase by 10-16% a year. In total, up to 70% of garbage today is landfilled, only about 10% is recycled and the rest is disposed of in other ways (Son, 2022).

The use of plastic products in Vietnam has been applied since the 1950s because plastic products are cheap, durable, convenient, and do not easily break. In 2018 plastic was used by many companies in Vietnam for various reasons: packaging, plastic bags, aviation, textiles, and agriculture... Moreover, the inappropriate management of plastic waste on the mainland, especially those single-use or short-term packaging not only causes huge social and economic costs around the world but also destroys important natural systems, causing consequences to human health and urban infrastructure (World Bank Group, 2021).

Every year, between 5 and 13 million tons of plastic waste is released into the oceans worldwide, 80% of which comes from Asia, because the 8 countries that cause the most pollution are located in this region. Vietnam is the fourth largest ocean plastic polluter in the world according to research from the World Bank (World Bank Group, 2021).

Realizing from the numbers and facts presented, people and companies have started to believe that environmental problems cannot be ignored anymore, so they pay more attention to the environment, apply the production and trade of environmentally friendly products with the aim of being able to reuse and reduce the bad risks that it causes. The concept of environmentally friendly products, also known as green products, gradually appeared in the

market. Ali (2012) found out that starting from the 1960s, people started to concentrate more on the concept of recycling, alternative packaging, and redesigning products thus the incarnation of the Greening concept. This concept was defined by De Castro (2001) as an individual or collective behaviors in favor of conserving natural resources and ensuring better environmental quality. However, such behaviors were termed as a set of thoughtful, effective, and preventive actions in favor of the conservation of natural resources and the welfare of present and future human generations by Sajeewanie (2019). Starting from the 1990s, environmental concerns have become one of the most important issues. In both the US and Europe, businesses have found that high-end customers' purchasing decisions are somewhat influenced by pro-environment factors.

With the rise of the green concept, there come many types of green products. Green products or environmentally friendly products are defined by many writers. Liu and Wu (2009) define them as products whose functions or ideas relate to the process of retrieving materials and the availability in recycling, pollution-reducing, and energy-saving in production, sales, utilization, and waste treatment. Triebwetter and Wackerbauer (2008) termed the word green products as innovations in the environmental field leading to an improved quality of the environment. Green products are also defined by their goals: to reduce waste and maximize resource efficiency (Wee & Quazi, 2005).

Dangelico (2010) categorizes green products into three categories based on their focus: Materials, Energy, and Pollution.

- **Materials:** Products that aim at the reduction or the reuse of materials. It can use less material than conventional products (with less negative environmental impact) or use only recyclable or reusable materials.
- **Energy:** Products which aim on the reduction of energy consumption or use only renewable energy and in doing so reduce the environmental impact that will be caused by conventional products.
- **Pollution:** Products that are less pollutant, do not pollute or reduce pollution caused by other products.

Environmentally friendly products can be mentioned as products that do not have chemicals that are harmful to humans as well as the environment, for example, organic products, antibiotics, pesticides, etc. (U.S. DEPARTMENT OF AGRICULTURE, 2017) or items made from materials that have little negative impact on the environment such as paper bags,

straws, etc (Song , Meysam , & Shaheen, 2016). So far, green products have appeared to be quite popular in developed countries and have brought certain successes in developing countries when applied in the market.

In Vietnam, most supermarkets such as Big C, Lotte Mart have also joined hands to reduce plastic waste by using banana leaves to wrap vegetables, and food, and using green products in transactions and interactions with customers. At the same time, some groups of customers also prefer to choose environmentally friendly shopping styles; they responded positively to that lifestyle when carrying their own cloth bags or bottles, or jars. At many convenience stores, markets or supermarkets, it is not uncommon to see action from customers that refuses to use plastic bags and replaces them with environmentally friendly products: paper bags, cloth bags, and bio bag. In addition, Vietnam is implementing a number of programs related to sustainable production and consumption, which results in environmentally friendly products receiving more attention. At the G20 Summit in June 2019, in Japan, Vietnam affirmed that it has been mobilizing the participation of the whole society in the movement against plastic waste, and is striving to not use disposable plastic by 2025 (MINISTRY OF INDUSTRY AND TRADE OF VIETNAM, 2021), We can see that Vietnam is making positive changes in “green” movements but the transition from awareness to actual action still depends on many factors, perceptions as well as goals and behaviors of consumers. In addition, sustainable consumption of green products has many limitations due to the old customs and habits of Vietnamese people (Ngo & Pham, 2019).

