PREDICTING CONSUMER PURCHASE INTENTION TOWARDS GREEN COSMETICS IN MALAYSIA, EXTENDING THE THEORY OF PLANNED BEHAVIOR

BY

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Degree Awarded : Bachelor of Marketing (Honours)

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ABSTRACT

This study investigates the factors influencing consumer purchase intention towards green cosmetics in Malaysia by extending the Theory of Planned Behaviour (TPB). Amid rising environmental and health concerns, green cosmetics have gained prominence, prompting a need to understand what drives consumers to choose sustainable alternatives. The research incorporates five key constructs—attitude, subjective norms, perceived behavioural control, environmental concern, and health consciousness—to assess their impact on purchase intention.

Data were collected through a structured questionnaire distributed to Malaysian respondents aged 18 and above who are financially independent. A total of 403 valid responses were analysed using Statistical Package for the Social Sciences (SPSS) and SmartPLS for Structural Equation Modeling (SEM). Findings revealed that attitude, perceived behavioural control, environmental concern, and health consciousness significantly influenced purchase intention, whereas subjective norms showed an insignificant effect. These results highlight the growing importance of personal values and self-efficacy in encouraging green cosmetic consumption.

This study contributes to academic literature by expanding the TPB framework and offers practical implications for marketers and policymakers aiming to promote sustainable consumer behavior. Recommendations for future research and industry practices are also discussed to further enhance the adoption of eco-friendly cosmetic products in Malaysia.

Keywords: Green Cosmetics, Purchase Intention, Consumer, Malaysia, Theory of Planned Behavior, Environmental Concern, Health Consciousness

Subject Area: HF5410-5417.5 Marketing. Distribution of products

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LIST OF ABBREVIATIONS

ATT	Attitude
AVE	Average Variance Extracted
CR	Composite Reliability
DV	Dependent Variable
EC	Environmental Concern
ETPB	Extended Theory of Planned Behavior
f^2	Effect Size
GC	Green Cosmetics
HC	Health Consciousness
HTMT	Heterotrait-Monotrait Ratio
IV	Independent Variable
PBC	Perceived Behavioral Control
PI	Purchase Intention
PLS-SEM	Partial Least Squares Structural Equation Modeling
R^2	Coefficient of Determination
SEM	Structural Equation Modelling
SN	Subjective Norms
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
VIF	Variance Inflation Factor

CHAPTER 1: RESEARCH OVERVIEW

1.1 Research Background

Nowadays, the green trend has gradually become part of the world economy. When referring to "green", people will immediately associate it with being organic, sustainable, and healthy (Santos F Bruno, 2015; Singh, Kapoor, & Misra, 2019). Sustainability is getting more and more concern from the public which motivates the action of green marketing and green products in the Market (Squires, 2019). According to Purvis et al., sustainability is a complex idea, including environmental responsibility, social unity, and economic efficiency (Purvis, Mao, & Robinson, 2019). Healthy lifestyle and clean environment awareness have reshaped the consumers' attitudes of purchase intention, patterns, and behavior towards green products. The gradual depravation of the environment has educated consumers about the importance of purchasing and using green products (Luck, Edwina, M, & Ginanti, 2009; Singh, Kapoor, & Misra, 2019).

Over the decades, the depletion of resources has sped up (Hussain, Khan, & Zhou, 2020). Consumers started focusing on personal appearance and health considerations due to the increased consciousness of waste and pollution, increasing demand for green cosmetics, and high disease rates (Angus, & Westbrook, 2019). Therefore, the government and local communities started paying attention to the environmental issue (Ullah and Khan 2020). Therefore, more and more firms are initiating the production of green cosmetics. The ingredients include plants and herbs, biopolymers, enzymes, amino acids, and so on (Nguyen, Nguyen, & Vo, 2019; Angus, & Westbrook, 2019; Morganti et al., 2023; Beck, & Villena, 2021; Villena, 2022; Ross, 2006; Morganti, 2009). Modern consumers are interested in the ingredients of the products before deciding to purchase them (Morganti, 2009; Fortune, 2020).

Globally, the market size of personal care products and cosmetic products was valued at $571.1 billion in 2023 (Statista, 2023; Limbu, & Ahamed, 2023) and is expected to

dramatically increase to $800 billion in the next three years (Acharya, Bali, & Bhatia, 2021). According to Ali et al (2027), The sales of green cosmetic products globally are predicted to rise to $54.5 billion by 2027 which shows an increasing of $20 billion from 2018. Consumers such as Generation Z and Millennials are the primary motivators in pushing the trend of green cosmetics, since they like the new trend, and are likely to follow them (Statista, 2019; Buinauskaitė, 2020). The main companies that produce green cosmetic products are L'Oreal (Alamsyah, Othman, Mohammed, 2020) and Unilever (Shatzman, 2018; Aguiar et al, 2022). Throughout the years of excellent performance, the total revenue of cosmetic products is estimated to reach $888.2 million in this year of 2024 which is a 10% annual growth (Al Mamun et al., 2020). In 2024, total revenue of green cosmetic products in Malaysia will be $51.48 million which consists of a 2.42% annual growth rate (Statista, 2024).

Cosmetics are defined as substances and mixtures applied externally to the human body, teeth, and oral mucosa to cleanse, add fragrance, alter appearance, protect, maintain good condition, and enhance body odor (EC, 2009; Svobodova et al., 2023). Cosmetics can also be known as "topical products formulated for enhancing personal appearance, maintaining hygiene, or protecting the skin, hair, nails, and oral cavity without exerting a pharmacological effect" (WHO, 2019). Similarly, green cosmetics refer to products designed with a multifaceted approach to environmental protection, pollution reduction, responsible resource management, and the preservation of animals and species (Lin et al., 2018; Shimul, Cheah, & Khan, 2022). Green cosmetics can also be known as "personal care products that prioritize environmental sustainability by using biodegradable ingredients, ethical sourcing, and cruelty-free testing, while maintaining efficacy and safety." (Nguyen et al., 2021)

Due to several reasons, green cosmetics are getting to boost in the beauty and personal care market around the world, including Malaysia. It is important to analyse how purchase intention for green cosmetics influences consumer buying decisions.

1.2 Research Problem

Although most consumers have a favorable **attitude** about purchasing green products, some of them still refuse to do so (Jaini, et al., 2020; Bruschi et al., 2015; Tanner and Kast, 2003; Vermeir and Verbeke, 2006, 2008). Previous research conducted by Maduku (2024) shows the differences between positive attitudes and actual purchase behavior towards green purchases, and this happened because consumers lack green product knowledge. In other words, when consumers are not fully informed, their positive attitudes toward green cosmetics may not always lead to actual purchases. Difference between attitude and behavior may block the market share of green products, delay the corporate from environmental responsibility, and ultimately hinder the development of sustainability (Dhir et al, 2020). According to Shimul, Cheah, & Khan (2022), previous research has studied the green cosmetics consumer purchase behavior in developed countries and developing countries such as the United States, Greece, Malaysia, Mauritius, Hong Kong, Vietnam, but there is still lack of overall research regarding the consumer attitudes towards green cosmetics and green consumer behavior (Wang et al., 2019; Shimul, Cheah, & Khan, 2022; Jaini et al., 2020).

According to Joshi and Srivastava, consumption patterns are strongly and deeply influenced by social influences. Peer pressure and the desire to align with others are the key drivers to affect consumers in deciding to buy green cosmetics products or conventional cosmetic products (Photcharoen, Chung, and Sann, 2020). The majority of previous research found there is a positive and significant impact of **subjective norms** on behavioral intention, which has been conducted in Vietnam, South Africa, and Thailand (Shimul, Cheah, Khan, 2022; Nguyen et al., 2019, Suphasomboon & Vassanadumrongdee, 2022). Conversely, other studies have reported that subjective norms have an insignificant impact on green cosmetic products' purchase intention, implying that inconsistent findings were found (Ghazali et al., 2017; Tengli & Srinivasan, 2022). Malaysia is a multi-ethnic country, in which consumers are subjected to different cultural and societal beliefs, which may influence their subjective norms and decision-making. It is worth mentioning that currently there are limited studies investigating subjective norms in the local context. Since inconsistent findings

were reported in terms of subjective norms, therefore it is crucial to address the gap between consumers' awareness of subjective norms and their actual purchase behavior on green cosmetics in local contexts to warrant the finding.

Some cosmetic users do not like to purchase green cosmetics, although the cosmetics are attractive to them (Sharma, & Garisson, 2014; Munerah, Koay, & Thambiah, 2021). Although the consumers have an interest in and a positive attitude toward green cosmetics, the consumers will not purchase them due to high prices (Kazançoğlu, & Köse, 2024). The consumer will not remain being nature when the cosmetics are more expensive than conventional cosmetics (Devinney, Auger, Eckhart, 2010; Munerah, Koay, & Thambiah, 2021). In contrast, green cosmetics usually consist of higher prices due to the extra cost of production compared to conventional cosmetics (Davari, & Strutton, 2014; Chekima et al., 2016; Kazançoğlu, & Köse, 2024). This additional cost which is reflected in the selling price will affect the consumer's purchase intention toward green cosmetic products (Zhao, 2014; Kazançoğlu, & Köse, 2024). Some of the researchers hold that **perceived behavioral control** has a significant effect on green cosmetics purchase intention (Susanty et al., 2021), but Shimul, Cheah, and Khan (2022) reported that perceived behavioral control does not have a significant relationship with green cosmetics purchase intention. However, our study holds that the fallacy of perceived behavioral control is worth studying further.

The environment will be directly or indirectly affected by the choice of products or services made by consumers (Gruber, & Schlegelmilch, 2014; iPuigvert et al., 2020). According to Zhuang et al. (2021) and Lavuri et al. (2022), concern on the environment is one of the main factors to influence consumers' perceptions, intentions, and decisions toward green cosmetics. Conventional cosmetics contain harsh inorganic chemicals which will have a huge impact on the environment (Ghazali et al., 2017; Al Mamun, 2020). However, most people do not know the benefits of using green cosmetics, and some people have a negative perspective towards green cosmetics. Due to unaware of environmental well-being, and personal well-being, the usage rate of green cosmetics remains low (Al Mamun, 2018; Chin, 2018; Al Mamun, 2020). However, it requires a further study about the **environmental concern** in influencing

green cosmetics purchase intention, since there are few studies have focused on the combination of these variables (Echchad, & Ghaith, 2022). Therefore, our research focuses on studying the impacts of environmental concerns on green cosmetics purchase intention in Malaysia.

