



# **Green Wave: Navigating the future of Consumers Picks Multigroup Analysis**

*By*

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## **Green Wave: Navigating the future of Consumers Picks Multigroup Analysis**

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### **Abstract**

This study analytically examines the factors that affect the green consumption goals of consumers. Based on the literature review, the impacting factors for the green purchase intention of users were hypothesized under three classifications, namely: cognitive factors, user characteristics, and societal factors. Literature and hypothesis results put forth the fact that climate change comprehension, green perceived value, marketing attitude, and green trust are significantly positively related to green purchase intention. The perceived market activities control the observed consumer efficacy, and the subjective norms also have a positive impact on green purchase intention. The collective trends show a higher positive impact on green purchase intention. This research study also provides evidence of the enterprises engaged in the diffusion of green products for the protection of the environment.

**Keywords:** Green product, Purchase intention, Marketing attitude, Collective trends

### **1. Introduction**

Globally, increasing commercial activity and outputs are polluting the natural environment, affecting humans and animals as well as crops. Human wants are infinite, but the resources on this planet are limited. So, marketers have to operate with their limited resources efficiently and effectively to achieve personal as well as organizational goals without losing too many resources. Green marketing advocates for the use of eco-friendly products, which constitute re-usable, phosphate-free, wholesome, ozone-friendly, and products that are recyclable. Apart from protecting society and the environment, green marketing also satisfies the wants, needs, and reequipping of the customers; hence, it can be used enormously in several eco-friendly ways (Alrawadet al., 2023).

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These issues are the direct effects on the manufacturing and agricultural sectors, relating to the environment of the twenty-first century. These new problems can be resolved and the adverse impact on the environment can be reduced by employing green products by the customers. So, to fulfill the consumer's demands and obtain long-term business profits, many businesses have started to practice green production marketing techniques. Green marketing is one of the prime trends of modern business practices and is more common in developed countries compared to developing and low- and middle-income countries (Widyastuti et al., 2019). Green marketing is gaining increasing popularity because of concerns regarding environmental conservation. The United Nations implicates numerous sustainable development goals including climate change, hunger, health, education, poverty, social justice, education, and gender equality, among many others (Sari et al., 2023).

Some of the highly supported SDG by green marketing include improving nutrition, achieving food security, as well as promoting sustainable agriculture. Several political considerations delayed Canada from adopting a case of the Green Revolution. The Canadian Government will be striving to ensure that, by the year 2028, it has been in a position to achieve the SDGs. Hence, in order to cover the SDGs of ensuring food safety, nutrition enhancement, and provision of sustainable food, it includes environmental marketing as one of the factors. However, in developed countries like Canada, green assessment is a rising concern as it ensures the improvement in the quality of food or goods and lends a hand in providing a healthy environment (Islam & Zabin, 2013).

However, the annual percentage growth rate of GDP at market prices based on constant local currency is Canada's GDP. It is calculated by making no deductions for depreciation of fabricated assets or for the depletion and degradation of natural resources. Canada's GDP growth rate in 2022 is 3.40%, that is down 1.62% from 2021. Therefore, the standard of living is increasing, income and spending are increasing, and every day the lifestyle is changing. People are becoming interested in buying green or ecologically friendly products with a rise in interest towards sustainable development, environmental awareness, and resource farming (World bank,2022).

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Canada, overall, is trying to adopt a culture of organic food production and green manufacture while focusing on niche market segments rather than mass markets. Endowed with conducive agricultural climatic regions, it has immense possibilities in terms of the potential production of all kinds of organic foods (Almaiah et al., 2022).

Although there are few manufacturers for green products available in Canada, the trend is increasing in both the sectors. Canada Organic Trade Association is playing a very strong and important role in encouraging the growth of organic commerce at the national as well as at the international level. Some of the products grown by Canadian organic farmers include dairy products, dried vegetables, fruit juices, seafood, and vegetables and fruits. Various Canadian firms in the textile, leather, agricultural, food manufacturing, plastic, and cosmetics industries are also producing green products to meet the demands of certain niche markets (Brauw, 2020).

Green goods are slowly being integrated into firms' product lines. Customers today are already seeking ostensibly "green" or "environmentally friendly" products and services as environmental consciousness has developed over the last few decades. Although the bulk of purchasers are older consumers, young customers are more inclined to buy green products. Owing to the fact that young parents and new parents are more concerned about purchasing organic products and food for their children, the ways of family eating are changing drastically. High-class educated population often consumes organic food and supports environment-friendly consumerism in Canada. In fact, because of this reason, especially within urban areas, the manufacturing of green products and the consumption practices of green products are increasing day by day. It helps in forming the appropriate strategies that are appropriate with green products, but it becomes relatively a bit difficult for the authors, academicians, and marketers in designing the knowledge structure related to antecedents concerned with green purchase intention, which is resultant among the consumer.

Indeed, many marketing academics have written about consumer purchase intentions for green products in developed nations like Europe, the United States, and Australia. On the other hand, empirical research conducted in developing nations with fast economic growth, like Canada, is vitally scanty. There are still

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inadequate phases of study on environmental problems, green goods, and green purchasing choices as compared to other developing nations (Jafarzadeh & Shuquan, 2019). There are limited studies that explore the marketing mix in rising Canada and customer perceptions regarding green marketing. No work has been done to research ethical buying practices within Canada using the Theory of Planned Behavior (TPB) (Tarabieh, 2021).

Since the emergence of the environmental movement on top of the debates and movements related to the environment, there have always been ignored views and attitudes of young people. Therefore, this study shall therefore focus on the education of young people in Canada. According to UNFPA, the youth population, aged between 10 to 24 years, forms around 30% of the total population of Canada, or 47.6 million out of a total population, as cited by Faisal-E-Alam in 2020. Additionally, according to the World Bank collection of development indicators, graduates constitute about 1.2167% of Canada's population. They are the next set of people who will be consumers and the face of society and have a better sense of urgency regarding the social and environmental issues, so it becomes very critical to know how the youth feel about environmental behavior and green purchasing choices (Alvarez-Risco et al., 2021).

Therefore, the current research attempts to comprehend how young, educated consumers of Canada in a newly developing nation reach a decision to purchase green products and the way the proposed variables compare with the emerging factors that make the people be willing to buy green. The major and primary contribution of the current research study goes in fulfilling the research gap present due to green purchase decisions taken up by Ajzen (2011) in the form of proposed model using TPB as the theoretical framework. It also helps in adding more constructs including green perceived quality, environmental concerns, and future green estimates. The current study is the first empirical investigation that provides a rationale for the consumers, more precisely the young and educated generation in Canada, about their green purchasing decisions for green items.

