

The Impact Attitudes towards Green Products, Perceived Behavioral Control, and Environmental Concern on Green Purchase

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ABSTRACT: The aim of this work is to identify the factors able to influence green purchasing. Usually using random sampling methods, quantitative research designs in the form of questionnaire distribution and evaluation of specific populations or samples may be accomplished with quantitative data analysis. The population of this research consists of respondents, or those who know about customers who have previously transacted in Batam for environmentally friendly items. The research aimed at 400 respondents in total. Except for a few that did not demonstrate a significant impact, the findings revealed that most of the hypotheses examined had a notable beneficial effect. Attitudes towards Green Products → Green Purchase Behavior, Perceived Behavioral Control → Green Purchase Behavior, and Environmental Concern → Green Purchase Behavior all of which indicate that positive attitudes towards green products, subjective norms, perceived behavioral control, and environmental concern have a significant effect on green purchasing behavior. Subjective Norm → Green Purchase Intention, Perceived Behavioral Control → Green Purchase Intention, and Product Innovation → Green Purchase Intention, so indicating that subjective norm, perceived behavioral control, and product innovation have a favorable impact on green product purchase intention.; So, purchasing intention does not operate as a mediator between attitude toward green products and green purchase behavior. Although environmental concern and product innovation may not always have a direct influence as predicted, generally these results imply that psychological and social factors play a crucial role in defining green product buying behavior and intention.

KEYWORDS: Attitudes towards Green Products, Environmental Concern, Green Purchase, Perceived Behavioral Control.

INTRODUCTION

This provides an opportunity for e-commerce in Indonesia to promote global sustainability goals and change consumer behavior through their offerings. (Dagher, 2019). Batam's strategic position as a free trade zone and its proximity to wealthy countries such as Singapore and Malaysia influence the dynamics of e-commerce there. (Bartels and Onwezen, 2019). Especially among younger customers who are more aware of global sustainability challenges, Indonesian consumers are showing interest in environmentally friendly goods. (Zheng et al., 2021). This is evident in e-commerce from the increasing purchases of goods labeled organic, environmentally friendly, or those that use recycled packaging. The main drivers of environmentally friendly purchasing behavior include factors such as competitive prices, the availability of environmentally friendly goods in the local market, and the impact of trends from neighboring countries. (Paul, 2020).

The originality derived from the analysis of green purchasing behavior in e-commerce in Batam comes from the specific impact of this location as a free trade area and global hub on environmentally friendly consumer behavior. One of the novel conclusions is how Batam's geographical proximity to countries such as Singapore and Malaysia influences local customers' tastes for green goods, including expectations for better sustainability standards as applied in the international market. (Febriandani et al., 2021). Clothing made from organic materials, shoes made from recycled materials, recyclable bags, vegan and cruelty-free cosmetics, plastic-free shampoo and soap bars, and bamboo toothbrushes were among the green items identified in e-commerce that were unique to this survey. This provides an opportunity to find variations in green consumption habits among Batam residents compared to other regions in Indonesia. Batam consumers' exposure to imported goods and global trends also offers a new perspective on how cross-cultural aspects influence green purchasing choices. (Kaufmann, 2019). Products with foreign labels in e-commerce also allow for in-depth research on customer trust in sustainability promises, which is often a difficulty in the domestic market. (Saleki et al., 2019). This study also suggests the possibility of innovation in e-commerce marketing methods, such as improving communication about the sustainability benefits of products to customers who are globally oriented but also influenced by local values. Batam offers a new setting to investigate how e-commerce can more successfully and relevantly incorporate

environmentally friendly practices into its business strategy based on its unique geographic and socio-economic features.(Aseri and Ansari, 2023).

The phenomenon of green purchasing behavior in e-commerce in Batam raises many problems related to the difficulty in implementing consistent sustainability and consumer knowledge about green goods. The absence of clear rules and standards for environmentally friendly goods is one of the main problems; this often makes consumers confused in distinguishing between real sustainability claims and claims that are just "greenwashing" or fraud.(Akehurst, 2019). This is an obstacle in building consumer trust in green products offered by e-commerce platforms in Batam.(Febriandani et al., 2021). In addition, although Batam has high international access, the price of environmentally friendly products is often more expensive than conventional products, which is an obstacle for most consumers who prioritize price over sustainability.(Joshi and Rahman, 2019). Another issue is the limited choice of green products in the local market, which affects the diversity of environmentally friendly products available on e-commerce platforms, making it difficult for consumers to find alternatives that suit their needs.(Samarasinghe, 2020).