Currently, most of the traditional cosmetics manufacturers are still utilizing chemical surfactants as emulsifiers and foaming agents in their products which will cause serious harm to the structural integrity and barrier function of the skin (Karnwal et al., 2023; Ferreira, 2017; Fiume, Heldreth, Bergfeld, 2017). In Malaysia, Consumers learn about harmful ingredients that are included in cosmetics through magazines, newspapers, and the Internet (Hadi et al, 2020). According to research, some developing countries such as Malaysian understand the benefits of using green cosmetics to improve sustainability and health, but this understanding will directly reflect in purchasing decisions (Quoquab, Mohamad, & Thurasamy, 2018; Rahbar, & Wahid, 2011; Jaini et al., 2020), since there are a lot of barriers that destroy the consumers purchase intention towards the green cosmetics such as lack of strict supervision of government and misleading marketing information on internet (Saleki, Quoquab, & Mohammad, 2019). According to Jaini et al. (2020), Malaysia is currently facing flooding of artificial cosmetics (cheap and low-quality cosmetics) and illegal products in the market, and it is difficult for consumers to verify their quality and safety, leading to potential health risks. As Yeon Kim, and Chung (2011); Lius, and Salim (2024) claimed, consumers with a high level of **health consciousness** will not purchase products that have potential risks to harm their health.

1.3 Research Objective

1.3.1 General Objective

The main goal of this study is to determine the factors that predict the consumer purchase intention towards green cosmetics in Malaysia.

1.3.2 Specific Objectives

1) To investigate the relationship between subjective norms and purchase intention towards green cosmetics in Malaysia.

2) To investigate the relationship between perceived behavioral control and purchase intention towards green cosmetics in Malaysia.

3) To investigate the relationship between attitude and purchase intention towards green cosmetics in Malaysia.

4) To investigate the relationship between environmental concern and purchase intention towards green cosmetics in Malaysia.

5) To investigate the relationship between health consciousness and purchase intention towards green cosmetics in Malaysia.

1.4 Research Questions

The research questions stated below that need to be explored are:

1) Is there any relationship between subjective norms and purchase intention towards green cosmetics in Malaysia?

2) Is there any relationship between perceived behavioral control and purchase intention towards green cosmetics in Malaysia?

3) Is there any relationship between attitude and purchase intention towards green cosmetics in Malaysia?

4) Is there any relationship between environmental concern and purchase intention towards green cosmetics in Malaysia?

5) Is there any relationship between health consciousness and purchase intention towards green cosmetics in Malaysia?

1.5 Hypothesis of study

The hypothesis in this research is shown below:

H1: There is a positive relationship between subjective norms and purchase intention towards green cosmetics in Malaysia.

H2: There is a positive relationship between perceived behavioral control and purchase intention towards green cosmetics in Malaysia.

H3: There is a positive relationship between attitude and purchase intention towards green cosmetics in Malaysia.

H4: There is a positive relationship between environmental concern and purchase intention towards green cosmetics in Malaysia.

H5: There is a positive relationship between health consciousness and purchase intention towards green cosmetics in Malaysia.

1.6 Research Significance

This research intends to investigate the variables affecting green cosmetics purchase willingness among Malaysian consumers. The findings will provide valuable insights for various business sectors in Malaysia, particularly the green cosmetics industry, by enhancing their understanding of consumer preferences.

The study's outcomes will assist businesses in gaining a deeper understanding of the market, enabling them to align product development strategies with consumer needs. For instance, the development of eco-friendly cosmetics can enhance customer

satisfaction and foster brand loyalty (Jabeen, 2020). Additionally, marketing professionals can leverage these insights to design campaigns that highlight the sustainability and environmental benefits of green products (Ramos, 2023). By incorporating sustainable practices and launching innovative green products, businesses can expand market opportunities. These strategic approaches will facilitate market entry for both established firms and new entrants in the green cosmetics sector.

Besides, researchers in this study are enhancing the predictive power of Theory of Planned Behavior (TPB), by incorporating two different factors which are environmental concern and health consciousness. This allows testing for the robustness and flexibility of TPB when it is applied to sustainability-oriented consumer behaviors such as green cosmetics purchasing (Ajzen, 1991).

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

The theories that will be utilized in this research are the Theory of Planned Behaviour (TPB), and the Extended Theory of Planned Behaviour (ETPB). The theoretical framework will cover subjective norms, perceived behavioral control, attitude, environmental concern, and health consciousness.

2.1 Underlying theory

The TPB was designed to extend the framework of the Theory of Reasoned Action (TRA) to address the limitations of the original theory regarding an individual's incomplete volitional control (Ajzen, 1991; Wandani, 2024). TPB aims to identify the consumer purchase intention and behavior when customers are trying to change their behavior through the model (Mathieson, 1991; Sheppard et al., 1988; Wu, 2020). According to Alzubaidi, Slade, and Dwivedi (2021), TPB is recognized as an effective model for explaining an individual behavior, since it can understand and predict broader social behavior.

The TPB consists of three major predictor constructs (as shown in Figure 2.1) to determine an individual's behavior which are attitude, subjective norms, and perceived behavioural control (Liu et al., 2020). Attitudes refer to a positive or negative evaluation of an individual in performing a certain behavior (Ajzen, 1991; Wang, Zhao, & Pan, 2024). Subjective norms refer to the behavior shaped by an individual when perceived social pressure (Ajzen, 1991, 2020). Perceived behavioral control describes a person's belief and ability to perform a task (Johe, & Bhullar, 2016; Wang, Zhao, & Pan, 2024). In addition, TPB has been widely utilized in a range of situations such as food and beverage (Chan, & Hon, 2020), sports (Bae et al., 2020), halal logistics (Ali et al., 2020), and green products (Sharma, & Foropon, 2019).

This study expands the TPB model to examine the prediction of consumers' buying intention on green cosmetics in local context. The extended model consists five independent variables: three are originally from TPB, and two others are known as environmental concern and health consciousness.

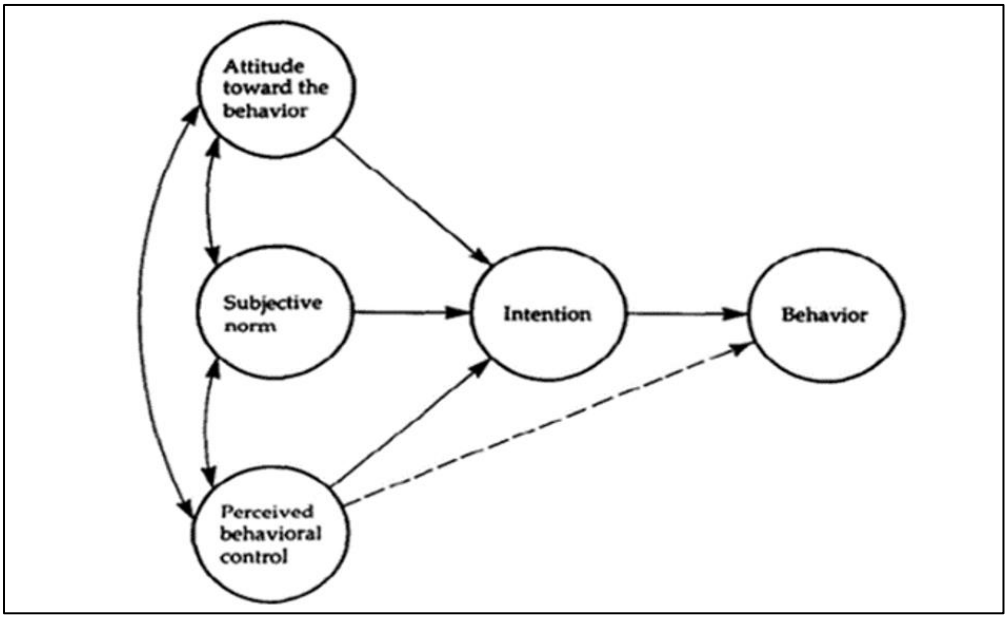

Figure 2.1: Theory of Planned Behaviour (TPB). Adapted from: Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.

2.2 Green Cosmetics

Cosmetics is defined as any materials and mixtures that used outside human body, teeth and oral mucosal to cleans, fragrances, change appearance, protect, maintain good condition and improve body odor (EC, 2009; Svobodova et al., 2023). Additionally, green cosmetics are defined as cosmetics that being multifaceted for environmental protection, pollution reduction, responsible resources management, animals and species preservation (Lin et al., 2018; Shimul, Cheah, & Khan, 2022). Green cosmetics or personal care products are produced from natural ingredients such as minerals, plants

and fruit extracts for the purpose of minimizing pollution, protecting the welfare of animals, and minimizing the usage of non-renewable materials (Lin, 2018; Amberg, & Fogarassy, 2019). Green cosmetics consist of many advantages in the production process such as less usage of water, materials and energy, low impact on the environment, and use of recycled packaging (Limbu, & Ahamed, 2023).

2.3 Importance of Green Cosmetics

Nowadays, there are more and more educated consumers aware of the potential health harm caused by cosmetic products containing chemical ingredients such as skin irritation, skin allergy, and long-term health problems (Amani, Karakashev, Grozev, 2021). Young consumers are more likely to experience with something that are safer since they are more concerned about their well-being (Guinaugh, 2020). According to Lee and Kwon (2022) and Park and Lee (2022), as an increasing of consumers seek safe and non-toxic products, the cosmetic industry has expanded to focus on producing natural, vegan, and eco-friendly options. Green cosmetic products contribute to environmental sustainability by utilizing environmentally friendly manufacturing processes and sustainable materials which will reduce the carbon footprint, minimize the waste of materials, and avoid animal testing (Kapoor, Singh, & Misra, 2019; Amberg, & Fogarassy, 2019; Hirata, 2022).