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In such a way, this group of people will develop a strategy for the country and business of tomorrow; hence awareness towards green products and attitudes, beliefs, and purchasing patterns, would be a must for this set of people for sustainable growth as well. The empirical research began trying to study what variables have affected consumer behaviours towards green production and consumption and, using the Likert scale, estimated their relative importance. Our study fills this information vacuum by constructing a model that integrates some of the elements investigated as influencing adolescent consumer behavior and evaluating the importance of that model using partial least square-based SEM.

This research answers the following question, hence, raised: What are the most important green marketing elements which affect young consumers' decisions to purchase green products in a fast-developing economy? What is the current market situation of green goods in Canada? What are the relationships between the variables of the proposed model of green purchasing decision? While offering a better, safer and healthier product, marketers and manufacturers should give more attention to the wants and desires of consumers by understanding the attitude and behavior intentions of youngsters while making the green purchase. However, better understanding the influences on the sensibility and behavior of the young generation by the policymakers and business leaders is necessary.

One major practical implication of this research study is the implantation of a marketing mix, environmental marketing strategy, and marketing tools on the young consumers of green purchase decisions. The knowledge that this research and knowledge consumers have helped to gain empowered marketers, policy makers, and companies in the redesign of green advertising, eco-labels, and green branding. Similarly, the findings from this study, as discussed in this paper, will provide new insights for strategy and marketing managers to develop innovative marketing strategies and tools in order to leverage and increase profitability in the green market. Young and educated customers can serve as ambassadors or influencers of new green products by developing strategies to increase maximizing sustainable value generated and increase the number of young environmentally sensitive consumers (Nekmahmud & Farkas, 2020). The research findings should hopefully be useful to policymakers in devising better regulatory regimes to provide an added stimulus to green technology initiatives and to educational programs aimed at changing the attitudes and behaviors of coming generations of consumers and business leaders towards environmental protection.

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This paper sought to give this study an edge over previous research studies, and for purposes of differentiation, this study centers on the literature review first. The methodology and data analysis methodologies form a descriptive study of green marketing, and hypothesis testing with a model fit. Then there is a summary of the findings, a conclusion, the suggested further study in environmental marketing, and discussion of green products.

## **2. Review of Literature**

### ***2.1 Green Marketing***

Green marketing is the combined form of environmental marketing and ecological marketing. It began in the late 1980s and the beginning of the 1990s, as described by Naidoo & Verma in 2019. According to the American Marketing Association in 1975, green marketing is defined as marketing that is environmentally friendly and safe. Other terms for green marketing include social marketing, organic marketing, environmental marketing, eco-marketing, and sustainability marketing, as described by Bojanowska & Kulisz in 2020. Although none of the above terms has one single meaning, definitions which include that business organizations be dedicated to marketing, manufacturing, distributing and pricing products that have little negative impact on the environment often use ecological awareness. Definitions of green marketing have latterly been presented by several authors. Industrial ecology and environmental sustainability, therefore, bring green marketing on board in issues on extended producer liability, life cycle analysis, on material consumption and resource flows, as well as on eco-efficiency. According to Zaremohzzabieh et al. 2021, the main aim of green marketing is to sensitize consumers on the importance of protecting the surrounding environment through product usages and that **green** marketing allows the customer to understand the green environment (Yaqoob et al., 2022).

To ascertain the delivered benefits of green marketing, pre-research already done by the renowned authors of marketing was carried out. The benefits of green marketing included boosting social issues on environment awareness, competitive benefit regarding positive environment appeal, efficiency, communication of CSR and recyclability, eco merits, long-term profitable growth and assurance of the use of energy (Nguyen et al., 2019).

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### ***2.2 Green Consumer***

The driving force behind green marketing and strategy is a green customer, often regarded as a new potent force. Green customers are those who search for or buy goods that are both good for the environment and that they have requirements to use. A green customer constantly avoids items that may hurt living things, participates in unethical tests on animals or people, and uses a lot of renewable energy (Xu, Chen, & Hua,; 2020). Similarly, green consumerism and green consumption, or sustainable and ecologically responsible consumption, are related concepts. Consumers in industrialized nations start changing their behavior and beginning to practice green consumerism, which has been prompted by the desire to reduce the destructive effects of consuming habits on the environment. Green consumerism may thus increase environmental sustainability.

### ***2.3 Green Food and Products***

They have been defined by a plethora of scholars of marketing that green products are those products that do not have any side effects on nature. Some call them naturally used products, while others label them as environmental products. Green products are made of recyclable materials; products that are nontoxic and eco-packaging. Additionally, any product that is labeled green when its use, social and environmental performance, production, and disposal are advantageous relative to competitive or conventional product offerings (Wang et al., 2021). As compared to the normal products, green products are considered to be healthier and safer, it also reduces natural asset use and the adverse effects of the product life cycle. This encompasses re-manufacturing, reducing, repairing, recycling, reconditioning, and reusing in the green products development process.

Green foods fall into two categories, including the use of a certain spectrum of chemicals and organic foods. However, many green foods are not organic. Therefore, the first category gives a strong base toward creating the second. "Green food" pertains to naturally endowed food products that are free from artificial chemicals such as pesticides, herbicides, fertilizers, and antibiotics. Green food is considered to be superior to other food products and healthier for the environment and human health than other goods (Popovic, 2019).



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#### ***2.4 Green Purchase Decision***

The buyers' consumption of green foods and its perceived opinions has also previously been connected to an energy awareness level, the beliefs in the demand for healthy food products and the asking for healthy foods. The Theory of Planned Behaviour (TPB) was developed by Ajzen (2011), who proposed: "the individual who holds a favorable attitude toward the behavior in question has a stronger intention to perform this behavior." The green products' purchasing decision is defined in terms of purchasing green goods, recommending green organizations, allowing sustainable consuming behavior, and paying more for green goods (Ajzen, 2011). There are two dimensions that influence green consumers' purchasing decisions. One is core to the services, for instance, comparative faults, selfishness, winning statistics and pleasure to ability maintenance and menacing accidental power. Another foreign determinant has a link with each valid similarity buyers and product attributes such as, product's harm, character act, independence, and advertisement). Previous researchers examined a number of determinants of green purchase intentions in a manner attitude, purchase intention, question, blame, human-familiarize, intimate, intelligent responses and liberal management which are emphasized on increasing green purchasing behavior. In developing countries, perceived decay is a reliable predictor for facilitating green purchase decisions (Ajzen, 2011).

