



**A STUDY ON THE INFLUENCE OF ECO-FRIENDLY
FACTORS THAT INSPIRE CONSUMERS' PURCHASING
INTENTION IN KLANG VALLEY, MALAYSIA**

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Abstract:

This study focuses on the influence of eco-friendly factors that impacts consumer purchasing intention in Klang Valley. The population of Klang Valley is 8 million, ranked as the region in the nation with the fastest growth and highest level of development. This area has also had the most severe urbanization and environmental issues. They have been made worse by the enormous impact of unregulated expansion during the last two decades. The factors affecting consumer behaviour involving eco-friendly awareness, distribution, advertising, and packaging were scrutinized. For this study, the residents in the Klang Valley were targeted as the respondents. The convenience sampling method was used to collect the data. Questionnaires were distributed via social media. 432 responses contributed to this study's findings, discussion, and conclusion. This study revealed that eco-friendly awareness, distribution, and packaging significantly influenced the consumer's purchase intention. However, this study disclosed that eco-friendly advertising does not influence consumer purchase intention in Klang Valley, Malaysia.

Keywords: eco-friendly awareness, eco-friendly distribution, eco-friendly packaging, eco-friendly advertising, consumers purchase intention, theory of planned behaviour

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1. Introduction

The growing concerns about environmental sustainability have increased interest in eco-friendly products and practices. Consumers are becoming more environmentally conscious and are willing to pay a premium for eco-friendly products. In response, companies are adopting eco-friendly factors, such as eco-friendly awareness, distribution, advertising, and packaging, to meet the growing demand for sustainable products. However, the impact of these eco-friendly factors on consumer purchasing intention remains to be seen.

Moreover, (Hassani et al., 2021) found that green advertising and green packaging significantly impact green purchase behavior among Malaysian consumers. A study by (Kang & Kim, 2020) showed that eco-friendly distribution positively affects consumer behavior and firm performance. Lin and Huang (2020) found that environmental advertising positively affects green consumption behavior. Mokhtar et al. (2021) showed that eco-friendly distribution and environmental attitude positively affect green purchase intention. Rahmani & Bahrini (2019) found that green packaging positively impacts purchase intention among Iranian consumers.

Thus, this study is significant in filling the research gap and providing insights into the influence of eco-friendly factors on consumer behavior and purchasing intention. The results of this study can help companies develop effective marketing and communication strategies to promote eco-friendly products and practices and meet the growing demand for sustainable products. However, the impact of these eco-friendly factors on consumer purchasing intention remains to be seen in Klang Valley, Malaysia. Therefore, this study investigates the influence of eco-friendly factors that inspire consumers' purchasing intention in the Klang Valley.

1.1 Research Problem Statement

Increasing environmental degradation concerns have led to a growing interest in eco-friendly products and practices. Companies are increasingly adopting eco-friendly factors such as eco-friendly awareness, distribution, advertising, and packaging to meet the growing demand for sustainable products. However, the extent to which these eco-friendly factors influence consumer purchasing intention remains to be determined. Therefore, this study aims to investigate the impact of eco-friendly factors on consumer purchasing intention.

Consumers are increasingly interested in eco-friendly products, and their purchasing intentions are significantly influenced by their eco-friendly awareness. However, the relationship between eco-friendly awareness and consumer purchase intentions has yet to be fully understood. Therefore, the first problem that needs to be addressed is the impact of eco-friendly awareness on consumer purchase intentions. In a study by (Kang & Park-Poaps, 2019), the authors found that eco-friendly awareness positively influences purchase intentions, and consumers' perceived innovation moderates this relationship. Li & Chen (2021) found that environmental knowledge, eco-

friendly awareness, and environmental values positively impact green purchase intentions among Chinese consumers. Shen & Chen (2020) found that both eco-friendly awareness and eco-labels positively influence green purchase intentions among Chinese consumers. On the contrary, (Huang & Wu, 2018) uncovered that eco-friendly awareness does not predict consumer purchase intention.

Companies are increasingly adopting eco-friendly distribution practices to meet the growing demand for environmentally sustainable products. Eco-friendly distribution practices, such as reducing transportation emissions and using sustainable packaging, can positively impact the environment. In the article by (Kang & Kim, 2020), the authors found that eco-friendly distribution practices positively affect consumer purchase intention. Mokhtar et al. (2021) found that eco-friendly distribution and environmental attitude positively affect green purchase intention. Tomić et al. (2018) found that green logistics practices, including eco-friendly distribution, have a positive influence on consumer purchasing behavior. Conversely, a study in Singapore by (Yeo & Goh, 2015) found that eco-friendly distribution had an insignificant effect on consumers' purchase intention.