4 Pratical Part

4.1 Evaluation of Survey

The first part mainly focused on respondents' general information which included gender, occupation, educational level, age group, and monthly income.

The second part of the questionnaire is the regularity of respondents using environmentally friendly products.

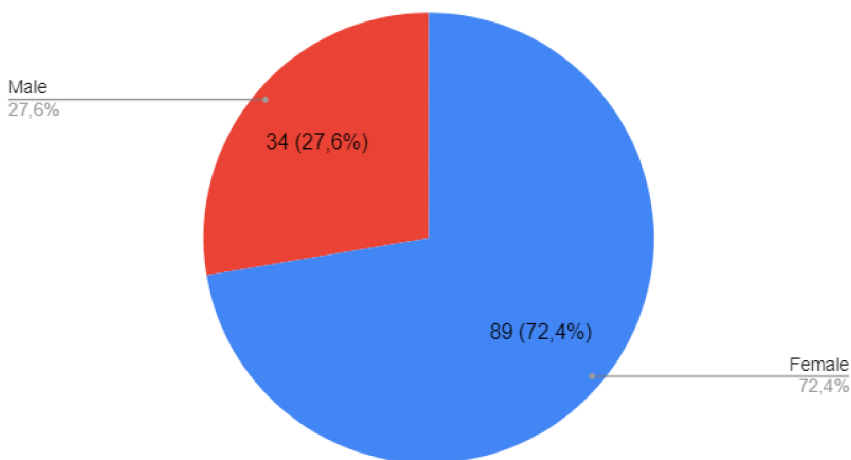
The last part of the questionnaire is about social motivations which affect the respondents' use of such products and personal motivations as well.

There are only a few restrictions to the respondents of this survey, one is the person has to have Vietnamese nationality and the other is that they have to be living in Vietnam. A few distribution methods were used to gather responses for this survey, but the main channels are through social networks, emails, and further digital applications.

4.1.1 Descriptive analysis of personal information

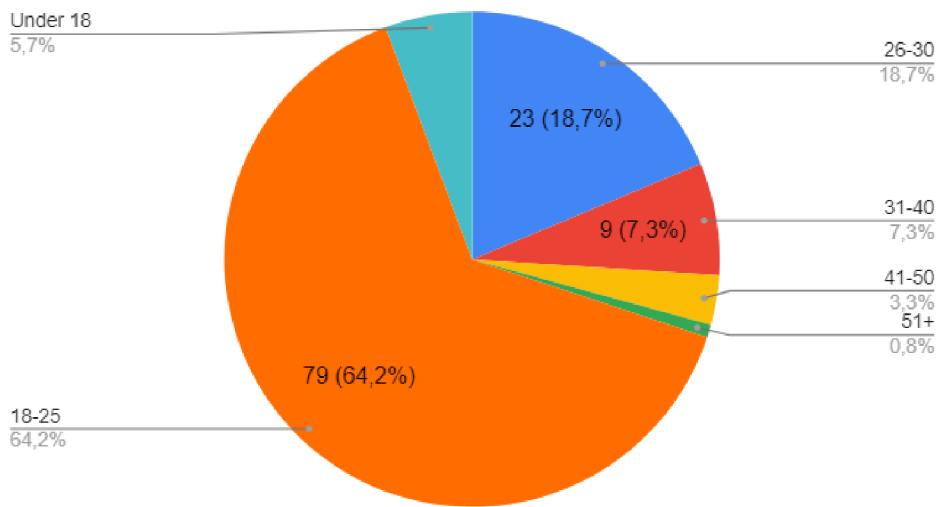
A total of 123 people completed the survey: 34 males equal to 27.6% of the sample population and 89 females which accounts for 72.4%. Among the respondents, the main age group belongs to 18-25 with an overwhelming of 64.2% and the second highest percentage age group is 26-30 with 18.7%. This shows that the survey may be more focused on young female opinion towards environmentally friendly products.