There is a significant difference between the potential of the green product market and the reality of its implementation. The phenomenon that occurs is the gap between consumer interest in environmentally friendly products and the availability of green products *ine-commerce platform* Locally, although awareness of sustainability issues is increasing, the choice of environmentally friendly products on offer is still limited, both in quantity and variety, making it difficult for consumers to find products that suit their preferences.(Nguyen et al., 2019). In addition, there is a GAP in terms of price(Kaufmann, 2019). Green products often have higher prices than conventional products, which is a barrier for price-sensitive consumers.(Yadav and Pathak, 2019). This shows the lack of effort to design a business strategy that can reduce the cost of production or distribution of environmentally friendly goods so that the price is more affordable. Another gap is the lack of customer knowledge(Febriandani et al., 2021). Many Batam customers are not fully aware of the benefits of environmentally friendly products or how to separate good sustainability claims from greenwashing techniques.(Paul, 2020). This emphasizes the requirement of a more efficient communication approach from e-commerce platforms to increase customer trust and knowledge.(Joshi and Rahman, 2019). Batam has a desirable location as an international trade area, but the application of sustainability ideas into logistics and packaging regulations is still rare.(Aseri and Ansari, 2023). For example, local e-commerce has not followed environmentally friendly packaging methods, resulting in a gap between customer expectations and current company policies. This gap highlights the need for creativity and collaboration to incorporate sustainability into Batam's e-commerce infrastructure.(Junior, 2019).

The framework developed from green purchasing behavior in e-commerce in Batam combines many elements that influence customers' choice to purchase environmentally friendly goods.(Febriandani et al., 2021). Three main parts comprise this framework: external variables, internal consumer factors, and e-commerce factors; all of these interact to produce green purchase intentions.(Nova Reyes, 2020). External elements include the availability of green products, clear regulations and sustainability standards, and the influence of globalization, where consumer preferences are heavily influenced by trends and practices from neighboring countries including Singapore and Malaysia.(Saleki et al., 2019). In contrast, internal consumer elements that influence attitudes toward sustainability include the level of environmental knowledge, the perceived value of green goods, and local social and cultural standards.(Joshi and Rahman, 2019).

The Theory of Planned Behavior (TPB) applied in the context of green purchase behavior in e-commerce explains three main elements that form customer intentions to purchase environmentally friendly products: attitudes toward activities, subjective standards, and perceived behavioral control.(Ritter, 2019). In e-commerce, customers' opinions about the advantages of green products—such as environmental impact and product quality improvements—shape attitudes toward green purchasing behavior. Those who view sustainability positively are often more prepared to purchase green products. Subjective standards in the TPB relate to social factors, such as encouragement of green behavior from the community, friends, or family. Product evaluations, social media campaigns, and global trends supporting sustainable living can also influence e-commerce. Meanwhile, perceived behavioral control consists of customers' opinions about their capacity to make green purchases, including the accessibility of green goods on e-commerce platforms, costs, and simplicity of purchasing procedures.(Fontes et al., 2022). In Batam, the TPB theory states that elements such as limited choices of green products, very high prices, and ignorance about sustainability may be barriers to creating a desire to buy green goods. Therefore, the TPB offers a structure for understanding how these elements can be addressed through policies that increase positive attitudes, help control consumer behavior in the e-commerce environment, and thereby build social norms.(Kim and Choi, 2019).



LITERATURE REVIEW

According to Joshi and Rahman (2019), ecological attitude is a systematic concept of customer evaluation by considering their involvement in ecologically oriented purchasing, as well as customer attitudes towards environmentally friendly and fair procurement. In the same way that attitudes influence intentions, so do behaviors. (Zhuang et al., 2021). Contrasting findings were observed in studies on the relationship between consumers' ecological attitudes and their actions. A meta-analysis conducted in environmental behavior experiments has interpreted that individuals with desirable ecological attitudes are much more likely to engage in environmentally friendly activities. (Hasan and Suciarto, 2020). Additionally, several experiments have established a positive relationship between customer attitudes and purchase intentions (Zahan et al., 2020). Nevertheless, many significant studies have interpreted that there is a weak relationship between environmentally friendly consumer attitudes and behavior. (Magnusson et al., 2021). Given the high association (Zhuang et al., 2021) and low association (Dagher, 2019) reported in various research works, more research is needed to investigate the correlation between consumer attitudes and behavior towards achieving sustainable consumption. Research Zheng et al. (2021) interpret that attitudes towards environmentally friendly products can have a positive impact on purchasing behavior.