Eco-friendly advertising has emerged as an effective tool to promote environmentally sustainable products and practices. Such advertising aims to communicate information about the environmental benefits of products and motivate consumers to make eco-friendly choices. Therefore, the third concern of this study is regarding the influence of eco-friendly advertising on consumer purchase intention. In the article by (Hassani et al., 2021), the authors found that green advertising significantly impacts green purchase behavior among Malaysian consumers. Kotler & Armstrong (2021) state that advertising can influence consumer behavior by creating awareness and shaping attitudes. Lin & Huang (2020) found that environmental advertising positively affects green consumption behavior, including purchase intention. On the other hand, (Montecchi & Molesworth, 2010) elucidated that eco-friendly advertising does not impact consumer purchase intention.

Using eco-friendly packaging has become a popular strategy for companies to reduce their environmental impact and meet the increasing demand for sustainable products. Eco-friendly packaging, such as biodegradable and recyclable materials, can positively impact the environment. However, the relationship between eco-friendly packaging and consumer purchase intention must be better understood. Therefore, this study aims to provide insight into the influence of eco-friendly packaging on consumer purchase intention. In the article by (Hassani et al., 2021), the authors found that green packaging significantly impacts green purchase behavior among Malaysian consumers. Furthermore, (Makkitiporn & Chong, 2019) also found that eco-friendly packaging positively influences customer purchase intention among Thai consumers. Rahmani & Bahrini (2019) found that green packaging positively impacts purchase intention among Iranian consumers. Contrarily, a study by (Arroyo et al., 2019) discovered that eco-friendly packaging does not significantly affect consumers' purchase intention.

Thus, an in-depth study is needed because of the existing gaps and to better understand the influences of eco-friendly awareness, eco-friendly distribution, eco-friendly advertising, and eco-friendly packaging that are most effective in influencing consumer purchase intention in Klang Valley, Malaysia.

1.2 Research Questions

RQ1: Is there a statistically significant relationship between eco-friendly awareness and consumers' purchase intention?

RQ2: Is there a statistically significant relationship between eco-friendly distribution and consumers' purchase intention?

RQ3: Is there a statistically significant relationship between eco-friendly advertising and consumers' purchase intention?

RQ4: Is there a statistically significant relationship between eco-friendly packaging and consumers' purchase intention?

1.3 Research Objectives

RO1: To examine the statistically significant relationship between eco-friendly awareness and consumers' purchase intention.

RO2: To examine the statistically significant relationship between eco-friendly distribution and consumers' purchase intention.

RO3: To examine the statistically significant relationship between eco-friendly advertising and consumers' purchase intention.

RO4: To examine the statistically significant relationship between eco-friendly packaging and consumers' purchase intention.

2. Theoretical Underpinning, Literature Review and Hypothesis Development

The following sub-sections focus on the theoretical underpinning, literature and hypotheses development.

2.1 Theoretical Underpinning – Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB) is a widely-used framework in consumer behaviour research that helps to explain how attitudes, subjective norms, and perceived behavioural control influence purchase intention. Several studies have applied TPB to investigate the relationship between eco-friendly factors and purchase intention, with varying results.

In their research (Huang & Wu, 2018) applied the TPB to investigate the impact of eco-friendly factors on consumer purchase intentions of green housing in Taiwan. The results show that attitudes, subjective norms, and perceived behavioural control significantly affect purchase intentions and that subjective norms have the most substantial impact.

Additionally, (Sun et al., 2019) used the TPB to examine the impact of eco-friendly factors on green purchasing intentions among Chinese consumers. The results show that attitudes, subjective norms, and perceived behavioural control significantly affect green purchasing intentions and that attitudes have the strongest impact. Furthermore, (Li & Chen, 2021) applied the TPB to investigate the impact of eco-friendly factors on green purchase intentions among Chinese consumers. The results show that environmental knowledge, eco-friendly awareness, and environmental values significantly affect green purchase intention and that attitudes have the strongest impact.