Gender



Graph 1 Gender distribution (source: created by author from questionnaire)

Age group

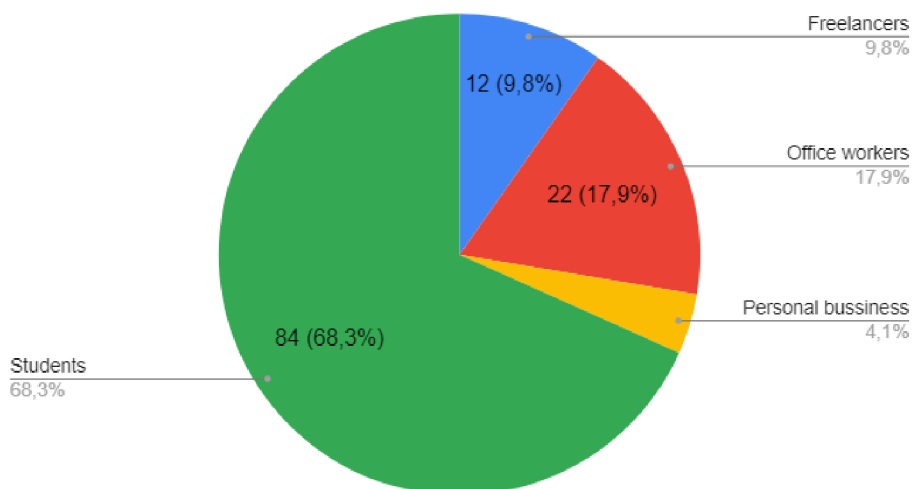


Graph 2 Age group distribution (source: created by author from questionnaire)

Another useful information when studying this survey is to get the respondents' occupations. This may help to get an insight into which occupation is most likely aware of environmentally friendly products.

According to graph 3, the majority of the respondent's occupation are students with 68.3% belonging to this group. The second biggest group is office workers who take up 17.9% with 22 respondents and this may be due to the fact that the majority of people accessing this form is through social media and other digital channels which are more exposed to the younger generation which is still students. Personal business and freelancers only take up 9.8% and 4.1% respectively of the pole.

Occupation

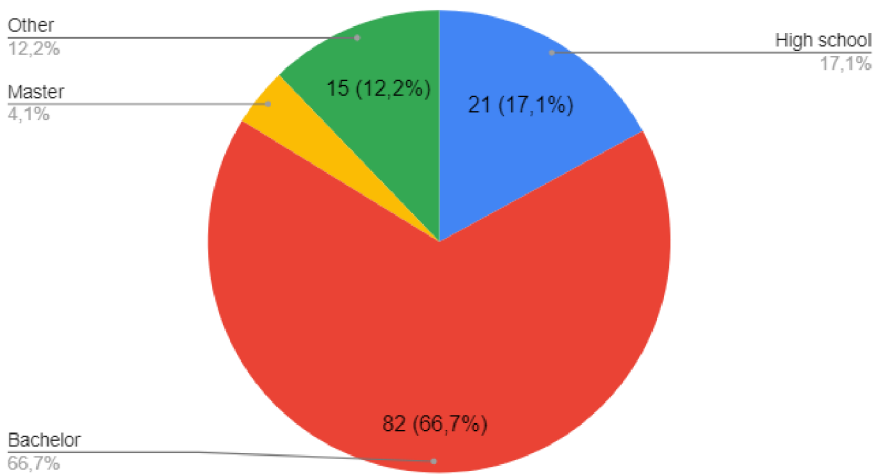


Graph 3 Occupation distribution (source: created by author from questionnaire)

The next question explains the educational level of the respondents, with the answers divided into 4 categories: High school, Bachelor, Master, and other.

Graph 4 shows that 66.7% of the respondents are having or had a bachelor's education as their highest education, 17.1% having high school education as their last education and the rest are higher or other educational levels. Graph 4 also shows the proportion of the educational level among the respondents.