The TPB operates on the premise that individuals have absolute volitional control, which limits its effectiveness in explaining and predicting behavior. However, the reality is that many behaviors require certain skills, knowledge, resources, time, and cooperation from others. There are also various barriers and enablers that control their engagement in these behaviors, given their future expectations. In recognition of these factors, the concept of perceived behavioral control was added as an additional component to the original model. Perceived behavioral control refers to an individual's understanding of their ability to carry out a particular behavior and serves as a third determinant of behavioral intention. When people perceive a higher level of control over their behavior, meaning they have ample opportunities, resources, and skills to perform the behavior, or when they perceive fewer barriers to its implementation, their cognitive control is strengthened. This increased sense of control significantly influences their behavioral intentions, resulting in a stronger effect on their intended actions and a more consistent relationship between intentions and actual behavior. In addition, prior experience and the receipt of support from others who assist in performing a behavior tend to indicate stronger intentions to engage in the behavior. Research Wu and Chiang (2023) interprets that Perceived Behavior Control is able to provide a significant positive impact on Purchase Behavior.

There is a positive relationship between Environmental Concern and environmentally conscious Purchase Behavior. (Aseri and Ansari, 2023). The authors also argue that purchasing behavior is an action to protect the environment, which is related to the definition of environmental behavior. Fontes et al. (2022); Chen et al. (2022); Lau et al. (2019) also interpreted that there is a strong relationship between Environmental Concern and Purchase Behavior. This is because even when they shop online, environmentally conscious customers sometimes have more selective tastes in the items they purchase. Many customers are looking for greener alternatives as awareness of the negative impacts of consumption on the environment increases; these items may be sustainably produced, use recycled materials, or have eco-certifications. E-commerce makes it easier for customers to find and evaluate items with eco-labels and read evaluations of brands' sustainability practices. Clear information about product sustainability, search filters for eco-friendly items, and the presence of businesses that embrace eco-friendly ideals help environmentally conscious customers make more responsible purchasing choices. Further supporting the positive impact of environmental issues on online purchasing behavior is the increasing number of sustainability projects from e-commerce platforms, such as low-carbon shipping and eco-friendly packaging. (Fontes et al., 2022).

Attitude is the main determinant of behavior (Nova Reyes, 2020) and key factors in understanding green consumer behavior (Saleki et al., 2019). Attitudes describe a person's positive or negative evaluation of a behavior. Assume a person views a particular behavior positively. In such a situation, the desire to engage in the behavior and the level of performance of the behavior are greater than those with negative attitudes. (Ajzen, 1991). When it comes to purchase intentions, attitude is one of the most important factors to consider (Siddique et al., 2021). Attitude significantly and positively influences intention to purchase green products in many previous studies. (Paul, 2020; Yadav and Pathak, 2019; Siddique et al., 2021; Samarasinghe, 2020). This is because positive attitudes toward environmentally friendly products motivate consumers to be more likely to purchase products that support sustainability. Consumers who have favorable attitudes toward green products, such as those that are ethically and environmentally friendly, tend to see these products as more responsible and beneficial choices for the future of the environment. (Paul, 2020). In the context of e-

commerce, this attitude is further strengthened by the ease of access and information available on online platforms, which allow consumers to easily search for products with a green label and read reviews and details about the sustainability of these products. Features such as search filters for green products, as well as clear communication about the environmental benefits of products, strengthen green purchase intentions. Furthermore, with more e-commerce offering incentives such as discounts or green shipping, positive attitudes towards green products may encourage consumers to choose sustainable products over more conventional alternatives, increasing their intention to purchase green products online. (Siddique et al., 2021).