Based on this, the notion of consuming values-laden green products with a public value to attain the consciousness of purchasing green products, spending more money to buy green products right away adversely influences the intention of green consumers; moreover, past male research found value-based food as fresh, nutritious, convenient suitability, and physical. The positive attitude on the responsibilities to athletic food is an added surface to demonstrate favorable purchase intentions and attitude.

Previously, green purchase intentions, green harvest, healthy snacks, and green purchase behavior in past studies have been deliberately in the place of Canada. The attitudes of Canadian consumers were quite positive regarding green purchasing. Young educated consumers mainly prefer to purchase green products in developing countries. The amount of purchase and the fresh air are successfully protected by the temperature change mostly depending on the green

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product purchases of the young people of Canada (Anderson et al., 2008). Normally, the people of Canada are aware of the purchase amount, exemplification, customers' stability about the green profit, the bad condition of the crop, real freedom and so forth including fitting, alarm of indulgence about extreme price, material information (Amoako et al., 2020).

### ***2.5 Environmental Concerns***

Consumer concerns related to how important the environment is for the state's welfare are reflected in consumer concern pertaining to the environment. Environmentally concerned consumers positively identify with eco-products and are highly motivated by purchasing the products to live healthily (Sanchez-Sabate & Sabaté, 2019). In their study, previous scholars identified that consumer attitude regarding the environment influences their green purchase behavior decisively. Customers today, being young and educated, are really sensitive and concerned about the environment (Heo & Muralidharan, 2019). They have a great love for their country, and they are very emotional or sensitive toward the amount of their investment which will, in turn, safeguard the situation (Sanchez-Sabate & Sabaté, 2019).

Environmental awareness, however, may not directly apply to buying intention. However, indirectly, it may have an effect on the reason for the purchase because of perceived behavioral control (Verma et al., 2019). Like how people's perception of buying green items influences their green investment. Other studies found that people's attitudes toward the environment were positively correlated with their green shopping behavior and that their attitudes were positively correlated with those attitudes. Hence, we assume the following hypothesis:

**H1: Environmental concern has a positively significant effect on the green purchase decision.**

### ***2.6 Green Perceived Benefits***

The six attributes of perceived benefits are financial, value, entertainment, economy, quality, convenience, and expressiveness. Perceived benefits are perceptions about the favorable outcomes associated with behaviors in response to perceived risk. In past studies, perceived advantage has been proved to be

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positively and significantly associated with environmentally friendly building practices. The ones of economic and environmental factors of advantages are those with the greatest effect. Perceptions of the benefits of green products will influence consumers' intention to buy and satisfaction while excluding the benefits will harm green washing. The customer desires to receive accurate and meaningful products through the elimination of uncertainty which is known as perceived benefits. Consumers always believe that once they see a few good points of a green product, then they will be sold. The benefits claimed to come with green foods include health improvement, environmental protection, good taste, and other forms of benefits that include avoiding sickness. So, setting the hypothesis as in the case below:

**H2: Green perceived benefit significantly positively affects purchase decisions.**

### ***2.7 Green Perceived Quality***

Perceived quality is the consumers' evaluation regarding the product quality and its quality superiority over the competitors' products. This process plays a very important role in measuring customer satisfaction and affecting the decision of customers. Furthermore, green perceived quality occurs from the customer's decision regarding the brand's excellence in the environment. Most customers have an opinion that green products are very high in value for money, ordinary quality, and have dependable quality. The perceived quality is positively determinant of the behavioral intention of the customer. Customer green perceived quality (GPQ) as a positive significant impact on the customer green purchase decision will be supported using the following hypothesis:

H3: Green perceived quality has a significantly positive impact on the green purchase decision.

### ***2.8 Green Awareness of Price***

The product or service's price is the critical factor that influences the customers' purchase decision during the purchase of any service or product; in fact, it is considered the most crucial problem for the consumer (Heydari et al., 2021). This problem for the consumer is solved by the best possible argument in the selection by personnel management of businesses in the areas of procurement and

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marketing. The major competition between non-green producers and green producers involves carbon emissions, selling price, and corporate social responsibility (CSR) (Lavuri, 2022).

The negative correlation existed between attitude and price awareness towards green foods or product purchasing because the conscious consumers regarding price of the product did not imply preferences to pay a higher price regarding green products (Lavuri, 2022). However, the conclusion of another research study is that willingness to pay more prices for green products exists among buyers. The types of offered products and a combination of perceived benefits affect the interest of consumers to pay more and extra money (Stampa et al., 2020). Additionally, the cost of organic food is 16 to 50% more as compared to conventional food. The optimistic attitude towards organic food is increasing in developing countries. Along with it, high prices and lack of any proper guidelines and also the regulations for its further pursuit have the lead role in this way also (Nekmahmud & Fekete-Farkas, 2020). Therefore, based on the literature review, the following hypotheses are originated:

**H4: Green awareness of the price has a significantly positive influence on the green purchase decision.**

### ***2.9 Green Willingness to Purchase***

Green purchase intention of the consumer is highly dependent on the negative or positive perceived value. Organic products are less appealing to consumers than natural products that have highly perceived value (Wijekoon & Sabri, 2021). In addition, the negative perceived value consumers respond to less interest in purchasing natural products. The green products are more expensive than those products of the conventional version. Studies have proven that consumers are willing and prepared to purchase the products based on the judgment variety criteria which the food quality, eco-friendliness, health and safety. Consumers' green positive attitude concerns green products that are aimed at inspiring consumers to be willing to pay any extra price for the service or product being greener. According to Wijekoon and Sabri, 2021, green willingness to purchase is also a rather critical variable in measuring the consumer's present and future decisions of purchasing ecology-friendly or simply green products. It further helps to estimate demand. The following hypothesis is formulated:

**H5: Green willingness to purchase has a significantly positive influence on green purchase decisions.**

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### ***2.10 Green Future Estimation***