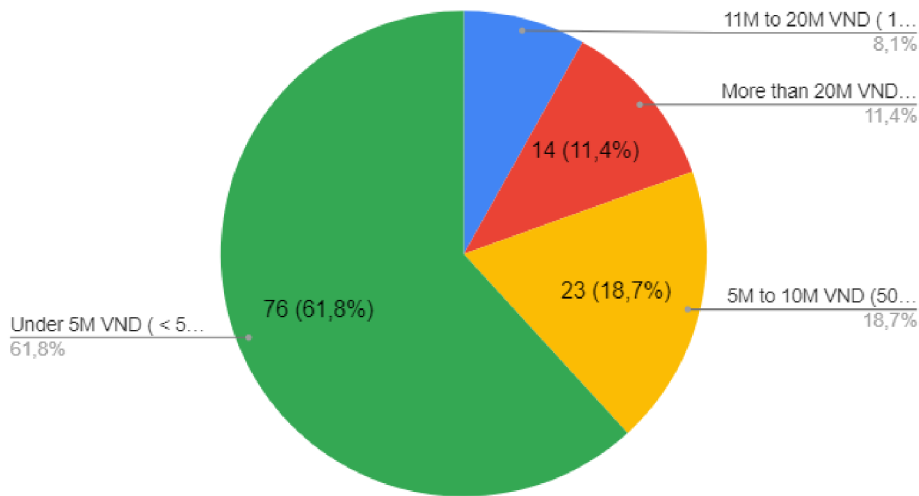
Education level



Graph 4 Education level distribution (source: created by author from questionnaire)

The last question is related to personal information which can help us take a glimpse into the proportion of the salary range of people who might be interested in environmentally friendly products. Graph 5 shows that the majority of respondents are getting less than 5M VND per month with 61.8% accounting for 76 people. The second highest monthly salary group is between 5M to 10M VND per month with 18.7% and surprisingly 19.5% of the respondents are making over 11M VND per month given the fact that the majority of respondents are still students.

Monthly income



Graph 5 Monthly income distribution (source: created by author from questionnaire)

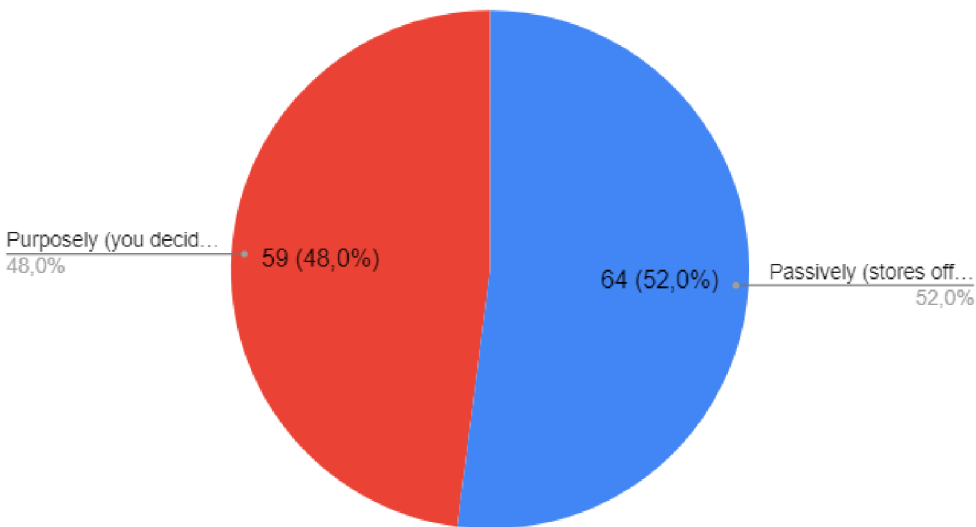
4.1.2 Descriptive Statistics of Motivations on using Environmentally Friendly Products

The next part of the questionnaire is directly related to the preferences of respondents and what personal and background motives may affect their decision when choosing environmentally friendly products.

The first question in the second part was used to gather information relating to the situation of consumers often using environmentally friendly products.

There are two answers to this question: Positively – when the consumer is the one who decides to use the EFPs and the other one is passively when it is handled to the consumer by another side such as getting them through shopping at the stores or given try-outs. The result came in with 52% of the sample saying they often use environmentally friendly products not on purpose while 59 respondents said otherwise accounting for 48%. The result shows that the mindset of people wanting to use environmentally friendly products on purpose is still not the majority of the sample, but it shows a few promises.