Perceived behavioral control (PBC) is a person's view of his or her capacity to engage in a particular activity. PBC reveals, from the person's perspective, whether a particular activity is easy or difficult. (Ajzen, 1991). Low levels of PBC are thought to limit behavior; high levels of PBC are thought to enhance behavior and behavioral intentions. Therefore, PBC is positively correlated with behavioral intentions (Tsai, 2010). Several studies have shown how PBC increases green purchase intentions. (Thoo et al., 2019; Hasan and Suciarto, 2020; Bui, 2021). This is because elements that increase consumers' sense of control and ease of purchasing green goods can inspire them to plan to purchase them. Consumers are more likely to plan to purchase products when they feel they have control over their purchase decisions, that is, when they can find relevant green goods, understand competitive prices, and choose environmentally friendly shipping alternatives. On e-commerce sites, ease of navigation, availability of clear information about product sustainability, and diversity of green product possibilities enhance this sense of control. (Hasan and Suciarto, 2020). Furthermore, customers who believe that purchasing green goods will not burden them logistically or financially are more likely to have purchase intentions. Consumers will feel more prepared to make purchase choices that align with their sustainability ideals if e-commerce offers a simple, clear, and fast way to purchase green goods. In other words, perceived control over these transaction features increases customers' confidence in choosing green goods, thereby strengthening their decision to purchase them online. (Bui, 2021).

Environmental concern is another key variable besides TPB antecedents in predicting environmentally friendly product purchasing behavior. (Paul, 2020; Yadav and Pathak, 2019). This general attitude reflects the extent to which consumers are concerned about environmental threats. (Bartels and Onwezen, 2019). Concern caused by environmental issues affects environmental responsibility and consciously or unconsciously influences consumption behavior. Environmental concern encourages consumers to be "greener" in their purchases and increases green purchase intentions. (Junior, 2019; Kim and Choi, 2019). Many studies interpret that environmental concern increases green purchasing intentions. (Siddique et al., 2021; Saleki et al., 2019; Joshi and Rahman, 2019).

METHOD

The data obtained were analysed using the Structural Equation Modelling (SEM) method based on Partial Least Squares (PLS-SEM). This technique was chosen because it is considered capable of overcoming the limitations of covariance-based SEM, especially in terms of non-normal data distribution, relatively limited sample size, and research models involving many indicators and relationship paths between variables. Data analysis was carried out with the help of the latest version of SmartPLS software. Model testing was carried out in two stages, namely testing the measurement model (outer model) and testing the structural model (inner model). Outer model testing aims to assess convergent validity through the expected loading factor value greater than 0.70 and the Average Variance Extracted (AVE) value exceeding 0.50. In addition, construct reliability is measured by the Composite Reliability and Cronbach's Alpha values, both of which are expected to be above 0.70. Furthermore, inner model testing is carried out by looking at the coefficient of determination (R-square) value to determine the magnitude of the influence of the independent variables on the dependent variable, as well as testing the significance of the influence between variables through the T-statistic and p-value values. The results of the analysis are expected to provide a comprehensive understanding of the factors that influence green purchasing behaviour in e-commerce in Batam City, as well as provide practical implications for business actors to design marketing strategies that support sustainable practices.

This study uses a quantitative approach with the aim of analysing the influence of Attitude toward Green Product, Subjective Norm, Perceived Behavioural Control, Environmental Concern, and Product Innovation on Green Purchase Behaviour with Green Purchase Intention as a mediating variable on e-commerce consumers in Batam City. The population in this study were e-commerce consumers in Batam City who had purchased environmentally friendly products in the past year. The determination of the number of samples was carried out using the Slovin formula with an error rate of 5%, so that a sample of 400 respondents was obtained. The sampling technique used was Simple Random Sampling with the consideration that each member of the population has an equal opportunity



to be selected as a respondent. The data collection technique was carried out through the distribution of online questionnaires using Google Form, which were distributed through various social media platforms, online shopping community groups, and consumer discussion forums in Batam in order to reach target respondents widely and evenly.