2.4 Green Cosmetics Trend in Local Industry

Consumers started to be aware of the harm of using unsustainable and not environmentally friendly products in their daily lives (Qi, Yu, & Ploeger, 2020). Therefore, a lot of companies are beginning to add some “green” elements to their brands to grab market share and highlight their competitive advantages (Knowles et al., 2020). According to DHL (2022); Sapri, Abdul Ghani, and Muhd Yusuf (2023), the Malaysian cosmetics market demonstrated steady growth, with a revenue of US$2.68 billion in 2022 and an annual growth rate of 4.07%. Due to the growth of the green

cosmetic market in Malaysia, more and more cosmetic brands are imported from other nations, and the growth trend will continue (Yau et al., 2020). Most Malaysians are concerned about the effect of cosmetics on the user, but the sales of cosmetic products are increasing day by day (Boon, Fern, & Chee, 2020).

2.5 Review of Variables

2.5.1 Purchase Intention (PI) on Green Cosmetics

Purchase intention is defined as the probability of purchase behavior that is shaped by belief and attitude (Engel, Blackwell, & Miniard, 1986; Lee, Lee, & Choi, 2023). As explained by Al-amri, et al. (2022); Al-Hashimy et al. (2022); Diva (2020), purchase intention refers to the consumer's willingness to perform a purchase action for a particular products or services that consist of a positive outcome or negative outcome. Hence, when an individual wants to perform a certain behavior, they tend to perform it as a positive outcome between intention and behavior (Chairunnisa, & Perdhana, 2020; Ghofrani, Taleghani, & Chirani, 2017; Faraj, & Alhamad, 2022). According to Nabilla (2019), the commitment to continuously purchasing green products an individual will gradually reshape his or her actual behavior. There are three indicators proposed by Brian et al. (2001); Chan (2001); Zhuang, Luo, and Riaz (2021) to measure the green purchase intention which include consideration of purchasing green products, switching to another brand due to environmental impact, and switching to purchase green version’s products or services.

2.5.2 Subjective Norm (SN)

Subjective norm is the societal expectations that influence an individual's intention to engage or refrain from a particular behavior (Jia et al., 2023). According to Ruangkanjanases (2020), behavioral intention is shaped by social pressure, where individuals may feel compelled to act in a manner that aligns

with the opinions of others. Norms play a significant role in shaping human behavior. Previous studies have emphasized that individuals' decision-making processes are influenced by social approval from important figures in their lives, such as family, friends, relatives, and colleagues (Kamalanon, Chang, & Le, 2022; Mancha & Yoder, 2015). Similarly, Yadav and Pathak (2017) stated that an individual's perception and decision-making can be altered by the suggestions and advice of those they consider significant. In the context of marketing and consumer behavior, subjective norm is recognized as a key determinant of consumer intentions, particularly in areas such as environmentally conscious consumption and the purchasing of green products (Duong et al., 2022; Khare & Moser, 2015).

2.5.3 Perceived Behavioral Control (PBC)

Perceived behavioural control (PBC) is the individual's perception on their ability and empowerment to perform a specific behavior (Sok et al., 2021; Yadav & Pathak, 2017). The ease or difficulty of executing a particular behavior significantly influences an individual's decision-making process (Opoku et al., 2021). Individuals with a greater sense of self-control tend to exhibit a stronger intention to engage in a given behavior (Ogiemwonyi, 2022). Moreover, PBC encompasses both external and general factors that may impact behavioral execution (Vamvaka et al., 2021). It also pertains to an individual's perception of whether they possess adequate resources or opportunities to carry out a behavior (Li et al., 2023). For instance, PBC has been found to positively correlate with consumer intention across various research contexts, such as the intention to purchase green household products and organic foods (Mamun, 2018).

2.5.4 Attitude

Attitude is defined as an individual's overall evaluation of performing a particular behavior, whether positive or negative (Djafarova & Foots, 2022). It reflects personal judgment and the perceived consequences associated with a given behavior. From an individual's perspective, a behavior may be considered good or bad based on their beliefs, which ultimately influence their decision-making process (Marcinkowski & Foots, 2022; Ramayah et al., 2010). Similarly, Wijekoon & Sabri (2021) and Chen & Tung (2014) describe attitude as a psychological emotion shaped by an individual's evaluations. Research has shown that individuals with a positive attitude are more likely to engage in a specific behavior compared to those with a negative attitude (Malinowska, 2019). In the context of purchase intention, attitude is recognized as a critical determinant (Tang et al., 2014). More specifically, previous studies have demonstrated that attitude significantly influences an individual's intention to purchase green products (Yadav & Pathak, 2016; Hsu et al., 2017; Maichum et al., 2017).

2.5.5 Environmental Concern (EC)

Environmental concern refers to an individual's awareness on the environmental threats and their willingness to contribute to solve for the environmental issues (Wu et al., 2019; Ishaswini & Datta, 2011; Aagerup et al., 2016). It reflects the personal belief that collective human behavior impacts the environment, leading to increased engagement in sustainable practices, such as adopting green products and services (Kim & Lee, 2023; Maichum, Parichatnon, & Peng, 2016).

Previous studies have demonstrated that environmental concern positively influences green purchase intentions across various consumer groups, including those in Malaysia (Yue et al., 2020; Suki, 2016). Over time, research on

environmental concern has expanded from focusing on specific ecological issues to encompassing broader environmental well-being. Consumers are increasingly willing to pay a premium for green products (Matthews et al., 2020; Dagher et al., 2015; Joshi & Rahman, 2017).

2.5.6 Health Consciousness (HC)

Health consciousness is defined as the degree of coordination towards the health issue and regular activity of an individual (Konuk, 2018; Ashton, 2023). Health consciousness is an individual awareness in which an individual performs a particular action or behavior to maintain good health or avoid health risks (Pu et al., 2020). Yeon Kim, and Chung (2011); Lius, and Salim (2024) highlight that the most important thing to be considered before purchasing or using a particular product or service is the impact of the product on our health. Individuals with a high extent of health consciousness will only purchase the products that are good for their health and avoid the products that can harm their health (Yeon Kim, & Chung, 2011; Lius, & Salim, 2024). Individuals with high consciousness are more likely to consider the ingredients such as vitamins, minerals, fats, and sugar of products towards hir or her health (Shin, & Mattila, 2019; Ashton, 2023).

2.6 Conceptual Framework

The variables in this study are shown in in Figure 2.2.

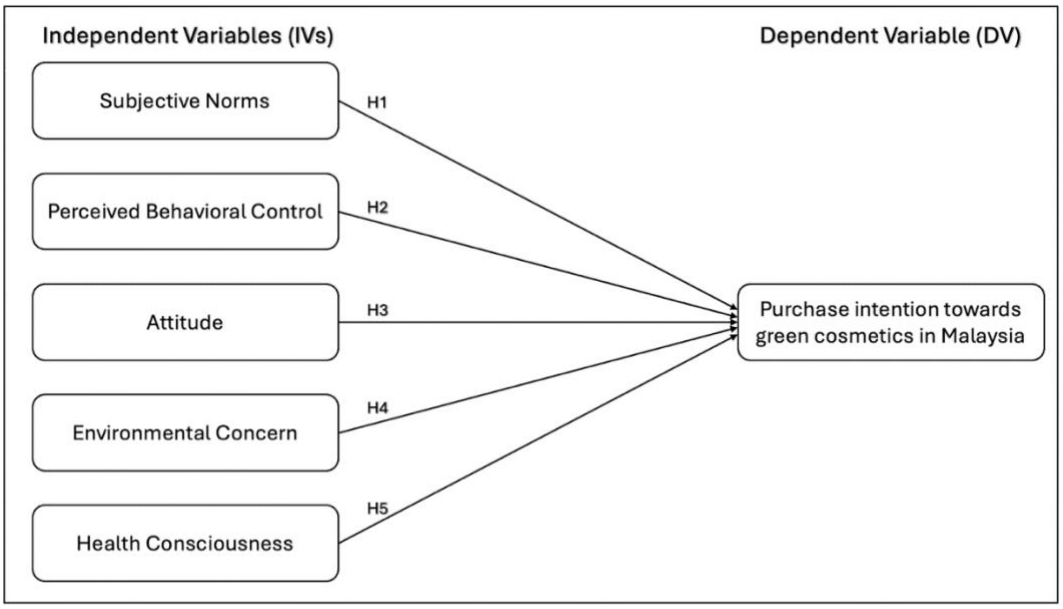

Figure 2.2. Conceptual Framework based on TPB.

2.7 Hypothesis

2.7.1 SN

Previous research has established a significant positive relationship between subjective norms and consumers' intention to purchase green products (Fenta, Singh, & Gautam, 2023; Park & Lin, 2020). Similarly, a study conducted in South Africa found that subjective norms positively influence consumer purchase intentions for green cosmetics (Shimul, Cheah, & Khan, 2022). These findings suggest that social influence plays a crucial role in shaping consumption patterns (Joshi & Srivastava, 2020). Consumers are more likely to adopt green purchasing behaviors when they observe 'significant others' engaging in such practices (Moon, Mohel, & Farooq, 2019).

Based on these insights, this study forms the hypothesis of:

H1: There is a positive relationship between SN and PI towards green cosmetics in Malaysia.

2.7.2 PBC

Previous studies conducted by Shimul, Cheah, and Khan (2022) have demonstrated that perceived behavioral control has a significant positive influence on purchase intention in green research contexts, including green organic personal care products and green products in general (Sreen et al., 2020; Moser, 2016). Additionally, Wijekoon and Sabri (2021) emphasized that perceived behavioral control is a crucial factor for marketers in understanding consumers' green purchase intentions. Consequently, individuals who exhibit stronger self-regulation over their behavior are more likely to engage in environmentally friendly purchasing decisions (Xie, Wang, & Gong, 2022).

Therefore, this study forms the hypothesis of:

H2: There is a positive relationship between PBC and PI towards green cosmetics in Malaysia.

2.7.3 ATT

Relevant studies have confirmed a positive link between consumers' ATT and their green cosmetics' PI. An individual's environmental attitude directly influences their green purchasing behavior (Ogiemwonyi, 2022; Cheung & To, 2019). Based on these findings, individuals who are aware of and hold a positive outlook on green behaviors in their daily lives are more likely to engage in green purchasing (Tiwari, 2022; Amatulli et al., 2020). For instance, Mamun et al. (2020) found that Malaysian consumers' attitudes toward green skincare products had a significant positive impact on their intention to purchase such products.

So, this study proposes the hypothesis of:

H3: There is a positive relationship between ATT and PI towards green cosmetics in Malaysia.