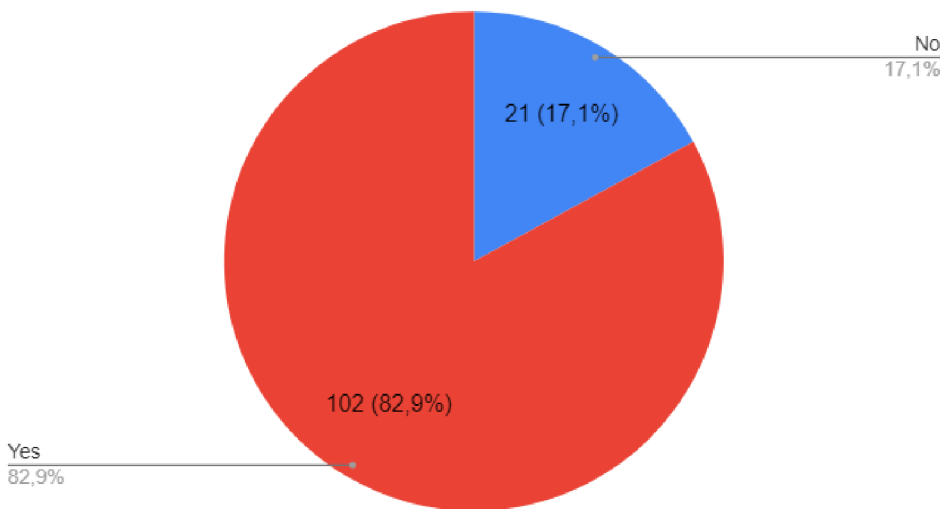
Situation using EFPs



Graph 6 Situation using EFPs distribution (source: created by author from questionnaire)

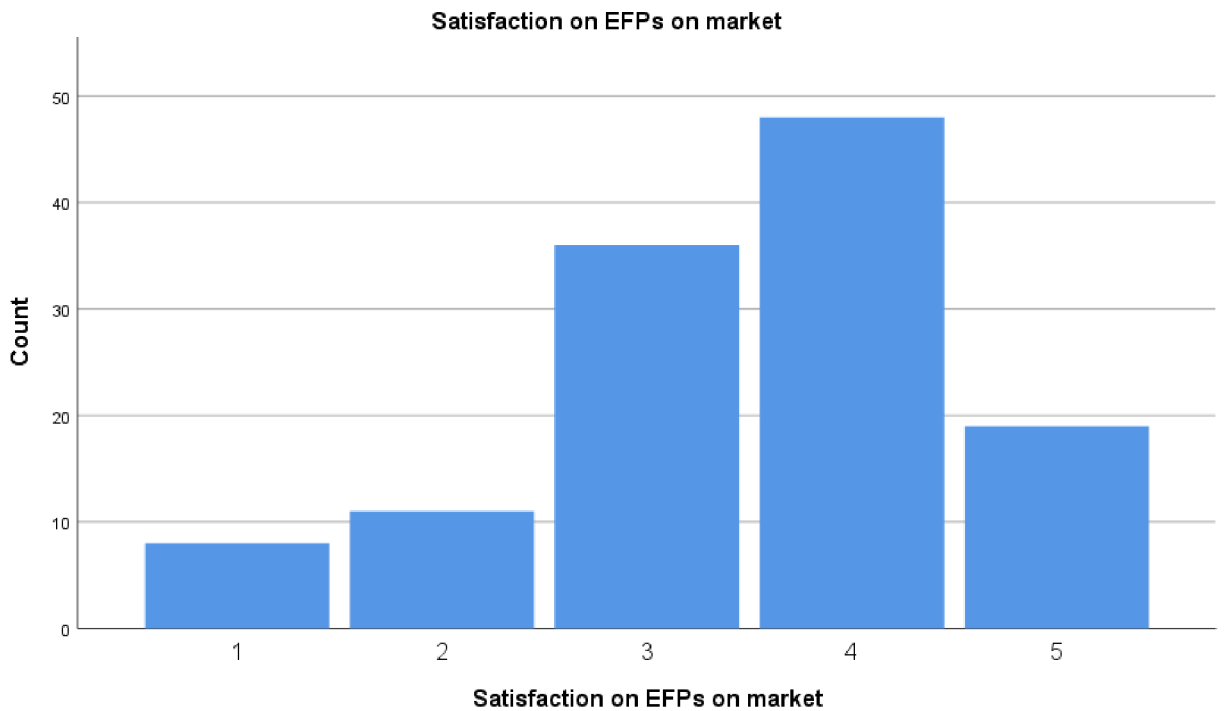
However, when asked if the respondent is willing to pay for the use of environmentally friendly products, the majority of people were accepting with an overwhelming percentage of 82.9% accounting for 102 of the sample population. There is only 17.1% of people are reluctant to pay for such products as shown in graph 7.