RESULT AND DISCUSSION

Of the 400 respondents, most were female—213 people, or 53.30%; 187 people were male, or 46.80%; Regarding age, the 18–24 age range led with 241 people (60.30%), followed by 25–32 years old with 105 people (26.30%), 33–40 years old with 32 people (8.00%), and above 40 years old with 22 people (5.50%). Regarding final education, 230 people (57.50%), then 124 people (31.00%), 27 people (6.80%), 15 people (3.75%), who had a Masters/Doctorate degree, most of the respondents were high school graduates. Respondents who work as private employees are the most, namely 152 people (38.00%), followed by students as many as 120 people (30.00%), civil servants as many as 62 people (15.50%), self-employed as many as 53 people. Meanwhile, based on the frequency of e-commerce use, respondents mostly use e-commerce 1-3 times per month as many as 157 people (39.30%), then 1-3 times per week as many as 132 people (33.00%), undecided as many as 82 people (20.50%), and only 29 people (7.30%) use e-commerce every day.

The outer loading value is used to evaluate convergent validity. In this case, all construct indicators, including Attitudes towards Green Products, Green Purchasing Behavior, and Product Innovation, have values above 0.70, which interprets that these indicators are reliable measures for each construct. (Hair et al., 2020). All outer loading figures are above the standard of 0.7 so they are valid. All constructs have an average variance extracted (AVE) value of more than 0.50, which means that each of them can explain more than 50% of the variation in its indicators. This interprets that, in line with the standard of discriminant validity (Fornell & Larcker, 1981). The reliability of the constructs was then assessed using Cronbach's Alpha and Composite Reliability values. All constructs had values above 0.70, and the majority were close to or above 0.90, indicating a very high level of internal consistency. (Dijkstra & Henseler, 2015). The problem of multicollinearity among the indicators was examined using the Variance Inflation Factor (VIF) value. The results interpreted that all indicators had VIF below 5.0 and the majority were in the optimal range below 3.3, which interpreted that there was no indication of multicollinearity visible. (Hair et al., 2020). Finally, the explanatory power of the model is in the medium to high range, as indicated by the R-Square (R^2) values on endogenous components such as Green Purchase Behavior (0.686) and Green Purchase Intention (0.547). All things considered, the findings of the table interpret that the measurement model meets every validity and reliability requirement recommended for PLS-SEM based analysis.

The purpose of discriminant validity testing is to ensure that each component of the measurement model is truly unique and not too correlated with each other. One of the most popular methods is the Fornell-Larcker Criterion, which states that the correlation value between constructs in the same column or row should be less than the square root of the Average Variance Extracted (AVE) value for each construct (which is shown on the diagonal of the table) (Fornell & Larcker, 1981; Hair et al., 2020). The test results show that all AVE square root values on the diagonal (for example: 0.914 for Attitude Toward Green Product, 0.750 for Environmental Concern, 0.906 for Green Purchase Behavior, and so on) are higher than the correlation values between constructs in the corresponding rows and columns. For example, the AVE square root value for Green Purchase Intention is 0.734, which is higher than its correlation with other constructs such as Green Purchase Behavior (0.540) or Product Innovation (0.712). Although the correlation value of Product Innovation and Green Purchase Intention is quite high (0.712), this value is still lower than the AVE square root of both (0.793 and 0.734, respectively), so it still meets the discriminant validity criteria. Overall, the results in Table 3 indicate that each construct in the model has adequate discriminant validity, because they have higher AVE square root values than their correlations with other constructs. Thus, these constructions can be considered as different variables from each other in this research model.

The Influence of Attitude Toward Green Products on Purchase Behavior

Based on the output of the t-test results, it is interpreted that the p-value score of $0.000 < 0.05$ means that Attitude Toward Green Product can have a significant positive impact on Green Purchase Behavior. So that hypothesis 1 is accepted. This result is in line with Joshi and Rahman (2019), Zhuang et al. (2021), Hasan and Suciarto (2020), Zahan et al. (2020), Magnusson et al. (2021) interprets that Attitude Toward Green Product is able to provide a significant positive impact on Green Purchase Behavior. According to Joshi and Rahman (2019), ecological attitude is a systematic concept of customer evaluation by considering their involvement in ecologically oriented purchasing, as well as customer attitudes towards environmentally friendly and fair procurement. In the same

way that attitudes influence intentions, so do behaviors.(Zhuang et al., 2021). Contrasting findings were observed in studies on the relationship between consumers' ecological attitudes and their actions. A meta-analysis conducted in environmental behavior experiments has interpreted that individuals with desirable ecological attitudes are much more likely to engage in environmentally friendly activities.(Hasan and Suciarto, 2020). Additionally, several experiments have established a positive relationship between customer attitudes and purchase intentions(Zahan et al., 2020). Nevertheless, many significant studies have interpreted that there is a weak relationship between environmentally friendly consumer attitudes and behavior.(Magnusson et al., 2021). Given the high association(Zhuang et al., 2021)and low association(Dagher, 2019)reported in various research works, more research is needed to investigate the correlation between consumer attitudes and behavior towards achieving sustainable consumption. ResearchZheng et al. (2021)interpret that attitudes towards environmentally friendly products can have a positive impact on purchasing behavior.