A study by (Lu et al., 2019) found that eco-friendly distribution positively influenced consumer purchase intention by mediating attitude and perceived behavioural control. Another study by (Tung et al., 2017) found that eco-friendly distribution positively influenced purchase intention by mediating attitude but not perceived behavioural control. These findings suggest that attitude is crucial in the relationship between eco-friendly distribution and purchase intention.

In addition, subjective norms, or the perceived social pressure to perform or not perform a behaviour, have also been found to be a significant predictor of purchase intention in eco-friendly distribution contexts. A study by (Teng et al., 2019) found that subjective norms positively influenced purchase intention towards eco-friendly products, including those distributed through eco-friendly channels.

A study by (Siwar et al., 2019) found that eco-friendly advertising positively influenced consumer purchase intention by mediating attitude and perceived behavioural control. Another study by (Liu & Chan, 2019) found that eco-friendly advertising positively influenced purchase intention by mediating attitude but not subjective norms or perceived behavioural control. These findings suggest that attitude is critical in the relationship between eco-friendly advertising and purchase intention. In addition, subjective norms, or the perceived social pressure to perform or not perform a behaviour, have also been found to be a significant predictor of purchase intention in eco-friendly advertising contexts. Zeng et al. (2020) found that subjective norms positively influenced purchase intention toward eco-friendly products advertised through social media.

A study by (Cervellon et al., 2012) found that eco-friendly packaging positively influenced consumer purchase intention through the mediation of attitude and subjective norms but not perceived behavioural control. Another study by (Wang et al., 2016) found that eco-friendly packaging positively influenced purchase intention through the mediation of attitude and perceived behavioural control. These findings suggest that attitude and subjective norms are critical in the relationship between eco-friendly packaging and purchase intention.

In addition, perceived behavioural control, or the perceived ease or difficulty of performing a behaviour, has also been a significant predictor of purchase intention in eco-friendly packaging contexts. Moreover, (Al-Swidi & Mahmood, 2014) found that perceived behavioural control positively influenced purchase intention towards eco-friendly packaging products.

Overall, these studies demonstrate that the TPB is a valuable framework for understanding the impact of eco-friendly factors on consumer purchase intentions. The TPB can provide insights into the attitudes, subjective norms, and perceived behavioural control that influences consumer behavior and guides the development of effective marketing and communication strategies to promote eco-friendly products and practices.

2.2 Literature Review and Hypotheses Development

The following section provides the relevant literature that led to the development of the hypotheses for this study.

2.2.1 Relationship between Eco-Friendly Awareness and Consumer's Purchase Intention

Eco-Friendly awareness can be defined as a collection of controlled marketing tools used by multiple companies to elicit the desired response in the target market. Products are goods or services that businesses offer and sell to prospective customers. The price is the nominal sum of money that the customer must pay in order to obtain the product. A place is a location where a company conducts its operations and where it processes goods and services. The last activity is promotion, which the company carries out to communicate the benefits and uses of a product or service manufactured by the company to attract customers (Johnstone, 2015). Consumers choose environmentally friendly items based on customer understanding of the product's advantages for both individual consumers and environmental preservation.

Due to their ability to be reused, decrease waste, and degrade swiftly, these products are consumed by consumers because they are environmentally conscious. Although occasionally consumers will pay more, an environmentally conscious attitude will inform consumers, shape attitudes and raise environmental awareness so that it generates purchase intentions to make purchasing behaviour for environmentally friendly products. The limited selection of ecologically friendly items is another issue that buyers encounter. Contrarily, consumers who care about the environment will purchase ecologically friendly products even if they cost more. The more environmentally conscious consumers were, the more likely they were to buy the product.

Consumers' attitudes about the environment will shape the value of environmentally friendly items. Congruence between perceived value and environmentally friendly items will develop among consumers. Higher purchase intentions are associated with stronger consumer product congruence. Consumers analyse the product or experience the benefits before deciding how valuable environmentally friendly items are. Consumer purchasing intentions for ecologically friendly products will be encouraged by this view. Consumers' perceptions of the value of environmentally friendly items led them to seek information about them and develop buying intentions.

Recent research has shown that the relationship between eco-friendly awareness and consumer purchase intention may only sometimes be significant, despite the

increasing interest in environmentally sustainable practices and products. The study by (Rahman, 2020) investigated the impact of eco-friendly awareness on green purchase intention and found that green trust and perceived risk mediate the relationship between eco-friendliness awareness and green purchase intention, indicating that eco-friendly awareness alone may not be sufficient to predict green purchase behavior. The study by (Huang & Wu, 2018) also found that eco-friendly awareness did not significantly predict the purchase intention of green housing in Taiwan. Similarly, the study by (Arshad et al., 2019) found a weak and insignificant relationship between eco-friendly awareness and green purchase intention among Pakistani consumers.