Fine with paying for EFPs?



Graph 7 Fine with paying for EFPs (source: created by author from questionnaire)

The next part of the questionnaire was conducted in form of a Likert scale and the first question was referring to the satisfaction of respondents with environmentally friendly products on the market with a scale of 1 to 5 (1 being the worst and 5 being the best). Graph 8 shows that the majority of people were okay to decently satisfied with the EFPs on market.



Graph 8 Satisfaction level distribution on EFPs (source: created by author from questionnaire)

Table 2 shows how the characteristics of the products influenced the respondent's decisions and how they are motivated to use and purchase environmentally friendly products. The question was based on a Likert scale divided into 5 levels with 1 entirely disapproving and 5 being entirely approving. The mean in the table is used to measure the average respondent's level of agreement with the factor questioned. With a mean value closer to 5, the respondents are more likely to approve the statement and disapprove the statement if it lies closer to the value of 1. The standard deviation is also featured to explain the variance in the choices of the respondents for each factor. The smaller the standard deviation is, the more unified the choices and vice versa. In the given table, there are some noticeable factors influencing the decision of the respondents. With a mean of 3.96, the respondents were very influenced by the factor of environmental impact on environmentally friendly products when choosing them. A few personal motives also heavily influenced the decision of the respondents were to protect the environment (mean = 4.11) and to raise awareness of protecting the environment (mean = 3.90)

All these three factors were unaidedly answered by the respondents with the standard deviation varying from just 0.934 to 1.059 which is decently unified.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Price – Product characteristics	123	1	5	3.72	1.036
Packaging – Product characteristics	123	1	5	3.15	1.213
Material – Product characteristics	123	1	5	3.69	1.174
Impact on environment - Product characteristics	123	1	5	3.96	1.051
Brand exposure - Product characteristics	123	1	5	3.38	1.060
Want to try – Personal motive	123	1	5	3.74	1.078
To protect environment – Personal motive	123	1	5	4.11	.934
Raise awareness - Personal motive	123	1	5	3.90	1.059
Products packaging – Social motive	123	1	5	3.25	1.205
Commercials – Social motive	123	1	5	3.21	.994
Family and friends – Social motive	123	1	5	3.41	1.055
No alternatives – Social motive	123	1	5	2.56	1.307
Valid N (listwise)	123				

Table 2 Descriptive Statistics on factors (source: created by author with SPSS)

4.1.3 Testing hypotheses

A few hypotheses were formed in order to test the dependency between a certain factor and the frequency of using environmentally friendly products in a month. To do this a questionnaire was distributed to gather information relating to the hypotheses. The respondents were asked to fill in the frequency of their using EFPs in a month based on three levels: 1 – almost never, 2 – rarely, and 3 – regularly.

Analysis of dependency on gender

Hypothesis 1:

H0: There is no dependency between gender and frequency of using EFPs in a month

H1: There is a dependency between gender and frequency of using EFPs in a month

Frequency of using EFPs in a month		Gender	
		Female	Male
		Count	Count
onth	1	16	16
	2	50	10
	3	23	8

Table 3 Frequency table on dependency on gender (source: created by author with SPSS)

Pearson Chi-Square Tests

Frequency of using EFPs in a month	Chi-square	Gender
		11.663
		2
df	2	
Sig.	.003*	

Table 4 Chi-square test on dependency on gender (source: created by author with SPSS)

With $\alpha = 0.05$, the criteria for X^2 test is sufficient. P-value is less than α , we can reject the null hypothesis and conclude that **there is a dependency between gender and frequency of using EFPs in a month.**

Analysis of dependency on age

Hypothesis 2:

H0: There is no dependency between age and frequency of using EFPs in a month

H1: There is a dependency between age and frequency of using EFPs in a month

Frequency of using EFPs in a month		Age group		
		18-25	26-30	Other age groups
		Count	Count	Count
onth	1	13	9	10
	2	48	7	5
	3	18	7	6

Table 5 Frequency table on dependency on age (source: created by author with SPSS)

Pearson Chi-Square Tests

		Age group
Frequency of using EFPs in a month	Chi-square	15.186
	df	4
	Sig.	.004*

Table 6 Chi-square test on dependency on age (source: created by author with SPSS)