2.7.4 EC

Numerous studies have emphasized that environmental concern plays a crucial role in enhancing green purchase intention, shows a relationship between purchase intention with environmental concern (Qomariah & Prabawani, 2020; Joshi et al., 2019). Additionally, concerns arising from environmental issues influence consumers' sense of environmental responsibility, which, either consciously or unconsciously, affects their consumption behaviors (Moslehpour et al., 2023). These environmental concerns motivate consumers to adopt more sustainable purchasing behaviors, ultimately increasing their green purchase intention (Mamun, 2020).

Hence, the following is the hypothesis that will be formed:

H4: There is a positive relationship between EC and PI towards green cosmetics in Malaysia.

2.7.5 HC

Health consciousness explains the major health concerns of green cosmetics such as they are safe for the skin, gentle for the skin, and have no side effects (Singh, Kapoor, & Misra, 2019). It involves the degree of health consideration towards an individual's regular life (Mizia et al., 2021). People with high health consciousness are increasing day by day (Iqbal et al., 2021). According to Adel, Dai, & Roshdy (2021), individuals with a high level of health consciousness will pay more attention to their health and well-being than others. If an individual has long-term contact with chemical cosmetics it will have a huge effect on body health such as cancer dermatitis, and allergies (Liobikiene et al.,

2016; Lius, & Salim, 2024). In contrast, consumers are more willing to purchase green cosmetics rather than chemical cosmetics with high health risks (Martha, & Febriyantoro, 2019). Cosmetics are determined as green cosmetics only when it is made by natural resources and environmental preservation (Bell, & Artanti, 2021).

Hence, the hypothesis is suggested:

H5: There is a positive relationship between HC and PI towards green cosmetics in Malaysia.

CHAPTER 3: METHODOLOGY

3.0 Introduction

The aim of this chapter is to guarantee accurate and dependable results that support the goals of this investigation by implementing a series of research analysis tools.

3.1 Research Design

According to Khanday (2023), a research design is the project's general strategy or blueprint. It outlines the procedures you will follow in order to gather, quantify, and evaluate data in order to test your hypotheses or find answers to the research questions, which will be useful during the independent variables measurement with the dependent variable, PI. Quantitative research is utilized in this study.

3.1.1 Quantitative Research

Quantitative Research is a systematic investigation that involves collecting and analyzing numerical data to test hypotheses, measure on the different variables, analyze relationships between variables. Quantitative research often involves large sample sizes and utilises tools like surveys, questionnaires, or other methods to collect numerical data. It is eventually simpler to assess hypotheses and determine group correlations when data is given in the form of statistics, graphs, and charts (Al-Sharafi et al., 2023). The results are tabulated in table form.

3.1.2 Descriptive Research

The goal of descriptive study is to describe something as it is, without attempting to alter it, such as a scenario, a population, an event, or a phenomenon (Hair et al., 2019). Additionally, this approach aids in addressing who, what, where, when, and how questions (Schindler, 2022). Siedlecki (2020) claims that descriptive research makes it possible to evaluate a number of factors. Consequently, a cross-sectional study will be employed in this research to identify the multiple factors influencing consumer purchase intention toward green cosmetics at a specific point in time and to summarize the data statistically (Liu, 2018). Additionally, the cross-sectional study is the most appropriate method because it is cost-effective, time-efficient, and allows for the testing of multiple variables simultaneously, which aligns with the objectives of this study (citation needed). In this case, a thorough summary of Malaysia's demographics was given using descriptive research.

3.2 Sampling Design

According to Saunders et al., (2009), sampling strategy is to choose the subjects (or objects) from whom you will gather data for your study is known as the sampling design. This method enables the creation of generalized findings in addition to assisting in identifying the measurement outcomes of certain groups (Zikmund et al., 2010). Researchers will determine the target population, sampling method, and sample size during the sampling design stage.

3.2.1 Target Population

The target population for this study will consist of Malaysian individuals aged 18 and above with spending capabilities. Chan (2001) suggests that individuals 18 years and older are the most suitable for environmental research, as those under 18 may face challenges with financial independence, which could influence their green purchase intentions. Additionally, they may have lower

environmental awareness due to limited education (Siyal et al., 2021; Wijekoon & Sabri, 2021).

3.2.2 Sampling Technique

Taherdoost (2021) claims that the purpose of sampling is to get samples that authentically capture the features of the broader population. Probability sampling and non-probability sampling are the two primary categories of sampling procedures. The snowball sampling approach, a non-probability sampling methodology, will be employed in this investigation. Snowball sampling was chosen because of its efficiency in producing a sample and its capacity to collect enough data for the investigation (Naderifar, 2017).

3.2.3 Sample Size

According to Memon (2020), A portion of the population that generates enough data for a research is referred to as the sample size. This study focuses on examining the purchase intention toward green cosmetics among Malaysians. Therefore, the target respondents will represent the entire Malaysian population. Given that the population includes individuals aged 18 and older, which is quite large, Krejcie and Morgan's (1970) table suggests that the minimum sample size should be 384 respondents. However, in this study, the researchers plan to collect data from more than 384 respondents, as a larger sample size typically captures a broader range of the population and enhances the reliability of the findings (Taherdoost, 2017; Biau et al., 2008).

3.3 Data Collection Method

The process by which researchers gather the information required to address research questions or test hypotheses is known as the data collecting technique (Alshenqeeti, 2014). These systematic processes will be useful to answer research questions, test for the hypotheses, and outcomes evaluation. In this study, primary data and secondary data were used.

3.3.1 Primary Data

Ajayi (2017) defines it as current information, also referred to as first-hand knowledge that researchers have personally collected. During the initial data collection phase, researchers can use this opportunity to predict and identify the independent variables.

3.3.2 Secondary Data

Information and resources gathered from previously documented sources or study projects carried out by other scholars are secondary data (Tauma, 2022). In another words, secondary data is data collected by others for different purposes. In this study, the researchers will use secondary data as a reference to guide their investigation into Malaysian consumers' purchase intention toward green cosmetics.

3.4 Research Tools

It is used to collects, quantifies, and evaluates information on a study topic. (Collis & Hussey, 2013). In this research, primary data were collected by distributing the questionnaire to respondents by using Google Form.

3.4.1 Questionnaire Design

Sections A, B, and C make up the three sections of the research questionnaire. All questions are in English. Section A consists of pre-screening questions which require participants to describe their current financial situation. Section B consists demographic profile including respondents' gender, age group, educational qualifications, employment status, monthly household income or allowance, usage of green cosmetics products, types of green cosmetics products and the location of participants. Section C consists of independent and dependent questions which explore subjective norms on green cosmetics,

perceived behavioural control on green cosmetics, attitude on green cosmetics, environmental concern on green cosmetics, health consciousness on green cosmetics and purchase intention on green cosmetics as the dependent variable. All the questions in Section C are presented in 5-point likert scale.

3.4.1.1 Section A: Pre-Screening Question

1) Which statement best describes your current financial situation? *(Please tick your answer)*
• I am financially independent and support myself fully. • I partially rely on financial support from others (e.g., parents, spouse, PTPTN, etc.). • I am fully dependent on financial support from others. • Other:

3.4.1.2 Section B: Demographic Profile Questions

1) Gender
• Male • Female
2) Age
• Below 18 years old • 18 to 24 years old • 25 to 30 years old • 31 to 35 years old • 36 to 40 years old • 41 years old and above
3) Educational Level
• Primary Level • Secondary Level • Pre-University / Diploma • Bachelor's Degree • Master's Degree / PhD Degree • Other:
4) Employment Status
• Student

• Employed • Self-employed • Part-Timer • Unemployed • Other:
5) Monthly household income/Monthly allowance
• B40 (RM5,250 and below) • M40 (RM5,251 to RM11,819) • T20 (RM11,820 and above) • Other:
6) How often do you use green cosmetics products?
• Daily • Several times a week • Occasionally • Rarely • Never
7) What types of green cosmetic products do you use regularly?
• Skincare (e.g., moisturizers, cleansers) • Makeup (e.g., foundation, lipstick) • Haircare (e.g., shampoo, conditioner) • Fragrances (e.g., perfumes, colognes) • Other:
8) Where do you come from?
• Johor • Kedah • Kelantan • Melaka • Negeri Sembilan • Pahang • Penang • Perak • Perlis • Selangor • Terengganu • Kuala Lumpur • Putrajaya • Labuan

- Sabah
- Sarawak

3.4.1.3 Section C: Independent and Dependent Variable Questions

Variables	Items	Measurement Item	Reference
Subjective Norms	SN1	I prefer purchasing green cosmetics when my family members recommend them.	Mamun et al., 2020
	SN2	I prefer purchasing green cosmetics when my friends recommend them.	
	SN3	I learned how to distinguish green cosmetics from conventional skincare products from my parents.	
	SN4	I learned how to distinguish green cosmetics from conventional skincare products from my friends.	
Variables	**Items**	**Measurement Item**	**Reference**
Perceived Behavioral Control	PBC1	I completely have control over the purchase of green cosmetics.	Shimul et al., 2022
	PBC2	I have the resources and ability to buy green cosmetics.	
	PBC3	I am confident that if I want green cosmetics, I can buy them.	
Variables	**Items**	**Measurement Item**	**Reference**
Attitude	ATT1	I believe green cosmetic products are better for my health.	Shimul et al., 2022
	ATT2	I believe that green cosmetic products are more effective than conventional cosmetic products.	
	ATT3	I believe that there are substantial quality differences between green cosmetics and conventional cosmetic products.	
	ATT4	Between green and conventional cosmetic products with the same price, I would prefer the organic.	

Variables	Items	Measurement Item	Reference
Environmental Concern	EC1	It is important to me that the products I use do not harm the environment.	Parker et al., 2022
	EC2	I consider the potential impact of my actions when making many of my purchasing decisions.	
	EC3	My purchase habits are affected by my concern for our environment.	
	EC4	I am concerned about wasting the resources of our planet.	

Variables	Items	Measurement Item	Reference
Health Consciousness	HC1	I am alert to change in my health.	Shimul et al., 2022
	HC2	I am usually aware of my health.	
	HC3	I take responsibility for the state of my health.	
Variables	**Items**	**Measurement Item**	**Reference**
Purchase Intention	PI1	The probability I would consider buying this green cosmetic product is high.	Shimul et al., 2022
	PI2	I would buy this green cosmetic product if I happened to see it.	
	PI3	I would actively seek out this green cosmetics in a place to purchase it.	
	PI4	If I were going to purchase a similar product, I would buy this green cosmetic product.	