These findings suggest that eco-friendly awareness does not always translate into actual green purchase behavior. Other factors, such as green trust, perceived risk, and attitudes, may significantly predict consumer behavior. Thus, companies and policymakers should focus on raising eco-friendly awareness, building trust, and addressing perceived risks and attitudes towards eco-friendly products to increase the likelihood of consumers' green purchase behavior.

While some recent research has shown that the relationship between eco-friendly awareness and consumer purchase intention may not always be significant, some studies report a positive and significant relationship between these two variables (Hossain et al., 2021; Zaman et al., 2020). Furthermore, the study by Kim and Chung (2016) found a positive and significant relationship between eco-friendly awareness and consumer purchase intention of organic personal care products in the US. Ab Latiff et al. (2020) found a positive and significant relationship between environmental concern, eco-friendly awareness, and green purchase intention among Malaysian consumers. Similarly, a study by (Chia & Keng-Boon, 2020) reported a positive and significant relationship between eco-friendly awareness and green consumption among Malaysian youth.

These studies suggest that eco-friendly awareness can be a significant predictor of green purchase behavior and that raising eco-friendly awareness can effectively promote environmentally sustainable products and practices. However, as noted in the previous response, other factors such as green trust, perceived risk, and attitudes may also play a role in predicting consumer behavior. They should be considered in developing effective marketing and communication strategies.

Therefore, these contradicting findings show a gap in the literature regarding the relationship between eco-friendly awareness and consumer purchase intention. Thus, hypothesis H1 was formulated to address the gap that exists in the literature.

H1: There is a statistically significant relationship between eco-friendly awareness and consumer purchasing intention.

2.2.2 Relationship between Eco-Friendly Distribution and Consumers' Purchase Intention

Eco-friendly distribution is managing logistics to reduce transportation emissions and carbon footprints (Shil, 2012). It is related to distribution gates that deal with eco-friendly products suitable for customers to facilitate their delivery and secure cycling procedures within environmental conditions and requirements (Hashem & Al-Rifai, 2011). Product distribution should be clearly and accurately distributed through acceptable routes in an environmentally safe setting with no contamination. For eco-friendly enterprises to thrive and become competitively priced, companies must ensure that their distributors care about the environment and have an eco-friendly distribution plan (Eric, 2007).

Eco-friendly distribution is not a cost generator; it has many elements that may generate money. Logistics is another correlation aspect because it deals with procurement, distribution, storage, material handling, revival, and disposal. The decision of where and when an organization makes an eco-friendly product available will significantly impact the customers. Some customers will go out of their way to acquire eco-friendly products just for the sake of it (Nitika Sharma, 2020). Eco-friendly distribution is a sensitive operation. Customers must be assured of the product's "Ecological character." Since the eco-friendly environment is constantly monitored, a high level of compliance is required while distributing eco-friendly items (Yazdanifard, 2011), as only some people will go out of their way to purchase eco-friendly products.

The eco-friendly distribution channel chosen for delivering a product has to ensure it does not harm the environment, especially for eco-friendly labelled products (Bathmanathan, 2019). There are several ways that companies can reduce their carbon footprint, including managing logistics, such as transport costs and sourcing raw materials. In order to sell eco-friendly products successfully, corporates must carefully consider the logistic of their sales (Mehraj, 2020). With the advancement of technology, social media platforms are becoming one of the most effective eco-friendly distributions for green marketing (Kanapathipillai, 2021). The social media platform has controllable variables marketers can use to influence the attitudes, knowledge, and behaviour of the target audience (Kanapathipillai, 2021; Lahtinen, 2020).

It was noted that the relationship between eco-friendly distribution and consumers' purchase intention had been the subject of much research. While some studies have found a significant positive relationship, others have found an insignificant relationship. On the one hand, research has shown that eco-friendly distribution practices can increase consumers' purchase intention (Wang et al., 2020; Carrington et al., 2016). Additionally, (Choi & Lee, 2017) found a significant positive relationship between eco-friendly distribution and consumers' purchase intention in a study of consumers in South Korea. The authors suggest that eco-friendly distribution practices increase consumers' perceived product value and purchase intention. Similarly, (Maignan & Ferrell, 2004) found that eco-labelling on product packaging significantly affected consumers' purchase intention. The authors suggest that eco-labelling provides consumers with information

about the environmental impact of a product, which can increase their purchase intention.