With $\alpha = 0.05$, to meet the criteria for X^2 test, age groups of under 18, 31-40, 41-50, 51+ were merged together. P-value is less than α , we can reject the null hypothesis and conclude that **there is a dependency between age and frequency of using EFPs in a month**

Analysis of dependency on occupation

Hypothesis 3:

H0: There is no dependency between occupation and frequency of using EFPs in a month

H1: There is a dependency between occupation and frequency of using EFPs in a month

		Occupation		
		Freelancers and Personal Business	Office workers	Students
		Count	Count	Count
Frequency of using EFPs in a month	1	6	7	19
	2	5	9	46
	3	6	6	19

Table 7 Frequency table on dependency on occupation (source: created by author with SPSS)

Pearson Chi-Square Tests

		Occupation
Frequency of using EFPs in a month	Chi-square	4.369
	df	4
	Sig.	.358 ^a

Table 8 Chi-square test on dependency on occupation (source: created by author with SPSS)

With $\alpha = 0.05$, to meet the criteria for X^2 test, freelancers and personal business as occupation were merged together. P-value is more than α , we fail reject the null hypothesis and conclude that **there is no dependency between occupation and frequency of using EFPs in a month**

Analysis of dependency on education level

Hypothesis 4:

H0: There is no dependency between education level and frequency of using EFPs in a month

H1: There is a dependency between education level and frequency of using EFPs in a month

		Education level		
		Bachelor Count	High school Count	Master and other Count
Frequency of using EFPs in a month	1	19	7	6
	2	47	6	7
	3	16	8	7

Table 9 Frequency table on dependency on education level (source: created by author with SPSS)

Pearson Chi-Square Tests

		Education level
Frequency of using EFPs in a month	Chi-square	7.771
	df	4
	Sig.	.100

Table 10 Chi-square test on dependency on education level (source: created by author with SPSS)

With $\alpha = 0.05$, to meet the criteria for X^2 test, Master and other as education level were merged together. P-value is more than α , we fail to reject the null hypothesis and conclude that **there is no dependency between education level and frequency of using EFPs in a month**

Analysis of dependency on monthly income

Hypothesis 5:

H0: There is no dependency between monthly income and frequency of using EFPs in a month

H1: There is a dependency between monthly income and frequency of using EFPs in a month

		Monthly income		
		5M to 10M VND (5000 CZK to 10000 CZK) Count	More than 11M VND (>11000 CZK) Count	Under 5M VND (< 5000 CZK) Count
Frequency of using EFPs in a month	1	7	9	16
	2	9	8	43
	3	7	7	17

Table 11 Frequency table on dependency on monthly income (source: created by author with SPSS)

Pearson Chi-Square Tests

		Monthly income
Frequency of using EFPs in a month	Chi-square	5.311
	df	4
	Sig.	.257

Table 12 Chi-square test on dependency on monthly income (source: created by author with SPSS)

With $\alpha = 0.05$, to meet the criteria for X^2 test, incomes more than 11M VND per month were merged together. P-value is more than α , we fail reject the null hypothesis and conclude that **there is no dependency between monthly income and frequency of using EFPs in a month**

5 Conclusion

Plastic waste is projected to be tripled by 2060, with two-thirds of it expected to be coming from packaging, consumer products, and textiles (Fleck, 2022). For such an alarming rate, decisions have to be made and cooperation from people is in need. With the use of environmentally friendly products in as many aspects of life as possible, the chances to decrease plastic waste, pollution, natural disasters, etc will be significantly lower. Vietnam as a developing country has shown signs of awareness of problematic aspects of the environment with a much higher percentage of positive responses compared to other nations in the Asia-Pacific region. Vietnam has also started to implement policies in favor of environmental preservation with the cooperation of big companies also landing hands in movements toward a better future.