The Influence of Perceived Behavior Control on Purchase Behavior

Based on the output of the t-test results, it is interpreted that the p-value score of $0.002 < 0.05$ means that Perceived Behavioural Control can provide a significant positive impact on Green Purchase Behaviour. So that hypothesis 3 is accepted. This result is in line withWu and Chiang (2023)AndNguyen et al. (2020)interprets that Perceived Behavioural Control is able to have a significant positive impact on Green Purchase Behaviour. This occurs because a person's perception of the ease or difficulty of acting, such as buying environmentally friendly products online, greatly influences their actual decisions. In the context of e-commerce, when consumers feel they have sufficient control—both in terms of financial ability, knowledge of green products, and ease of access on digital platforms—they tend to be more motivated to make purchases of environmentally friendly products. This is reinforced by e-commerce features such as green product search filters, transparent product descriptions, and easy payment methods, all of which reinforce the perception of control.(Nguyen et al., 2020).

The Influence of Environmental Concern on Purchase Behavior

Based on the output of the t-test results, it is interpreted that the p-value score of $0.000 < 0.05$ means that Environmental Concern is able to provide a significant positive impact on Green Purchase Behavior. So that hypothesis 4 is accepted. This result is in line withFontes et al. (2022);Chen et al. (2022);Lau et al. (2019) interpret that Environmental Concern is able to have a significant positive impact on Green Purchase Behavior. This happens when they shop online, environmentally conscious customers sometimes have more selective tastes in the goods they buy. Many customers are looking for greener alternatives as knowledge of the negative impacts of consumption on the environment increases; these goods may be sustainably made, goods based on recycled materials, or goods that are certified environmentally friendly. E-commerce allows customers to easily find and evaluate goods with eco-labels and read feedback on a company's environmental policies. Clear information about product sustainability, search filters for eco-friendly goods, and the presence of businesses that adhere to green ideals help environmentally conscious customers to make more responsible purchasing choices more easily. Further underscoring the positive impact of environmental issues on online purchasing behavior is the increasing number of sustainability projects from e-commerce platforms, including low-carbon shipping and eco-friendly packaging.(Fontes et al., 2022).

The Influence of Attitude Toward Green Products on Green Purchase Intention

Based on the output of the t-test results, it is interpreted that the p-value score of $0.627 > 0.05$ means that Attitude Toward Green Product cannot provide a significant impact on Green Purchase Intention. So that hypothesis 6 is rejected. This result is in line withJoshi and Rahman 2019),Zhuang et al. (2021)interprets that Attitude Toward Green Product is unable to have a significant impact on Green Purchase Intention. This occurs because there is a gap between positive attitudes towards green products and real intentions to buy them. One of the main factors is price and affordability, where even though consumers have a positive attitude towards green products, they still consider economic factors more in purchasing decisions. In addition, the lack of clear and transparent information regarding product sustainability in e-commerce can cause doubt, so that consumers do not immediately change their positive attitudes into purchasing intentions. Other factors that can have an impact are habits and brand preferences, where consumers tend to choose products that are already known or have more reviews, even though they are aware of the benefits of green products. In addition, social norms and external influences such as trends, influencer recommendations, and customer testimonials often determine purchasing intentions more than individual attitudes towards green products. Finally, the factor of trust in green claims also plays an important role, because many consumers are skeptical of environmentally friendly products sold online,

especially if there is no clear certification. Therefore, even though someone has a positive attitude towards green products, various external obstacles can reduce the influence of this attitude on purchasing intentions in e-commerce (Joshi and Rahman, 2019).