The estimation of the future demand for the products or services can be done by the present demand for the product. The increasing positive response of the consumers will be increasing in future. If green products tend to be appropriate in the health of the consumers and in the environment, then customers want to get all the products which are organic and green (Pástor et al., 2022). In advanced and high-income countries, green marketing is more viral. Hence, green marketing is more effective for countries that have low and middle incomes. More willing to accept the development and underdeveloped consumers for the purchase of the green products, and young people certainly, in general, show higher popularity of green marketing, which is going to hike by the day (Pástor et al., 2022). Also, customers who used green products previously and were satisfied with the experience are more willing to repeatability the green products purchase (Heydari et al., 2021). For this, they hypothesize that:

**H6: Estimation for a green future has a strong positive influence on the green purchase decision.**

### ***2.11 Theory of Planned Behaviour (TPB) and Conceptual Framework***

To enhance the estimated capacity of TRA (theory of reasoned action) by by Martin Fishbein and Icek Ajzen (1975), Ajzen has created in (1991) a new theory by the name of TPB (Theory of Planned Behaviour). TPB offers a better framework for incubating, evaluating, and identifying, as it influences observable goals and gives a coherent blueprint to news campaign organizations. In TPB, there are three variables in beliefs, which are perceived behavioral control, attitude, and emotional means that are very useful and primary to the occurrence of a person's observable goal. This theory helps in defining the attitudes and intentions of the clients in an efficient manner. Many scholars use this theory to identify the brand and feed choices. For example, many researchers use the TBP to determine the consumer behavior towards the purchase of green and healthy food. The consumer evaluation is based on the consumer attitude toward green marketing tactics. Wherefore, to better determine the reason young, experienced service purposes to buy green production, this research tries to provide TPB by expanding supplementary separate variables such as material concern, green visualized benefits, green seen kind, knowledge of price, green excitement to purchase, and green future estimate to take correct results in the footing of a nurturing country. This further gives a model that acts as an alternative to the consumer for deeper understanding on green product purchases. Hence, the conceptual framework of this research study had carried the variables of Green Purchase Decision, Environmental Concern, Green Perceived Benefits, Green Perceived Quality, Green Awareness of Price, Green Willingness of Purchase, and Green Future Estimation.

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### **3. Method**

#### **3.1. Instrument**

The study gathered the data by using a closed-ended questionnaire (i.e., research instrument). The questionnaire was designed in two parts. The first part was designed to gather the demographics of the respondents. In this section, respondents must select the answer regarding their age, gender, education, and income. The second part of the questionnaire contained the items of the variables that were measured on a 5-point Likert scale. The items of the variables were adapted from the relevant studies. Environmental concern (EC) was measured through four items, and was adapted from Mishal et al., (2017); Sharma and Bansal (2013), and Schlegelmilch et al., (1996). Green perceived benefits (GPB) were measured by five items and green perceived quality (GPQ) was also measured through five items. The items of GPB and GPQ were adapted from the study of Islam and Zabin (2013). Four items were used to measure green awareness of price (GAP) and extracted from Suki and Suki (2019) and Nekmahmud and Fekete-Farkas (2020). Four items were used to measure green willingness to purchase (GWP), and four items were used to measure green future estimation (GFE). Both GWP and GFE were extracted from the study of Nekmahmud and Fekete-Farkas (2020) Lastly, four items were used to measure green purchase decision (GPD) and extracted from the studies of Khare et al. (2015), Coleman et al., (2011) and Mostafa (2006). The respondents must select the appropriate response according to their opinion from the strongly agree to strongly disagree scale.

#### **3.2. Sampling Technique and Target Population**

The study aims to identify the factors of green purchase decisions in Canada. Therefore, primary data was gathered from the consumers of green products in Canada through a questionnaire. The purposive sampling technique is deemed appropriate to get the relevant response from the consumer of green products. Purposive sampling is a particularly useful sampling technique and is utilized if a researcher aims to gather responses from any specific kind of people. In this study, the data was collected from the consumers of green products. The questionnaire was developed on Google form and the link of the questionnaire was sent to friends, colleagues, and other social circles through WhatsApp. The link of the questionnaire was also posted on different social media platforms such as Facebook, and LinkedIn. At the beginning of the questionnaire, it is advised that the questionnaire is only for the consumer who has had experience with green products. Moreover, for a better understanding of the term "green product," the definition was also stated as "environmentally safe products."

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### **3.3 Pilot Study and Data Screening**

After developing a questionnaire, pilot testing was performed to assess the reliability. For this, 50 responses were gathered, and reliability analysis was performed by using SPSS. The findings confirm that all the variables have sufficient reliability i.e.,  $> 0.7$  as recommended by Hair et al. (2016). This shows that the questionnaire is reliable, hence the data was further collected from the target audience. In total, 300 responses were received that first underwent data screening steps.

In the data screening, out-of-range values, missing values, and outliers were checked. There were no out-of-range values in the data. However, missing values were replaced by series mean values. For outliers, univariate outliers were detected by the method of z-score, and multivariate outliers were determined by the Mahalanobis distance method. In total, 25 outliers were found that were removed from the datasheet. Hence, the useful sample remained at 275.

### **3.3. Statistical Technique**

In this study, a well-known PLS-SEM technique was used to check hypotheses. This technique has gained extensive importance because of its several benefits such as it can increase the variance of dependent variables. Moreover, this technique allows us to use small samples for analysis and provides better results. Also, this technique does not require normality in the data.

## **4. Results**

### **4.1 Demographics**

Table 1 provides information about the respondent's gender, age, income, and qualification. Most of the respondents were male i.e., 57.091%. The respondents fall in the age bracket of 26-30 i.e., 27.273 followed by 21-25 i.e., 20.364. 30.545% of the respondents were graduates. Lastly, most of the respondents have income levels of 1000-2000, and 3000-4000 i.e., 24.364 and 24.727, respectively.