With such intention, the aim of this bachelor thesis was to identify the views and evaluate the behavior of consumers towards environmentally friendly products in Vietnam. In the process of doing so, literature studies on the behavior of consumers in general and Vietnamese consumers in particular as well as the situation of plastic waste and environmental preservation movements in Vietnam have been conducted. A few assumptions have been made in the study on theoretical background and a survey was distributed in order to collect useful data for the process of analyzing and determining the accuracy of the hypotheses. Based on the result of 123 respondents, the analyzing part was implemented and it has pointed out a few factors which influence the respondents' decision when using or purchasing environmentally friendly products. Such factors were the impact on the environment of the product, the personal desire to protect the environment, and the belief of using such products would raise awareness for other people around them. All these three factors are believed to be crucial when it comes to deciding on using or purchasing an eco-friendly product. With such elements in mind, it would be useful for future products being developed or existing ones should there be any modification to notice when manufacturing or running marketing campaigns. There were also assumptions made regarding the relationship between consumers' characteristics and the frequency of using eco-friendly products and after conducting hypothesis testing procedures, it can be concluded that:

- There is a significant dependency between gender and frequency of using EFPs in a month

- There is a significant dependency between age groups and frequency of using EFPs in a month
- There is no significant dependency between occupation and frequency of using EFPs in a month
- There is no significant dependency between education level and frequency of using EFPs in a month
- There is no significant dependency between monthly income and frequency of using EFPs in a month

Finally, out of 123 respondents, 82.9% of them said they would welcome the idea of paying extra for products that can help the environment but such products on the current market are only somewhat satisfactory to them. The situation when they end up using such products is still not majorly because of intention since there is only 48% of people say they purposely chose to use them. Overall, this has shown positive signs of Vietnamese people noticing, behaving, and trying to protect the environment.

In the course of the current study, a few limitations have emerged. First, most of the survey participants were in a relatively young age group, with their occupation being mostly students. The majority of respondents were female with Bachelor's degree as their highest educational level. Thus, more empirical research with more diversified samples should be implemented in order to verify the accuracy of the current result. For example, more respondents being in older age groups and different occupation fields should be covered. Furthermore, this study also could not clearly verify which factors affect the decision of consumers to consume eco-friendly products in aspects of product characteristics and both personal and interpersonal motives.

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Appendix

Questionnaire

Part 1: General information

1. What is your gender?
 - Male
 - Female
 - Nondisclosed
2. What is your current occupation?
 - Student
 - Office workers
 - Own business
 - Self-employed
 - Other..
3. What is your highest educational level?
 - High school
 - College
 - University
 - Higher education
4. What age group are you in?
 - Under 18
 - 18-25
 - 26-30
 - 31-40
 - 41-50
 - 51+
5. Have you ever used environmentally friendly products?
 - Yes
 - No
6. How often do you use environmentally friendly products in a month?
 - Regularly
 - Rarely
 - Almost never

7. In which situation do you usually use environmentally friendly products?

Passive (stores used them => you purchase and it comes along)

Active (you choose to use environmentally friendly products)

8. What is your monthly income? (1000 vnd ~ 1,01 Czk)

Under 5 million VND (~ 5000 CZK)

5 million VND – 10 million (~ 5000 CZK – 10,000 CZK)

11 million – 20 million (~11,000 CZK – 20,000 CZK)

More than 20 milion (~ More than 20,000 CZK)

9. Do you feel that you can afford to use environmentally friendly products regularly?

Yes

No

Part 2: Factors affecting Vietnamese consumers decisions toward use environmentally friendly products.

1. Strongly disagree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly agree

10. When you buy an environmentally friendly product which factor is desirable in your opinion? (Tick box)

Prices 1 2 3 4 5

Packaging 1 2 3 4 5

Material 1 2 3 4 5

The impact on the environment 1 2 3 4 5

Brand of product 1 2 3 4 5

11. Internal motivation when you buy the environmentally friendly products?

To have experience of environmentally friendly products 1 2 3 4 5

Wanting to protect the environment 1 2 3 4 5

To raise awareness of using environmentally friendly products 1 2 3 4 5

12. External motivation when you buy the environmentally friendly products?

Appealing packages 1 2 3 4 5

Promotions 1 2 3 4 5

No other alternatives 1 2 3 4 5

From family or friends 1 2 3 4 5

13. On the scale of 1 to 5 (1 as the worst and 5 as the best) how much would you rate the environmentally friendly products you have used?

1 2 3 4 5

Hypotheses

Hypothesis 1: There is no dependency between gender and frequency of using EFPs in a month

Hypothesis 2: There is no dependency between age and frequency of using EFPs in a month

Hypothesis 3: There is no dependency between occupation and frequency of using EFPs in a month

Hypothesis 4: There is no dependency between education level and frequency of using EFPs in a month

Hypothesis 5: There is no dependency between monthly income and frequency of using EFPs in a month.