3.4.2 Pilot Test

This is used for evaluating project before proceeding to full-scale quantitative research. It helps assess key elements and plays a role in identifying necessary improvements in the research design (Julia, 2022). A sample of 30 respondents were tested in this investigation, and each one was reliable. The reliability of the survey items in the pilot test was assessed using Cronbach's alpha (α), with at least 0.60 or above to indicate acceptable consistency (Taherdoost, 2018).

Table 3.1

Pilot Test

Variables	No. of Items	Cronbach's Alpha Value	Result
ATT	4	0.827	Good reliability
EC	4	0.849	Good reliability
HC	3	0.772	Good reliability
PBC	3	0.810	Good reliability
PI	4	0.880	Good reliability
SN	4	0.758	Good reliability

3.5 Construct Measurement

Construct management in a study can refer to the process of defining, measuring, and managing constructs used in the research. It is an idea that cannot be directly observed but it can be obtained using indicators or variables.

3.5.1 Scale Measurement

Scale measurement can assess the reliability and validity in the study. Three sections make up the questionnaire used in this study, and each one uses a different kind of scale measurement — namely, nominal, ordinal, and interval scales. As the objective of the questionnaire is to examine and test the study's hypotheses, these measurement scales help ensure the consistency and accuracy of the results obtained.

3.5.1.1 Nominal Scale

A nominal scale refers to questions that use the most basic measurement scale (Scales of Measurement, 2023). It is used for categorizing data without any ranked or numerical order. Choices for respondents to choose for are typically exclusive and do not have any specific or meaningful numerical order. Therefore, gender and work status were the variables of nominal data.

3.5.1.2 Ordinal Scale

One kind of measurement that classifies objects in a group is an ordinal scale, indicating ranking or order among the items (Chua, 2012). Hence, the ordinal scale was being used in this study's questionnaire. For example, questions such as age, educational level, monthly income or allowance can be found in Section B.

3.5.1.3 Interval Scale

An interval scale is defined as a measurement scale that not only ranks data but also maintains equal intervals between values (Leung, 2017). In this study, Section C covers questions related to both independent and dependent variables, employed a five-point likert scale ranging from 1 to 5—where 1 indicates "strongly disagree" and 5 indicates "strongly agree."

3.5.2 Origin of Construct

Section A and B were designed by the researchers. Whereas in the Section C, the questions were adjusted to fit the issue and were taken from previous related research projects.

3.6 Data Processing

In this part, data collected throughout the questionnaire will need to be checked, edited, and finalized before going to data analysis, as there might be some errors to amend.

3.6.1 Data Checking

Barchard et al., (2020) states that data checking is the process of ensuring the accuracy, completeness and accuracy of data. In this study, Google Forms was used to distribute the questionnaire, and the required response function was activated for each question to prevent missing values and ensure data completeness. Additionally, a data-checking approach was applied to assess the completeness of the questionnaire responses from the targeted respondents.

3.6.2 Data Editing

Habibzadeh (2017) emphasizes that this is a crucial step following the data collection process, as it involves reviewing the data to ensure consistency and accuracy. This process can be carried out after the pilot test. Through data

editing, researchers can facilitate a smoother data collection process and contribute to a more efficient editing phase later on (Habibzadeh, 2017).

3.6.3 Data Cleaning

As mentioned by Kantarci (2018), data cleaning is a process that requires the researchers to manually update, amend or remove data that are either duplicated, poorly formatted, poorly explained and inaccurate. This step is to ensure the accuracy and completeness of the overall data. This can minimize the negative effects that will occur during the data analysis process, which can also enhance the overall data quality.

3.7 Data Analysis

It is a process to discover information, interpret conclusions and relationships between the variables. The purpose is to extract important insights that can be useful in study research (Drury, 2024). In this questionnaire data, it goes through different analyses such as descriptive and reliability analyses. In this study, SmartPLS 4.0 will be utilized.

3.7.1 Descriptive Analysis

Saunders (2012) describes this as a form of data analysis primarily aimed at summarizing and describing data. It typically takes place at the initial stage of data analysis and plays a vital role in providing a clearer statistical approach to present the data for more effective evaluation (Aldrich, 2019). This analysis was employed to interpret patterns related to the respondents' demographic profiles.

3.7.2. Inferential Analysis

Andereck (2011) states that the main function is generating generalizations about a large population based on the data collected. This method often relies on random selection on individuals that are from the group of target population

to ensure representativeness. On the other hand, inferential analysis, when it is applied to sample data, can serve as a powerful tool to understand broader population trends (Delaney, 2011).

3.7.2.1 Structural Equation Modelling (SEM)

Structural Equation Modelling (SEM) is effective in analyzing relationships among multiple variables, especially complex theoretical relationships (Hair & Alamer, 2022). This approach normally uses when concepts or variables cannot be directly observed but can be measured through multiple indicators. SEM also accounts for measurement errors in observed variables, leading to a more precise assessment from the theoretical constructs that are being studied by the researchers (Hair et al., 2021).

3.7.2.2 Bootstrapping

Bootstrapping can be known as a resampling technique that is used for models and variables evaluation to achieve precision and consistency. Bootstrapping is used in this test and it includes path coefficients, regression coefficients, and confidence intervals. This technique allows researchers to assess the reliability of statistical estimates without relying on normality assumptions (Streukens et al., 2016).

3.7.3 Measurement Model Assessment

Measurement model can be known as a framework that shows all the relationships between independent and independent variables (Bhale, 2024). Indicators will be shown among the variables. It defines the relationship between latent constructs (unobservable variables) and the observed indicators (measurable items) by using data analysis techniques for statistical purposes.

3.7.3.1 Reliability Test

For assessing the internal consistency, Cronbach's alpha coefficient is recommended by (Pallant, 2013). The purpose of this test is to ensure the researchers are measuring what they are intended to measure.Hair et al. (2023) recommends that a reliable scale is having a Cronbach's alpha coefficient value of 0.7 until 0.9. A 0.7 value is a moderate association whereas 0.9 is an outstanding and excellent association.

3.7.3.2 Validity Test

According to Wainer & Braun (2013), the measurement item achieves an associated latent construct and a convergent validity when the significant t-value and p-value has a value of below 0.05 alpha level. The heterotrait-monotrait ratio of correlations (HTMT) is used in structural equation modeling (SEM) to evaluate discriminant validity; a value less than 0.90 indicates that discriminant validity between reflective constructs is established (Henseler et al., 2014). According to Fornell and Larcker (1981), convergent validity can only be established when the Average variation Extracted (AVE) is at least 0.5, meaning that the latent construct explains at least 50% of the variation in its indicators. The AVE, a widely used metric, evaluates the proportion of construct variance relative to measurement error (Santos & Cirillo, 2021).

3.7.4 Structural Model Assessment

The next stage in the PLS approach is to evaluate hypotheses using structural model which has multiple nodes and connecting links. The structural model uses route analysis to assess theoretical linkages, in line with Hoyle (2011) and Kline (2023).

3.7.4.1 VIF

Collinearity occurs when variables have a high correlation with one another (Wilcox, 2022). Regression analysis uses the Variance Inflation Factor (VIF) to measure multicollinearity. A VIF value of 5 to 0.25 is usually acceptable; if

not, multicollinearity may exist and items may be eliminated (CFI Team, 2022). According to Hair et al. (2022), it is typically better to have a VIF score less than 3. Furthermore, the path coefficients' importance will be evaluated and should ideally fall between +1 and -1, according to Hair et al. (2020). Stronger predictive capacity is shown by values around 1, whereas values closer to 0 imply less predictive power for the dependent constructs. Additionally, the structural model will be evaluated and hypotheses tested using a one-tailed test at the 5% significant level. Statistical significance is defined as having a t-statistic of ±1.96 and a p-value of 0.05 or below (Hair et al., 2022).

Chapter 4: DATA ANALYSIS

4.1 Descriptive Analysis

4.1.1 Respondent Demographic Profile

Table 4.1

Summarized of Respondents' Demographic Profile

Demographic Profile	Details	Frequency	Percentage (%)
Gender	Male	139	34.5
	Female	264	65.5
Age Group	Below 18 years old	4	1
	18 to 24 years old	308	76
	25 to 30 years old	55	13.6
	31 to 35 years old	12	3.0
	36 to 40 years old	5	1.2
	41 years old and above	19	4.7
Highest Education Attainment	Primary Level	1	0.2
	Secondary Level	48	11.9
	Pre-University/Diploma	44	10.9
	Bachelor's degree	304	75.4
	Master's Degree/PhD Degree	5	1.2
	STPM	1	0.2
Employment Status	Student	255	63.3
	Employed	101	25.1
	Self-Employed	21	5.2
	Part-Timer	14	3.5
	Unemployed	12	3.0
Monthly Household Income	B40 (RM5,250 and below)	272	67.5
	M40 (RM5,251 to RM11,819)	119	29.5
	T20 (RM11,820 and above)	12	3.0

Source: Developed for the research

4.1.1.1 Gender

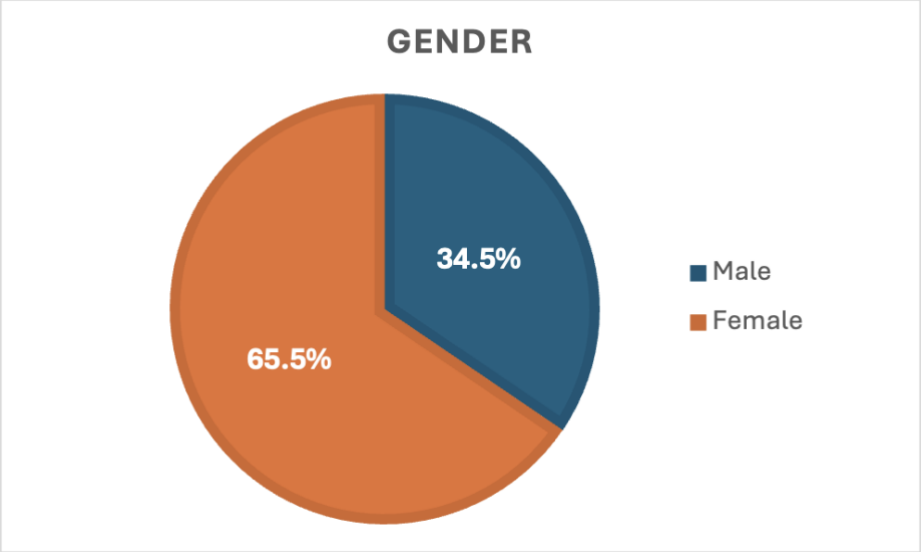

Figure 4.1. Gender of the respondents.