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**Table 1- Demographics**

	Frequency	Percentage
<b>Gender</b>		
Male	157	57.091
Female	118	42.909
<b>Age</b>		
15-20	45	16.364
21-25	56	20.364
26-30	75	27.273
31-35	54	19.636
40 and above	45	16.364
<b>Qualification</b>		
Matriculation	35	12.727
Intermediate	65	23.636
Bachelor	65	23.636
Master	84	30.545
PhD	26	9.455
<b>Income (US\$)</b>		
Less than1000	38	13.818
1000-2000	67	24.364
2000-3000	68	24.727
4000-5000	59	21.455
Above 6000	43	15.636

*Source: Author's own illustration based on the collected data, 2024*

#### **4.2 Outer-Model Assessment**

In the outer-model assessment, indicator reliability, internal consistency, and convergent and discriminant validity were assessed. The indicator reliability was assessed by the outer loadings of the items that should be above 0.708 as recommended by Hair et al., (2016). The loadings found below 0.708 were deleted while assessing the outer model. In this, EC1, GFE1, GFE4, GWP1, GWP2, GPD3, GAP3 and GAP4 were deleted. The internal consistency was assessed by Cronbach Alpha ( $\alpha$ ) and composite reliability (CR) value. The value of 0.7 or above values of  $\alpha$  and CR shows sufficient internal consistency (Hair et al., 2016). The convergent validity was assessed by the values of average variance extracted (AVE) and outer loadings. The values of AVE >0.5 and outer



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loadings > 0.708 are recommended to confirm convergent validity. Table 2 provides the results of CR, AVE, outer loadings, and  $\alpha$ . The results revealed that all the values have met the required thresholds.

**Table 2- Reliability and Convergent Validity**

	<b>Outer Loadings</b>	<b>CR</b>	<b>A</b>	<b>AVE</b>
<b>EC2</b>	0.820			
<b>EC3</b>	0.857	0.876	0.788	0.702
<b>EC4</b>	0.836			
<b>GAP1</b>	0.782			
<b>GAP2</b>	0.868	0.87	0.770	0.692
<b>GAP4</b>	0.843			
<b>GFE2</b>	0.887			
<b>GFE3</b>	0.922	0.900	0.78	0.818
<b>GPB1</b>	0.739			
<b>GPB2</b>	0.713			
<b>GPB3</b>	0.821	0.888	0.842	0.614
<b>GPB4</b>	0.827			
<b>GPB5</b>	0.811			
<b>GPD1</b>	0.829			
<b>GPD2</b>	0.847	0.870	0.776	0.690
<b>GPD4</b>	0.816			
<b>GPQ1</b>	0.751			
<b>GPQ2</b>	0.770			
<b>GPQ3</b>	0.831	0.889	0.844	0.616
<b>GPQ4</b>	0.806			
<b>GPQ5</b>	0.764			
<b>GWP3</b>	0.904			
<b>GWP4</b>	0.869	0.881	0.730	0.787

*Source: Author's own illustration based on the collected data, 2024*

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The discriminant validity was assessed by all the methods (i.e., Cross loadings, HTMT, and Fornell and Larker). The cross-loading criteria suggest that the loadings should be high in its cell. Table 3 provides the results of cross-loadings, and established discriminant validity. The HTMT criteria suggest that all the ratios should be less than 0.9, and the Fornell and Larker criteria suggest that the square root of AVE values of the variables should be above in comparison with the correlational values present in their respective cell. Table 4 confirms that discriminant validity is also achieved by HTMT and Fornell and Larker criteria.

**Table 3- Cross Loadings**

	<b>EC</b>	<b>GAP</b>	<b>GFE</b>	<b>GPB</b>	<b>GPD</b>	<b>GPQ</b>	<b>GWP</b>
<b>EC2</b>	<b>0.820</b>	0.457	0.453	0.574	0.550	0.438	0.452
<b>EC3</b>	<b>0.857</b>	0.372	0.518	0.517	0.526	0.455	0.387
<b>EC4</b>	<b>0.836</b>	0.378	0.444	0.518	0.478	0.428	0.379
<b>GAP1</b>	0.404	<b>0.782</b>	0.394	0.487	0.470	0.558	0.422
<b>GAP2</b>	0.385	<b>0.868</b>	0.452	0.481	0.501	0.555	0.558
<b>GAP4</b>	0.414	<b>0.843</b>	0.470	0.439	0.551	0.476	0.529
<b>GFE2</b>	0.476	0.495	<b>0.887</b>	0.411	0.568	0.449	0.516
<b>GFE3</b>	0.540	0.467	<b>0.922</b>	0.498	0.675	0.500	0.534
<b>GPB1</b>	0.541	0.389	0.389	<b>0.739</b>	0.471	0.521	0.405
<b>GPB2</b>	0.568	0.346	0.400	<b>0.713</b>	0.465	0.480	0.272
<b>GPB3</b>	0.505	0.430	0.393	<b>0.821</b>	0.461	0.514	0.425
<b>GPB4</b>	0.459	0.469	0.371	<b>0.827</b>	0.466	0.561	0.447
<b>GPB5</b>	0.448	0.547	0.421	<b>0.811</b>	0.551	0.658	0.519
<b>GPD1</b>	0.541	0.605	0.574	0.536	<b>0.829</b>	0.571	0.587
<b>GPD2</b>	0.503	0.468	0.564	0.488	<b>0.847</b>	0.413	0.521
<b>GPD4</b>	0.499	0.442	0.584	0.518	<b>0.816</b>	0.499	0.515
<b>GPQ1</b>	0.362	0.453	0.410	0.517	0.494	<b>0.751</b>	0.453
<b>GPQ2</b>	0.335	0.478	0.339	0.548	0.447	<b>0.770</b>	0.489
<b>GPQ3</b>	0.512	0.533	0.507	0.586	0.532	<b>0.831</b>	0.493
<b>GPQ4</b>	0.447	0.537	0.445	0.603	0.448	<b>0.806</b>	0.430
<b>GPQ5</b>	0.395	0.483	0.343	0.502	0.411	<b>0.764</b>	0.407
<b>GWP3</b>	0.428	0.589	0.520	0.518	0.620	0.565	<b>0.904</b>
<b>GWP4</b>	0.436	0.482	0.510	0.422	0.534	0.460	<b>0.869</b>

*Source: Author's own illustration based on the collected data, 2024*

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**Table 4- HTMT and Fornell and Larker**

	EC	GAP	GFE	GPB	GPD	GPQ	GWP
<b>Fornell and Larker</b>							
<b>EC</b>	<b>0.838</b>						
<b>GAP</b>	0.482	<b>0.832</b>					
<b>GFE</b>	0.564	0.530	<b>0.905</b>				
<b>GPB</b>	0.642	0.562	0.506	<b>0.784</b>			
<b>GPD</b>	0.620	0.612	0.691	0.620	<b>0.831</b>		
<b>GPQ</b>	0.526	0.633	0.527	0.703	0.599	<b>0.785</b>	
<b>GWP</b>	0.486	0.608	0.580	0.533	0.653	0.581	<b>0.887</b>
<b>HTMT</b>							
<b>EC</b>							
<b>GAP</b>	0.613						
<b>GFE</b>	0.715	0.681					
<b>GPB</b>	0.789	0.692	0.619				
<b>GPD</b>	0.789	0.781	0.883	0.763			
<b>GPQ</b>	0.640	0.787	0.640	0.828	0.731		
<b>GWP</b>	0.639	0.799	0.768	0.670	0.861	0.733	

Source: Author's own illustration based on the collected data, 2024

Note: Bold values in Fornell and Larker are the square roots of AVE.