On the other hand, research has also found an insignificant relationship between eco-friendly distribution and consumers' purchase intention. Yeo and Goh (2015) surveyed consumers in Singapore and found that eco-friendly distribution had an insignificant effect on consumers' purchase intention. The authors suggest that while consumers may prefer eco-friendly products and distribution practices, they may not be willing to pay more. Kim et al. (2017) found that consumers' environmental concerns did not significantly affect their purchase intention for eco-friendly products distributed through eco-friendly channels in a study of consumers in South Korea. The authors suggest that other factors, such as perceived product quality and price, strongly influence purchase intention.

Moreover, research has shown that consumers' green awareness and environmental concerns can positively affect their purchase intention for eco-friendly products distributed through eco-friendly channels. Li et al. (2018) found that consumers' green awareness significantly positively affected their purchase intention for eco-friendly products, including those distributed through eco-friendly channels. The authors suggest that the more environmentally aware consumers are, the more likely they are to purchase eco-friendly products.

Therefore, the relationship between eco-friendly distribution and consumers' purchase intention is complex and context-dependent. While some studies have found a significant positive relationship, others have found no significant relationship. The effect of eco-friendly distribution on purchase intention may be influenced by product type, pricing, and marketing strategies. However, consumers' green awareness and environmental concerns have been consistently found to positively influence their purchase intention for eco-friendly products distributed through eco-friendly channels.

Therefore, these contradicting findings show a gap in the literature regarding the relationship between eco-friendly distribution and consumers' purchase intention. Thus, hypothesis H2 was formulated to address the gap that exists in the literature.

H2: There is a statistically significant relationship between eco-friendly distribution and consumers' purchasing intention.

2.2.3 Relationship between Eco-Friendly Advertising and Consumers' Purchase Intention

Eco-friendly advertising products are considered a critical factor in enhancing sales, which is why companies endeavour to do more attractive, influential eco-friendly advertising through various media to enhance sales (Lee, 2018). Eco-friendly advertising is defined as marketing certain products in an eco-friendly environment manner. Most companies are adopting the eco-friendly advertising process to join sustainable global development (Bathmanathan, 2019). Eco-friendly advertising is also stated as a communication tool of marketing strategy (Bogdan, 2018). The success of the eco-friendly

advertising campaign will be impacted by designing it with the correct clients in mind and directing them to the right business where they can learn more about the goods or services offered (Sulaiman et al., 2020). Eco-friendly advertising involves configuring advertising tools such as advertisement, marketing material, signage, websites, public relation, sales advertising, videos, and presentation to keep people in mind about the products and purchase it with added value (Mahmoud, 2018).

Eco-friendly advertising is required to convey crucial environmental information to consumers, and it can only be regarded as a successful strategic instrument with the backing of other company initiatives (Zinkhan, 1995). Other actions, like supporting environmental causes or making minor product changes, can improve the environmental message. A company needs to significantly modify the product, the process, or the corporate focus to advertise it. As long as the objectives of such actions are evident and do not make excessive claims, it is unnecessary to prepare them strategically (Novela, 2022).

A study by (Kang & Hustvedt, 2014) found that consumers were more likely to purchase products with eco-friendly labels as they perceived them to be more socially responsible and of higher quality. Similarly, a study by (Kim & Choi, 2019) found that eco-friendly advertising increased consumers' purchase intention, enhancing their perception of the brand's credibility and trustworthiness. Another significant relationship is that eco-friendly advertising can attract environmentally conscious consumers. Studies have found that consumers more concerned about the environment are more likely to be attracted to eco-friendly products and services (Chen et al., 2016). Therefore, eco-friendly advertising can be an effective way for companies to target this segment of consumers and increase their sales.