Source: Formulated for the research

Figure 4.1 shown that female respondents have the predominant position for the surveys which are 264 respondents (65.5%), while male only have 139 respondents (34.5%) out of 403 respondents.

4.1.1.2 Age Group

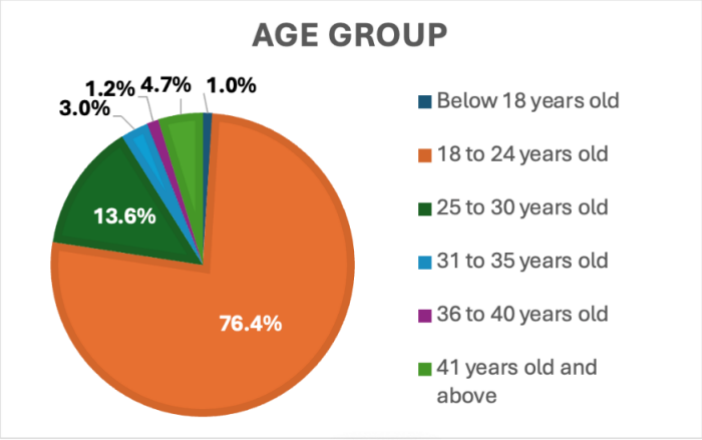

Figure 4.2. Age group of the respondents.

Source: Formulated for the research

According to figure 4.2, majority of the respondents for this survey is 18 to 24 years old, contributing for 308 respondents (76.4%). The second-largest group (13.6%) is the respondents from 25 to 30 years old. 41 years old and above contributed 4.7%, 31 to 35 years old composed 3%, and 1.2% from the 36 to 40 age group. The lowest age group for the survey is below 18 years old which only shows 1.0%.

4.1.1.3 Highest Education Qualifications

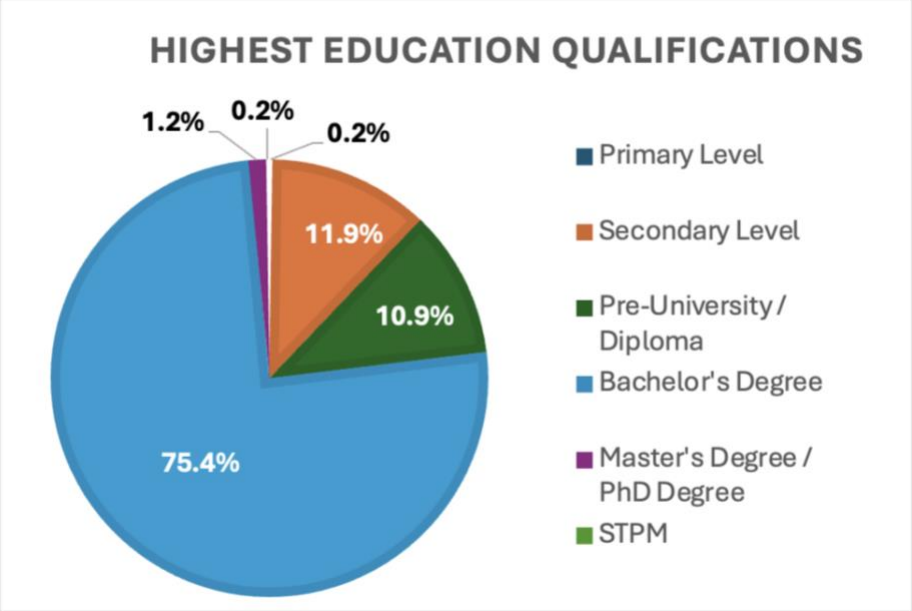

Figure 4.3. Highest Education Qualifications of respondents.

Source: Formulated for the research

As shown in Figure 4.3, the highest percentage of respondents of the survey are bachelor's degree holders, contributing to 75.4% respondents. The second-largest group (11.9%) is respondents who hold secondary level education. The Pre-University or Diploma holders constituted 10.9% of the total respondents, while master's degree or PhD Degree holder contributed 1.2%. 0.2% respondents were generated respectively by both primary level and STPM students.

4.1.1.4 Employment Status

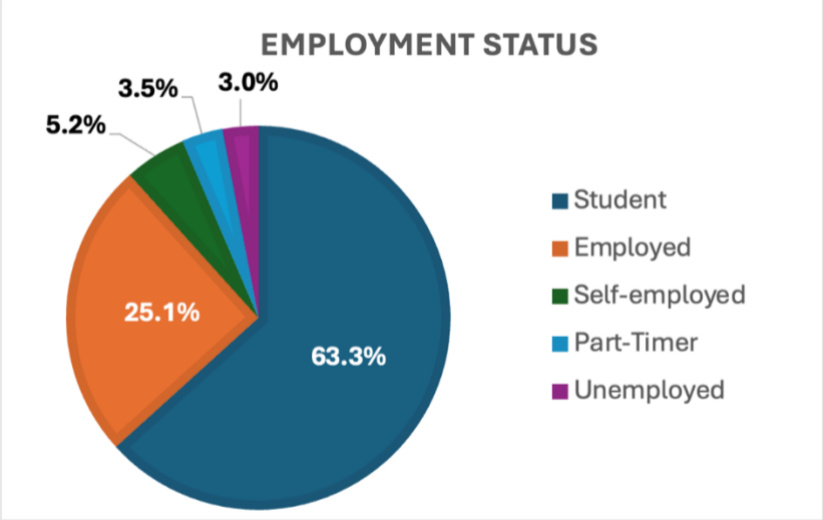

Figure 4.4. Employment Status of respondents.

Source: Formulated for the research

Based on Figure 4.4, Students contained largest group in this survey with a 63.3% of respondents, while 25.1% are the second-largest respondents which are employed respondents. Self-employed respondents are reported as 5.2%, and individuals who work part-time are at 3.5%. Those being unemployed are 3% of the total sample.

4.1.1.5 Monthly Household Income

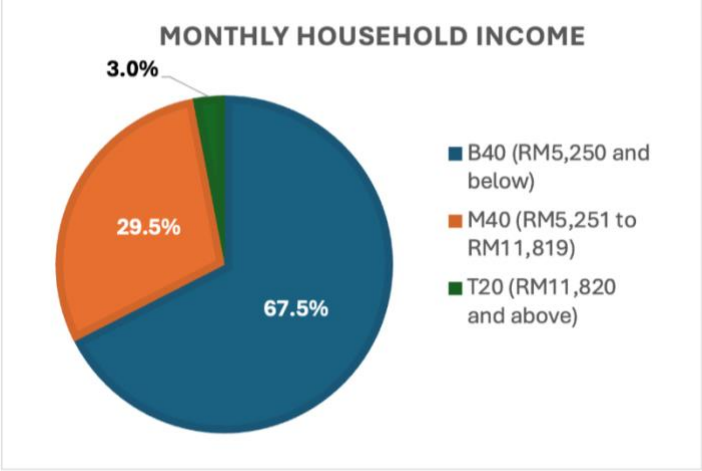

Figure 4.5. Monthly Household Income of respondents.

Source: Formulated for the research

In figure 4.5, most of the respondents (67.5%) are belonging to B40 (RM5,250 and below). The second-highest monthly household income is M40 respondents which show 29.5%. T20 have the lowest respondents, contributing 3% to the survey.

4.1.2 General Details

Table 4.2

Frequency of Using Green Cosmetics Products

General Information	Details	Frequency	Percentage (%)
Frequency of Using Green Cosmetic Products	Daily	73	18.1
	Several times a week	111	27.5
	Occasionally	95	23.6
	Rarely	106	26.3
	Never	18	4.5

Source: Developed for the research

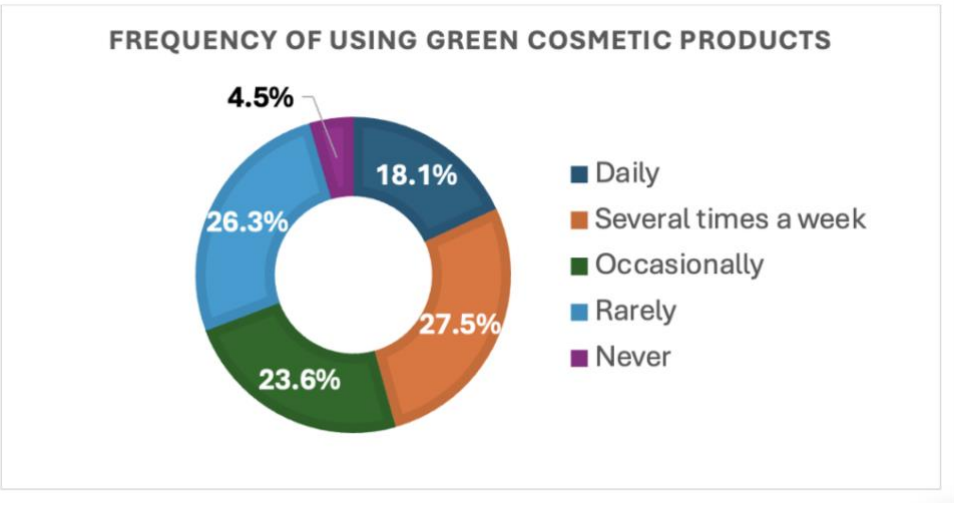

Figure 4.6. Frequency of Using Green Cosmetic Products

Source: Formulated for the research

According to Table 4.2 and Figure 4.6, (27.5%) which was the largest group, used green cosmetic products several times a week, while 26.3% respondents rarely used the green cosmetic products. 23.6% of respondents used the green cosmetic occasionally, while those who used them everyday represented 18.1%, and 4.5% respondents never used the green cosmetic products.