### 4.3 Inner-Model Assessment

Table 5 presents the inner-model assessment, the hypotheses were analyzed by performing a bootstrapping analysis. The findings of the study revealed that EC, GPB, GAP, GWP, and GFE have a significant impact on GPD. Hence, H1, H2, H4, H5, and H6 are accepted. In contrast, GPQ does not have any effect on GPD having coefficient= 0.043 and  $p > 0.05$ . Hence, H3 is rejected. The findings further reveal that GFE affects GPD (coefficient= 0.312 and  $p < 0.05$ ) followed by GWP (coefficient= 0.212 and  $p < 0.05$ ), EC (coefficient= 0.166 and  $p < 0.05$ ), GPB (coefficient= 0.137 and  $p < 0.05$ ), and GAP (coefficient= 0.134 and  $p < 0.05$ ).

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The results further reveal that the R-square value of GPD is found 0.650 which measures how independent variables explain the dependent variables. Lastly, the blindfolding method was performed to assess the model's predictive relevance. The Q-square value is found 0.409.

**Table 5- Hypotheses**

	<b>Coefficient</b>	<b>T Statistics</b>	<b>P Values</b>	<b>Decision</b>
<b>EC -&gt; GPD</b>	0.166	2.251	0.025	A
<b>GPB -&gt; GPD</b>	0.137	2.049	0.041	A
<b>GPQ -&gt; GPD</b>	0.043	0.631	0.529	R
<b>GAP -&gt; GPD</b>	0.134	2.130	0.034	A
<b>GWP -&gt; GPD</b>	0.212	3.492	0.001	A
<b>GFE -&gt; GPD</b>	0.312	5.908	0.000	A

Note: A= accepted, R= rejected

*" Source: Author's own illustration based on the collected data, 2024 "*

#### **4.4 Multigroup Analysis (MGA)**

The MGA was also performed to check the difference between gender, income, and qualification by following the guidelines of Henseler et al., (2016). The first phase of MGA is to check the measurement invariance of composite models (MICOM). This is performed to confirm that the two groups are similar, and this shows that there is a significant difference in groups.

Table 6 illustrates the MICOM analysis consists of three steps. In the first step, PLS-SEM automatically established the configural invariance. In the second step, composite invariance, and in the third step, composite mean difference and composite variance difference were calculated.

In this study, the first MGA was performed for gender. The results for the gender of the second step reveal that all the original correlation values are above that 5% quantile, hence compositional invariance is established. The results of step 3 of composite mean difference reveal that mean difference values lie in the limit of 2.5% to 97.5%, hence measurement mean invariance is established. Similarly, the results of step 3 of composite variance difference reveal that variance difference values lie in the limit of 2.5% to 97.5%, hence measurement invariance is established.

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<b>Table 6 – MICOM for Gender</b>			
<b>Step 2</b>			
	Original Correlation	5.0%	Invariance
<b>EC</b>	0.999	0.993	YES
<b>GAP</b>	1.000	0.994	YES
<b>GFE</b>	0.999	0.994	YES
<b>GPB</b>	0.999	0.990	YES
<b>GPD</b>	0.999	0.997	YES
<b>GPQ</b>	0.995	0.990	YES
<b>GWP</b>	0.998	0.992	YES
<b>Step 3a</b>			
	Mean - Original Difference (Male-Female)	(2.5%-97.5%)	Invariance
<b>EC</b>	0.040	(-0.235-0.229)	YES
<b>GAP</b>	0.068	(-0.235-0.247)	YES
<b>GFE</b>	0.042	(-0.242-0.251)	YES
<b>GPB</b>	-0.071	(-0.238-0.247)	YES
<b>GPD</b>	-0.012	(-0.256-0.265)	YES
<b>GPQ</b>	0.075	(-0.244-0.253)	YES
<b>GWP</b>	-0.020	(-0.241-0.260)	YES
<b>Step 3b</b>			
	Variance - Original Difference (Male-Female)	(2.5%-97.5%)	Invariance
<b>EC</b>	-0.229	(-0.538-0.631)	YES
<b>GAP</b>	-0.116	(-0.555-0.526)	YES
<b>GFE</b>	-0.012	(-0.575-0.582)	YES
<b>GPB</b>	-0.279	(-0.595-0.643)	YES
<b>GPD</b>	0.160	(-0.556-0.611)	YES
<b>GPQ</b>	-0.339	(-0.551-0.523)	YES
<b>GWP</b>	-0.043	(-0.672-0.692)	YES

Source: Author's own illustration based on the collected data, 2024

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In the second phase of MGA, multigroup analysis is performed. The findings of MGA are reported in Table 7. The findings revealed that there is a difference between males and females in the relationship between GAP and GPD. The results show that GAP affects males as compared to females. Also, there is a difference found between GFE and GPD. In this case, GFE also largely affects males as compared to females. The results also show a significant difference between males and females in the relationship between GPB and GPD. In this also, GPB affects males than females. Lastly, the results revealed that GWP affects females' GPD as compared to males. Furthermore, there is no significant difference found for other relationships based on gender level.

**Table 7- MGA (GENDER)**

	Coefficients (Female)	Coefficients (Male)	Difference   Male - Female	p- Value
<b>EC -&gt; GPD</b>	0.142	0.203	0.061	0.645
<b>GAP -&gt; GPD</b>	0.118	0.254	0.136	0.017
<b>GFE -&gt; GPD</b>	0.177	0.407	0.230	0.018
<b>GPB -&gt; GPD</b>	0.137	0.298	0.161	0.014
<b>GPQ -&gt; GPD</b>	0.036	0.132	0.096	0.501
<b>GWP -&gt; GPD</b>	0.571	0.177	0.394	0.015

*Source: Author's own illustration based on the collected data, 2024*

Table 8 presents the results for income of the second step revealing that all the original correlation values are above that 5% quantile, hence compositional invariance is established. The results of step 3 of composite mean difference reveal that mean difference values lie in the limit of 2.5% to 97.5%, except few, hence partial measurement mean invariance is established. Similarly, the results of step 3 of composite variance difference reveal that variance difference values lie in the limit of 2.5% to 97.5%, hence measurement invariance is established.