Conversely, other studies have found an insignificant relationship between eco-friendly advertising and consumers' purchase intention (Montecchi & Molesworth, 2010; Thøgersen, 2004). A study by (Hong & Lee, 2015) found that eco-friendly advertising had no significant effect on consumers' purchase intention, as they were more influenced by the product's quality, price, and functionality. Similarly, a study by (Yan & Chen, 2018) found that eco-friendly advertising could decrease consumers' purchase intention, as it could signal that the product is of lower quality or that the company is using it as a marketing ploy. Additionally, a study by (Kim & Choi, 2015) found that eco-friendly advertising has an insignificant effect on consumers' actual purchase behavior. While eco-friendly advertising may increase consumers' intention to purchase, it may not necessarily translate into actual sales. Parallel to this, according to (Bai, Kim, & Kim, 2016), an insignificant relationship between eco-friendly advertising and consumers' purchase intentions is that it may not be effective in promoting low-involvement products. Moreover, another insignificant relationship is that eco-friendly advertising may not effectively attract price-sensitive consumers. Research has shown that price is more significant for consumers in purchasing decisions than environmental concerns (Kang & Sung, 2018). Therefore, eco-friendly advertising may not be as effective in attracting consumers who prioritize price over environmental concerns.

Therefore, these contradicting findings show a gap in the literature regarding the relationship between eco-friendly advertising and consumers' purchase intention. Thus, hypothesis H3 was formulated to address the gap that exists in the literature.

H3: There is a statistically significant relationship between eco-friendly advertising and consumer purchasing intention.

2.2.4 Relationship between Eco-Friendly Packaging and Consumers' Purchase Intention

Numerous studies have found a connection between attitudes toward eco-friendly packaging and plan to buy the products. It was discovered that there is a strong correlation between consumers' attitudes toward liking and disliking products that are packaged using eco-friendly materials. It influences the inclination to purchase products with eco-friendly packaging (van Herpen et al., 2016; Wier & Calverley, 2014). Significant requirements of consumers in purchasing eco-friendly packaging include producing less waste in packaging goods, incorporating biodegradable materials, and being recyclable when empty. Consumers prefer eco-friendly packaged products and non-recyclable plastic packaging, which has a negative preference towards the product's utility. Eco-friendly packaging can attain consumer purchasing intention (Gyan Prakasha, 2018).

Moreover, research has shown that consumers perceive eco-friendly packaging to be of higher quality, leading to increased purchase intentions (Sung & Kim, 2015). In addition, eco-friendly packaging can enhance a company's reputation and increase brand loyalty (Vermeir & Verbeke, 2006). Another significant relationship is that eco-friendly packaging can increase consumers' willingness to pay a premium price for a product. A study conducted by (Chun et al., 2016) found that consumers are willing to pay more for products with eco-friendly packaging than traditional packaging products. This suggests that eco-friendly packaging can be an effective way for companies to differentiate their products and increase their profits.

Contrarily, there are also insignificant relationships between eco-friendly packaging and consumers' purchase intentions. Some studies have found that eco-friendly packaging does not significantly affect consumers' purchase behavior (Arroyo et al., 2019; Nguyen & Nguyen, 2018; Nijssen & Leeflang, 2016). While eco-friendly packaging may increase consumers' awareness and concern for the environment, it may not necessarily translate into increased sales.

Another insignificant relationship is that eco-friendly packaging may not effectively promote low-involvement products. Like eco-friendly advertising, eco-friendly packaging may only be as effective in promoting low-involvement products consumers purchase with little thought or research (Bai, Kim, & Kim, 2016). Moreover, an insignificant relationship between eco-friendly packaging and consumers' purchase intentions is that it may not effectively attract price-sensitive consumers. Price is a more significant factor for consumers in purchasing decisions than environmental concerns

(Kang & Sung, 2018). Therefore, eco-friendly packaging may not be as effective in attracting consumers who prioritize price over environmental concerns.

Therefore, these contradicting findings show a gap in the literature regarding the relationship between eco-friendly packaging and consumers' purchase intention. Thus, hypothesis H4 was formulated to address the gap that exists in the literature.

H4: There is a statistically significant relationship between eco-friendly packaging and consumer purchasing intention.

2.3 Proposed Conceptual Framework

The conceptual framework in Figure 1 depicts the relationship between the independent variables (eco-friendly awareness, eco-friendly distribution, eco-friendly advertising, and eco-friendly packaging) and the dependent variable (consumer purchase intention). This conceptual framework was formulated based on the Theory of Planned Behaviour (TPB) and the literature review.