Table 4.3

Frequently Used Types of Green Cosmetics Products

General Information	Details	Frequency	Percentage (%)
Frequently Used Types of Green Cosmetic Products	Fragrances (e.g., Perfumes, Colognes)	73	18.1
	Haircare (e.g., Shampoo, Conditioner)	111	27.5
	Makeup (e.g., Foundation, Lipstick)	95	23.6
	Skincare (e.g., Moisturizers, cleansers)	106	26.3

Source: Developed for the research

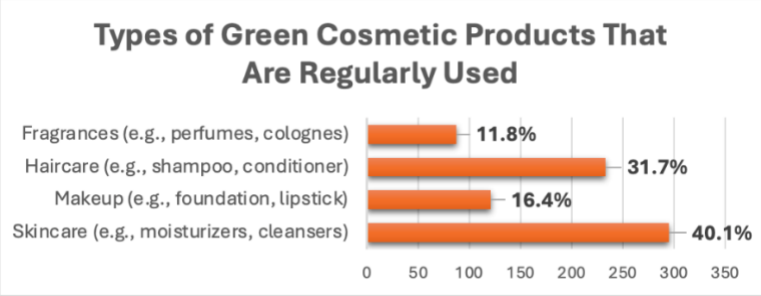

Figure 4.7. Types of Green Cosmetic Products That Are Regularly Used

Source: Formulated for the research

Table 4.3 and Figure 4.7 demonstrates 40.1% of respondents said they use skincare items more often than any other green cosmetic product.

Haircare products took the second position of frequently used green cosmetics by the respondents (31.7%), while 16.4% respondents frequently used on makeup product, and followed by fragrances at 11.8%.

Table 4.4

States

General Information	States	Frequency	Percentage (%)
States	Johor	50	12.4
	Kedah	16	4
	Kelantan	4	1
	Melaka	14	3.5
	Negeri Sembilan	6	1.5
	Pahang	31	7.7
	Penang	46	11.4
	Perak	143	35.5
	Perlis	1	0.2
	Selangor	40	9.9
	Terengganu	2	0.5
	Kuala Lumpur	32	7.9
	Putrajaya	1	0.2
	Labuan	1	0.2
	Sabah	5	1.2
	Sarawak	11	2.7

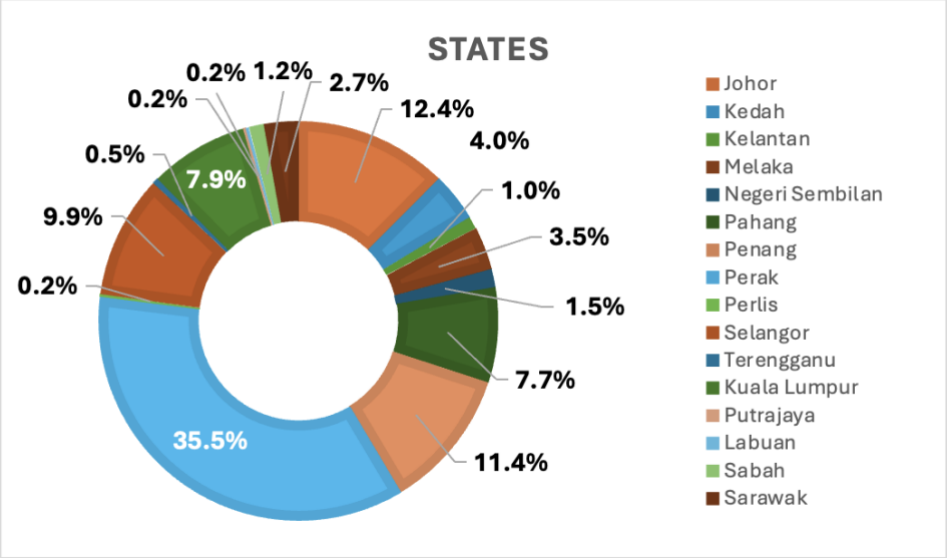

Figure 4.8. States

Source: Formulated for the research

As shown in Table 4.4 and Figure 4.8, the largest number of respondents come from Perak with a percentage of 35.5%. The subsequent states are Johor (12.4%), Penang (11.4%), Selangor (9.9%), Kuala Lumpur (7.9%), Pahang (7.7%), Kedah (4%), Melaka (3.5%), Sarawak (2.7%), Negeri Sembilan (1.5%), Sabah (1.2%), Kelantan (1%), and Terengganu (0.5%). The remaining respondents are from Putrajaya and Labuan, each contributing 0.25%.

4.1.3 Pre-screening Question

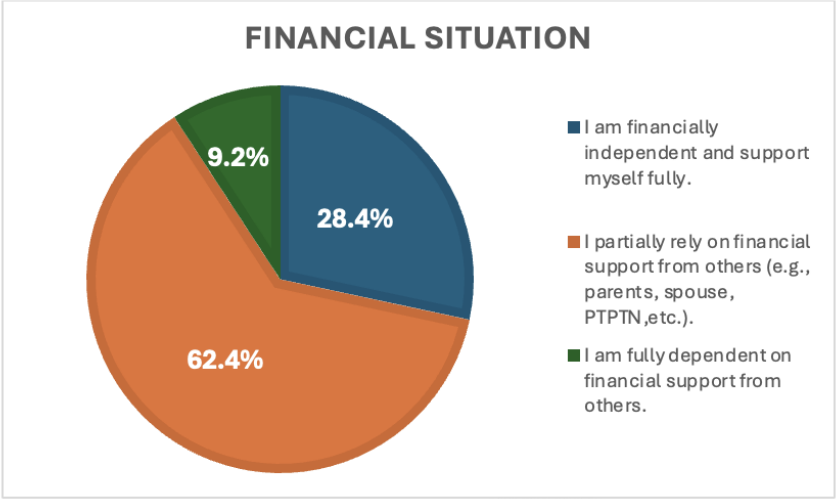

Figure 4.9. Financial Situation

Source: Formulated for the research

In Figure 4.9, 62.4% of the respondents are partially rely on financial support from others. There are 28.4% respondents are financially independent and support themselves fully, while 9.2% respondents are fully dependent on financial support from others.

4.2 Inferential Analysis

4.2.1 Measurement Model Analysis

This study uses Cronbach's Alpha, Composite Reliability (CR), and outer loadings that serve as indicators to assess the constructs' reliability. With the outer loadings of every item over the threshold value (0.706 being the lowest), Table 4.5's results demonstrate that all of the values are trustworthy, and that the indication reliability was successfully attained. Additionally, the Composite dependability (CR) and Cronbach's Alpha are both above the 0.70 threshold,

implying all variables achieve acceptable internal consistency dependability level (Hair et al., 2023).

Additionally, the construct's validity was evaluated to determine its discriminant and convergent validity. Additionally, the AVE is used to quantify the convergent validity value. All of the constructions' AVE values are above the necessary minimum threshold of 0.5, as shown in Table 4.5 (Fornell, 1981).

Table 4.5

Outer Loadings, Reliability, Validity

Items	Outer Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
ATT1 <- ATT	0.849	0.821	0.824	0.651
ATT2 <- ATT	0.813			
ATT3 <- ATT	0.787			
ATT4 <- ATT	0.777			
EC1 <- EC	0.814	0.810	0.812	0.637
EC2 <- EC	0.782			
EC3 <- EC	0.806			
EC4 <- EC	0.790			
HC1 <- HC	0.886	0.851	0.859	0.770
HC2 <- HC	0.867			
HC3 <- HC	0.880			
PBC1 <- PBC	0.808	0.785	0.787	0.698
PBC2 <- PBC	0.874			
PBC3 <- PBC	0.823			
PI1 <- PI	0.846	0.806	0.811	0.633
PI2 <- PI	0.803			
PI3 <- PI	0.729			
PI4 <- PI	0.801			
SN1 <- SN	0.706	0.740	0.745	0.562
SN2 <- SN	0.74			
SN3 <- SN	0.761			
SN4 <- SN	0.789			

Source: Results from Smart PLS software.

Discriminant validity is proven. This study uses the Heterotrait-Monotrait (HTMT) ratio and the Fornell-Larker criteria to quantify discriminant validity. Consequently, Table 4.6 demonstrates that the association with all other constructs is smaller than the square-root of AVE for each construct.

Table 4.6

Fornell-Larcker criterion

	ATT	EC	HC	PBC	PI	SN
ATT	**0.807**					
EC	0.586	**0.798**				
HC	0.566	0.542	**0.877**			
PBC	0.399	0.471	0.444	**0.835**		
PI	0.668	0.673	0.567	0.529	**0.796**	
SN	0.538	0.531	0.347	0.375	0.592	**0.750**
Note: The diagonal values (bolded) represent the square-root of AVE value.						

Source: Results from Smart PLS software.

Additionally, all of the constructs in Table 4.7 had HTMT ratios below the 0.90 threshold, indicating that discriminant validity amongst reflective thoughts is established (Henseler et al., 2014). As a consequence, the outcome demonstrates that all constructs have validated convergent and discriminant validity.

Table 4.7

Heterotrait-monotrait (HTMT) ratio

	ATT	EC	HC	PBC	PI	SN
ATT						
EC	0.720					
HC	0.673	0.650				
PBC	0.491	0.587	0.540			
PI	0.813	0.830	0.672	0.656		
SN	0.693	0.683	0.435	0.495	0.769	
Note: All values are below the threshold value of 0.90.						

Source: Results from Smart PLS software.

4.2.2 Structural Model Assessment

Multicollinearity between the constructs is found using the VIF, sometimes referred to as the collinearity test. The structures' (ATT, EC, HC, PBC, and SN) VIF inner values range from 1.724, which is the lowest, to 2.090, which is the greatest. Hair et al. (2022) implied if VIF < 3, indicates no problems with collinearity. All of the values are below 5. As a result, it is not a problem for this investigation.

The values of path coefficients (β) are displayed in Table 4.2.4, and the outcomes fall between +1 and -1. In light of this, the study's findings indicate that there are strong correlations between ATT and PI, EC and PI, HC and PI, PBC and SN, and that all of the variables' overall path coefficient values are higher than 0.1 (Hair et al., 2022).

In Table 4.8, it shows that the T-values of all constructs are higher than 1.96, ranging from 2.832 to 5.553 and P-values of all constructs are lower than 0.05. Therefore, this study confirmed there's a significant relationship between ATT (β=0.265, *p*=0.000), EC (β=0.261, *p*=0.000), HC (β=0.131, *p*=0.002), PBC (β=0.166, *p*=0.000), and SN (β=0.204, *p*=0.000) with PI. To sum it up, hypothesis 1 to 5 were all supported.