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<b>Table – 8- MICOM for Income</b>			
<b>Step 2</b>			
	Original Correlation	5.0%	Invariance
<b>EC</b>	0.999	0.992	YES
<b>GAP</b>	1.000	0.992	YES
<b>GFE</b>	0.999	0.993	YES
<b>GPB</b>	0.999	0.989	YES
<b>GPD</b>	0.999	0.997	YES
<b>GPQ</b>	0.995	0.990	YES
<b>GWP</b>	0.998	0.990	YES
<b>Step 3a</b>			
	Mean - Original Difference (Above 6K-Below 6K)	(2.5%-97.5%)	Invariance
<b>EC</b>	0.225	(-0.269-0.255)	YES
<b>GAP</b>	0.277	(-0.252-0.248)	NO
<b>GFE</b>	0.169	(-0.253-0.248)	YES
<b>GPB</b>	0.085	(-0.263-0.263)	YES
<b>GPD</b>	0.260	(-0.268-0.243)	NO
<b>GPQ</b>	0.157	(-0.258-0.257)	YES
<b>GWP</b>	0.302	(-0.256-0.242)	NO
<b>Step 3b</b>			
	Variance - Original Difference (Above 6K-Below 6K)	(2.5%-97.5%)	Invariance
<b>EC</b>	0.450	(-0.670-0.594)	Yes
<b>GAP</b>	-0.435	(-0.556-0.484)	YES
<b>GFE</b>	-0.148	(-0.617-0.552)	YES
<b>GPB</b>	-0.140	(-0.635-0.561)	YES
<b>GPD</b>	0.058	(-0.635-0.575)	YES
<b>GPQ</b>	-0.217	(-0.557-0.492)	YES
<b>GWP</b>	-0.160	(-0.734-0.628)	YES

*Source: Author's own illustration based on the collected data, 2024*

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The findings of MGA of income are reported in Table 9. The findings show that there is a difference between GFE and GPD for the consumer who has income above 6K and below 6K. The findings suggest that GFE affects GPD for consumers who have income below 6K. Moreover, GPB affects GPD for consumers who have income above 6K. Also, GPQ largely affects GPD for consumers who have income above 6K. Furthermore, there is no significant difference found for other relationships based on income level.

**Table 9- MGA (Income)**

	<b>Coefficients (ABOVE 6K)</b>	<b>Coefficients (BELOW 6K)</b>	<b>Difference   ABOVE 6K - BELOW 6K  </b>	<b>p-Value</b>
<b>EC -&gt; GPD</b>	0.203	0.111	0.092	0.523
<b>GAP -&gt; GPD</b>	0.002	0.054	0.051	0.725
<b>GFE -&gt; GPD</b>	0.235	0.390	0.155	0.045
<b>GPB -&gt; GPD</b>	0.232	0.017	0.215	0.031
<b>GPQ -&gt; GPD</b>	0.319	0.124	0.195	0.021
<b>GWP -&gt; GPD</b>	0.404	0.272	0.132	0.454

*Source: Author's own illustration based on the collected data, 2024*

Table 10 indicates the results for qualification of the second step reveals that all the original correlation values are above that 5% quantile, hence compositional invariance is established. The results of step 3 of composite mean difference reveal that mean difference values lie in the limit of 2.5% to 97.5%, except few, hence partial measurement mean invariance is established. Similarly, the results of step 3 of composite variance difference reveal that variance difference values lie in the limit of 2.5% to 97.5%, except few, hence partial measurement invariance is established.



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<b>Table 10- MICOM for Qualification</b>			
<b>Step 2</b>			
	Original Correlation	5.0%	Invariance
<b>EC</b>	1.000	0.993	YES
<b>GAP</b>	0.994	0.993	YES
<b>GFE</b>	0.997	0.993	YES
<b>GPB</b>	0.999	0.990	YES
<b>GPD</b>	1.000	0.997	YES
<b>GPQ</b>	0.996	0.990	YES
<b>GWP</b>	0.994	0.990	YES
<b>Step 3a</b>			
	Mean - Original Difference (Above Graduate-Graduate and Below)	(2.5%-97.5%)	Invariance
<b>EC</b>	0.150	(-0.264-0.257)	YES
<b>GAP</b>	0.317	(-0.247-0.252)	NO
<b>GFE</b>	0.132	(-0.267-0.276)	YES
<b>GPB</b>	0.138	(-0.275-0.263)	YES
<b>GPD</b>	0.141	(-0.279-0.253)	YES
<b>GPQ</b>	0.036	(-0.270-0.252)	YES
<b>GWP</b>	0.170	(-0.264-0.262)	YES
<b>Step 3b</b>			
	Variance - Original Difference (Above Graduate-Graduate and Below)	(2.5%-97.5%)	Invariance
<b>EC</b>	-0.538	(-0.675-0.612)	YES
<b>GAP</b>	-0.619	(-0.580-0.549)	NO
<b>GFE</b>	-0.387	(-0.579-0.605)	YES
<b>GPB</b>	-0.254	(-0.614-0.604)	YES
<b>GPD</b>	-0.545	(-0.606-0.575)	YES
<b>GPQ</b>	-0.451	(-0.540-0.542)	YES
<b>GWP</b>	-0.672	(-0.654-0.651)	NO

*Source: Author's own illustration based on the collected data, 2024*

The findings of MGA qualification are reported in Table 11. The findings show that there is a difference between GFE and GPD for the consumer based on qualification level. The findings suggest that GFE affects GPD for consumers who are graduates or below. Moreover, GPB affects GPD for the consumers who are above graduate. Furthermore, there is no significant difference found for other relationships based on qualifications level.