The Influence of Perceived Behavior Control on Green Purchase Intention

Based on the output of the t-test results, it is interpreted that the p-value score of $0.000 < 0.05$ means that Perceived Behavioral Control is able to provide a significant positive impact on Green Purchase Intention. So that hypothesis 8 is accepted. This result is in line with Hasan and Suciarto (2020), Prison (2021); Hasan dan Jasfar (2025) interpret that Perceived Behavioral Control is able to have a significant positive impact on Green Purchase Intention. This occurs because factors that increase the sense of control and ease in purchasing environmentally friendly products can encourage consumers to intend to buy the product. When consumers feel they have control over their purchasing decisions, such as the ability to find relevant green products, understand competitive prices, and choose environmentally friendly shipping options, they are more likely to intend to buy the product. On e-commerce platforms, ease of navigation, the availability of clear information about product sustainability, and a variety of environmentally friendly product choices available strengthen this perception of control (Hasan and Suciarto, 2020). In addition, consumers who feel that purchasing green products will not burden them financially or logistically are more likely to have purchase intentions. If e-commerce provides an easy, transparent, and efficient process for purchasing green products, consumers will feel more empowered to make purchase decisions that are consistent with their sustainability values. In other words, perceived control over these aspects of the purchase increases consumers' confidence in choosing green products, which in turn strengthens their intention to purchase green products online. (Bui, 2021).

The Influence of Environmental Concern on Green Purchase Intention

Based on the output of the t-test results, it is interpreted that the p-value score of $0.075 > 0.05$ means that Environmental Concern is unable to provide a significant impact on Green Purchase Intention. So that hypothesis 9 is rejected. This result is in line with Nguyen et al. (2020) interpret that Environmental Concern is unable to have a significant impact on Green Purchase Intention. Although consumers are aware and concerned about environmental issues, this does not necessarily encourage them to have the intention to buy environmentally friendly products directly. In many cases, there is a gap between the values believed (values) and actual behavior (behavior), known as the value-action gap. Consumers may state that they care about the environment, but in practice, the intention to buy green products remains low due to other factors such as price, limited information, product availability, or the perception that individual actions do not have a significant impact. In the context of e-commerce, information about the environmental impact of a product is often not conveyed transparently or easily understood. Although consumers are aware of the importance of protecting the environment, they still prioritize convenience, price, or brand over the product's environmentally friendly attributes. This is reinforced by the findings of previous studies that environmental concern is more cognitive and affective, but to encourage purchase intentions, more concrete and personal stimuli are needed, such as perceived benefits, social influence, or ease of purchase (Nguyen et al., 2020).

CONCLUSION

This study has several limitations that need to be considered. First, the geographical scope only covers Batam City, which has its own characteristics as a free trade area and international border, so that the results of the study cannot be generalized to other regions in Indonesia. Second, the approach used is quantitative with a questionnaire instrument, so it is unable to deeply explore psychological motives or emotional barriers of consumers towards purchasing green products. Third, this study has not considered other relevant variables such as price, trust in environmentally friendly labels, or the influence of social media, which have the potential to be important factors in determining consumer intentions and behavior. Finally, the existence of a value-action gap between positive attitudes and real actions is a challenge in explaining the inconsistency of the results in several hypotheses.

Theoretically, this study strengthens the relevance of the Theory of Planned Behavior (TPB) in explaining green purchasing behavior, especially in the digital context. The findings clarify that subjective norms and perceived behavioral control are stronger predictors than attitudes in forming green purchasing intentions and actions. Practically, the results of the study provide important insights for e-commerce players in designing more effective marketing strategies. Communication that emphasizes social values, education about the benefits of sustainability, and easy access to green products are key steps that can strengthen consumer intentions and actions. This study also opens opportunities for e-commerce platforms to strengthen features such as reviews, green certification labels, and community-based promotions to further convince consumers in making decisions that support sustainability.

Based on the results and limitations found, it is suggested that further research can expand the study area to other cities with different characteristics to increase the generalizability of the findings. Furthermore, the research model can be developed by adding variables such as perceived trust, price sensitivity, and influencer impact to gain a more comprehensive understanding of the factors that influence green purchases. Qualitative research through in-depth interviews or focus group discussions can also be conducted to explore emotional aspects and personal values that have not been revealed through quantitative approaches. In addition, a longitudinal approach is recommended to capture changes in consumer behavior over a certain period of time, especially in the face of environmental campaigns and green product technology innovations.

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