Table 4.8

Hypothesis Testing

	Hypothesis	VIF	Path Coefficients (β)	T statistics	P values	Evaluation
H1	ATT -> PI	1.749	0.265	5.553	0	Supported
H2	EC -> PI	1.724	0.261	5.043	0	Supported
H3	HC -> PI	2.090	0.131	2.832	0.002	Supported
H4	PBC -> PI	1.850	0.166	4.146	0	Supported
H5	SN -> PI	2.087	0.204	4.619	0	Supported

Source: Results from Smart PLS software.

CHAPTER 5: DISCUSSION, CONCLUSIONS AND IMPLICATIONS

5.1 Introduction

Table 5.1

Result of Hypothesis Test

Hypothesis		Result
H1	There is a positive relationship between SN and PI towards green cosmetics in Malaysia.	Supported
H2	There is a positive relationship between PBC and PI towards green cosmetics in Malaysia.	Supported
H3	There is a positive relationship between ATT and PI towards green cosmetics in Malaysia.	Supported
H4	There is a positive relationship between EC and PI towards green cosmetics in Malaysia.	Supported
H5	There is a positive relationship between HC and PI towards green cosmetics in Malaysia.	Supported

5.2 Discussion of Major Findings

H1: There is a positive relationship between SN and PI towards green cosmetics in Malaysia.

H1 proves a positive relationship between SN and PI towards green cosmetics in Malaysia. This suggests that Malaysian consumers have higher tendency to purchase

green cosmetics when there are family members, peers or friends promote and support green cosmetic products. In addition, a consumers will be influenced towards the purchase of green cosmetic products when he or she see someone they believe purchase or use the products, for they may perceive this as correct or expected behaviour by the society. Moreover, advertising, celebrity endorsement, key opinion leader, and social media activities that support and promote green cosmetic products will also strongly motivate the Malaysian consumers to make green cosmetic purchase decisions. This supports (Kumar & Pandey; Widiantari, & Rachmawati, 2023) result that subjective norm positively influences buyers' intentions to buy environmentally friendly products. Therefore, H1 is accepted. As expected, this result is aligned with previous studies by Sapri, Ghani, Yusuf (2023), Widiantari and Rachmawati (2023).

H2: There is a positive relationship between PBC and PI towards green cosmetics in Malaysia.

H2 demonstrates a positive relationship between PBC and PI towards green cosmetics among Malaysian consumers. This implies that Malaysian consumers have a higher tendency to buy green cosmetics if they possess sufficient resources such as funds, knowledge, and channels. Next, high accessibility of green cosmetic products which are available in physical stores and online stores will also increase their willingness to purchase such products. In addition, the purchase intention of consumers will increase when there are less or no obstacles from getting such products. The obstacles may be high price, limited demand, or lack of product information. As expected, this result is aligned with previous studies by Limbu, Ahamed (2023), Almqvist and Larsson (2023).

H3: There is a positive relationship between ATT and PI towards green cosmetics in Malaysia.

A positive relationship between AT and PI towards green cosmetics in Malaysia is proven by H3. This indicates that Malaysian consumers are more prone to acquire green

cosmetics when they possess a positive attitude about the green cosmetic products and believe that green cosmetic products are beneficial to them. This may include high quality, safety and environmentally friendly. Furthermore, the purchase intention of Malaysian consumers will also increase when the outcomes of green cosmetic products are aligning with their personal value, including social responsibility, cultural identity and so on. In addition, past experiences are also a factor in determining the green cosmetic purchase intention. If a customers develop a positive attitude while using the green cosmetics, he or she may develop a repurchase intention. As expected, this result is aligned with previous studies by Hoo (2024), Alzubaidi, Slade and Dwivedi (2021).

H4: There is a positive relationship between EC and PI towards green cosmetics in Malaysia.

H4 proves the relationship between EC and PI towards green cosmetics in Malaysia is significantly positive. This implies that Malaysian consumers who are always pay high attention towards the environmental issues such as pollution and climate change are more likely to purchase green cosmetics products. In addition to it, consumers who are hoping to reduce the effect towards the environment will support and purchase green cosmetic products. Moreover, customers will purchase the cosmetic products with biodegradable packaging and natural ingredients that bring least negative effect towards environment. This outcome is aligned with earlier research by Andika et al., 2023) and Lius and Salim (2024).

H5: There is a positive relationship between HC and PI towards green cosmetics in Malaysia.

H5 proves a positive relationship between HC and PI towards green cosmetics among Malaysian. This suggests that Malaysian consumers who prefer natural and organic ingredients are more likely to purchase and use green cosmetic products. In addition, consumers who understand that traditional cosmetics contain harmful chemical

ingredients such as sulfates and parabens, are more likely to switch to healthier, and organic substitute product like green cosmetics. On top of that, consumers with health consciousness will use green cosmetic products instead of traditional cosmetics, for they understand the traditional cosmetics will harm their health such as skin irritation, allergies and cancer. As expected, this result is aligned with previous studies by Lius, Salim (2024), Chi et al (2020), and Xu, et al (2020).

5.3 Research Implications

5.3.1 Theoretical Implication

By expanding the TPB, the study's findings strengthen the theoretical implications of green cosmetics on purchasing intention in Malaysia. This study extends TPB by integrating two additional variables: EC and HC in predicting the PI towards green cosmetics in Malaysia. The findings recognize that all the variables: ATT, SN, PBC, EC and HC have positive relationship in shaping consumers green cosmetic purchase intention. This extension of TPB has enhance the applicability in green cosmetic purchasing intention by providing a more comprehensive TPB model to understand the consumer behaviour. Furthermore, this research adds to the knowledge of how cultural factors shape consumer behavior, particularly in Malaysia context, as Malaysia has diverse races, religions and cultures. Through this research, it provides a more comprehensive understanding of consumer purchase intention in markets with various cultural context such as Malaysia.

5.3.2 Managerial Implication

This research gives a valuable insight into the managerial implications of green cosmetic brands in Malaysia. Based on research, ATT has the strongest impact on the PI of green cosmetics which shows a T value of 5.829. In other words, a customers positive or negative perspective towards a product or brand will directly reflect on their purchase decision. The marketers of green cosmetic

brands are needed to focus on strong branding and product positioning to crave an active and positive perspective in their mind. They can emphasis on the benefits of green cosmetics such as like high quality, safety and environmentally friendly which are agreeing and aligning with their personal value and belief.

Next, based on research, environmental concern has a strong impact on PI of green cosmetics in Malaysia (T value = 5.43). In other words, customers who are always paying high attention in environmental issues are more likely to attract by green cosmetics. The product development manager can emphasis their commitment of sustainability through their products. The product development teams can utilize, design, and producing green cosmetics with recyclable packaging, natural and organic ingredients and less or no pollution creation by following the standards of ISO14001.

Moreover, subjective norms gets an impact of moderate towards PI of green cosmetics in Malaysia (T value = 4.027). In other words, peers, family and friends are one of the main factors in influencing the Malaysian consumers purchase intention towards green cosmetics. Marketers can collaborate with Key Opinion Leaders (KOLs), Celebrities, and influencers in creating contents such as product reviews and demonstrations, unboxing videos, behind-the scenes and giveaways. Through this effort, it will not only to bring positive influences on the purchase intention of consumers but also build up a community where the users and potential customers can interact with each other by sharing their thoughts, feelings and experiences.

On top of that, perceived behavioural control get a results of low impact towards PI of green cosmetics in Malaysia (T value = 3.994). In other words, the customers' purchase intention will be positively influenced if the brands increase their accessibility and set affordable prices. The managers should minimize the obstacles of customers from getting the green cosmetics. The managers can integrate both online and offline stores to enhance product

availability, offer sample and provide clear usage instructions to provide an immersive shopping experience to the customers. In addition, managers can minimize the barriers of pricing factors by offering discounts and installment plans to encourage the purchase of green cosmetics.

Apart from that, health consciousness get a lowest impacts towards PI of green cosmetics in Malaysia (T value = 2.435). Health consciousness is still playing a significant role in shaping purchasing intention towards green cosmetics, even; it has least impact on it. In other words, customers who like natural and organic ingredients are more likely to purchase green cosmetics. Marketers can position their brand as a healthier alternative by emphasizing on chemical-free, medical certification, and hypoallergenic. This approach will effectively increase the credibility of the brand and bring confidence to customers to make purchase decisions.

5.4 Study Limitation

5.4.1 Limited Target Respondents

Green cosmetics products can actually be used by everyone regardless of their employment status. In this study, 403 respondents that were collected in this study were mainly students. There's a lack of respondents who are with other employment status. Students might not only represent the whole group of Malaysian, but other employment status will also represent a sign of lifestyle which will eventually affect their purchasing decision and behavior (Solomon, 2012). This limited demographic scope may bring some limitations in this study as it is always better to reach a broader respondent as a whole.

5.4.2 Study Design Limitation

Furthermore, this study is using a cross-sectional study approach to examine the factors that impact PI towards green cosmetics. For cross-sectional study, it is only able to capture the data at a single point of time, so it is difficult to determine the direct causality of purchase intention on green cosmetics products. For example, cultural influences, economic conditions, or their individual psychological traits are also actually playing an important role in shaping their consumer behavior which are not included in present study. As a result, there may be a gap in the decision-making process and an inability to effectively reflect on the intricacy.

5.5 Future Study Recommendation

5.5.1 Expanding Target Population

To reflect the purchase intention on green cosmetics among Malaysians, it is advisable to reach for different employment statuses in Malaysia to achieve a better understanding on the factors on purchase intention of the population that the study is targeting at. By doing this, it could have a clearer identification on the respondents' behavior and preferences, which would be useful to transfer this study to a global context (Groves, 2012). Moreover, including a more diverse sample would provide deeper insights on green cosmetics consumption and help overcome the shortcoming of the present narrow demographic focus.

5.5.2 Utilizing Longitudinal Study Approach

When the study is found out to have some hidden and unexpected reason that might affect the factors on the purchase intention on green cosmetics. It is suggested to use a longitudinal study approach instead of a cross-sectional study approach. Longitudinal study approach can analyze any factors that might change from time to time, might be due to market trends, promotions, or

awareness campaigns that would directly affect the purchase intention on green cosmetics. It can have a stronger causal insight which would be more appropriate and clearer to other researchers.

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