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**Table 11- MGA (Qualification)**

	<b>Coefficients (Above Graduate)</b>	<b>Coefficients (Graduate and Below)</b>	<b>Difference   Above Graduate - Graduate and Below  </b>	<b>p-Value</b>
<b>EC -&gt; GPD</b>	0.112	0.153	0.041	0.777
<b>GAP -&gt; GPD</b>	0.049	0.017	0.032	0.831
<b>GFE -&gt; GPD</b>	0.234	0.400	0.167	0.043
<b>GPB -&gt; GPD</b>	0.166	0.039	0.127	0.041
<b>GPQ -&gt; GPD</b>	0.054	0.005	0.059	0.716
<b>GWP -&gt; GPD</b>	0.377	0.314	0.063	0.720

*Source: Author's own illustration based on the collected data, 2024*

### **5. Discussion, Implications and future research**

Increased global warming and climate damage pressurize the world towards adopting green policies, products, and practices. From the analysis, it shows that results indicate that EC, GPB, GAP, GWP, and GFE all significantly affect GPD. These findings bring out the importance of understanding the different factors that influence green purchasing behaviour.

The results showed that GFE had the most influence on GPD, which means consumers were highly influenced by awareness of the long-term benefit of using green products in their purchasing decisions. This finding was similar to that of Nekmahmud and Fekete-Farkas, 2020, where the estimation of the future had the most significant impact on consumer behavior. Thus, green purchasing behaviors could easily be influenced if consumers were made aware of the long-term benefits derivable from using green products.

In addition to that, result shows that EC has a significant effect on GPD. Being concerned about the environment, customers drive their purchasing decisions accordingly. In this regard, the results for this study are supported by Aslam et al. (2021) and Kautish et al. (2019), where it is found that consumers who were concerned about the environment were more likely to perform eco-friendly activities. Considering this, advertising with respect to the negative impact of non-green products on the environment may raise the concern level among consumers and, consequently, their green purchases.

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Another variable that positively influenced GPD was GPB, thereby supporting past studies and emphasis on the received benefits from green products as important factors customers consider in making their buying decisions. This proves that the willingness of customers to buy can be increased if emphasis is put on the benefits of green products to health and the environment.

The study also established that GWP had a positive influence on GPD, therefore establishing the willingness of consumers in making purchase decisions. This supports the findings by Wang et al. (2019), who observed that the willingness to pay for green products significantly influenced purchase decisions. Having a positive attitude towards green products therefore increases consumers' willingness to purchase them.

It also shows that GAP has a significant influence on GPD. Pricing is, therefore, an important factor consumers consider when deciding on green product purchases. Ghosh et al. (2016) support this by showing pricing as a major determinant of green purchases. Green product providers must therefore ensure that the price set for their respective products is justified with an effective cost-benefit communication to consumers.

The study found that Green Perceived Quality has an insignificant impact on GPD. This is not consistent with other studies where it has been indicated that perceived quality significantly influences green purchases. The inconsistency could be indicative that while quality may be important, environmental concern and perceived benefits might be what really drives green purchase decisions in a contemporary context.

The study also tested multi-group analysis with respect to gender, income, and qualification, and it exhibited significant difference. GAP affects males more than females with respect to GPD, thus price sensitivity is higher in male consumers. This is supported by previous studies which indicated that there was a gender difference in price sensitivity (Han et al., 2020). In addition, GFE and GPB affect males more, while GWP affects females more; thus, there is a need to have gender-specific marketing strategies.

On the issue of income, GFE and GPQ significantly influence consumer categories with an income below 6K, while for those above 6K, it is GPB. It therefore can be deduced that the low-income category consumers are easily influenced by future estimations and quality perceptions, while the high-income category is perceived benefit driven. The findings support existing studies that argue income levels determine green purchase behaviors.

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Mainly, based on qualification, GFE influences graduate or below qualification consumers and GPB affects qualified graduate. Hence, educational background appears to affect how consumers perceive and accordingly set priorities for the factors impacting green purchase decisions.

The study results add several implications that can be useful to many stakeholders, including policymakers, environmentalists, and green product providers. It confirms that consumers who are concerned about the environment are likely to purchase green products. The problems that arise with the use of non-green products should be focused on, how they are severely affecting the environment and the overall life of human beings (González, Parra-López & Fernández-Sabiote; 2022). This thing can be highlighted in advertisements. Moreover, how the green products reduce hazardous impacts on overall well-being should be properly focused on by the green product service providers. For example, the product providers should underline how the bills can be reduced by using green electricity appliances. Moreover, the pricing should be well-justified to the consumer as pricing matters for purchase decisions.

Further research can be done also about how digital marketing helps in the awareness of green products, especially through social media, since young consumers seek for information in these channels more and more. Longitudinal studies can also be done to find out how consumer behavior regarding green products is changing over time, with the increased environmental awareness and changing policies. For example, psychological drivers of green purchase intention can be studied in detail, such as the role of personal values and identity in green purchasing decisions. Comparative research between different regions or countries might also shed some light on the cultural difference in green consumption patterns and the effectiveness of different marketing strategies. This is as described by Lee et al. (2021).

These future research directions may bring an important potential to increase the current understanding of green consumer behavior and derived business practices, and the policy implications for sustainable consumption. Another promising area of investigation could be the integration of advanced technologies, such as AI and big data analytics, into green marketing strategies aimed at providing more personalized and effective means of engaging consumers.

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## **الموجة الخضراء: التوجهات المستقبلية لاختيارات المستهلكين تحليل متعدد المجموعات**

**المخلص :** تقوم هذه الدراسة بفحص العوامل التي تؤثر على أهداف الاستهلاك الأخضر للمستهلكين بطريقة تحليلية. بناءً على مراجعة الأدبيات، تم افتراض العوامل المؤثرة على نية الشراء الأخضر للمستهلكين ضمن ثلاث تصنيفات، وهي: العوامل المعرفية، خصائص المستخدم، والعوامل المجتمعية. أظهرت الأدبيات ونتائج الفرضيات أن فهم تغير المناخ، القيمة المدركة الخضراء، الموقف التسويقي، والثقة الخضراء ترتبط بشكل إيجابي كبير بنية الشراء الأخضر. تتحكم الأنشطة التسويقية المدركة في فعالية المستهلك المرصودة، كما أن المعايير الذاتية لها تأثير إيجابي على نية الشراء الأخضر. تُظهر الاتجاهات الجماعية تأثيرًا إيجابيًا أكبر على نية الشراء الأخضر. تقدم هذه الدراسة البحثية أيضًا أدلة على دور المؤسسات في تعزيز ونشر المنتجات الخضراء لحماية البيئة..

**الكلمات المفتاحية:** المنتج الأخضر، نية الشراء، الموقف التسويقي، الاتجاهات الجماعية.