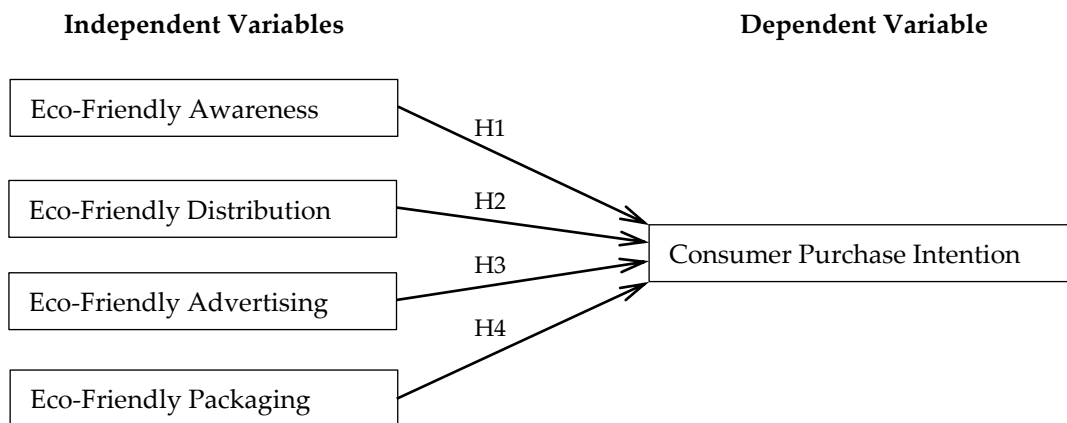


Figure 1: Proposed Conceptual Framework

3. Methodology

The following section provides the population, sampling, measurements, reliability analysis, and descriptive statistics.

3.1 Population, Sampling & Measurements

The convenience sampling technique was used to collect the data. Since customers are considered the common public, surveys were shared among friends and families via the WhatsApp app as a URL link on a 5-point Likert scale. The respondent's output data were examined using the SPSS software version 28.

The research population selected are all consumers in Klang Valley, Malaysia. The population in Klang Valley is 8.622 million (DOSM, 2023). According to (Krejcie and

Morgan's, 1970) tabularization, the sample size representative of the population at Klang Valley is 384.

The questionnaires were distributed via email and social media apps such as WhatsApp, Facebook, Instagram, and Telegram to 600 consumers in Klang Valley, Malaysia. 481 responses were received, but only 432 were thoroughly answered. The responses from the 432 samples, with a 72% return rate, were adequate. A response of 60% was adequate, according to (Babbie, 2016; Dillman et al., 2014). Therefore, the 432 responses provided the data for analysis, discussion, and concluding this study.

3.2 Reliability Analysis

Table 1: Reliability Analysis (N = 432)

Variables	Cronbach's Alpha	No. of Items
Consumer Purchasing Intention	0.761	7
Eco-friendly Awareness	0.739	7
Eco-friendly Distribution	0.856	7
Eco-friendly Advertising	0.721	7
Eco-friendly Packaging	0.704	7

According to Table 1, Cronbach's alpha value for consumer purchasing intention is 0.761 with 7 items, whereas the second variable, eco-friendly awareness, has a Cronbach's alpha value of 0.739 with 7 items. The third variable is the eco-friendly distribution with a Cronbach's alpha value of 0.856 with 7 items. The Cronbach's alpha value for eco-friendly advertising is 0.721 with 7 items. Finally, Cronbach's alpha value of eco-friendly packaging was 0.704 with 7 items. All of Cronbach's alpha values were more than 0.7, indicating that the questionnaire is reliable.

3.3 Mean and Standard Deviation Analysis

Descriptive Statistics displays the mean, standard deviation (SD), skewness and kurtosis values of this research.

Table 3: Descriptive Statistics (N=318)

Factors	Mean	SD	Skew	Kurtosis	Min	Max
Eco-friendly Awareness (EW)	3.920	0.679	-0.877	0.418	1	5
Eco-friendly Distribution (ED)	2.966	0.630	0.027	-0.359	1	5
Eco-friendly Advertising (EA)	3.841	0.710	-0.333	-0.066	1	5
Eco-friendly Packaging (EP)	3.864	0.766	-0.747	0.970	1	5
Consumer Purchase Intention (CPI)	3.596	0.647	-0.078	-0.063	1	5

From Table 3, the factor Eco-friendly Awareness (EW) shows the highest mean value of 3.920 ± 0.679 . The lowest mean value is Eco-friendly Distribution (ED), 2.966 ± 0.630 . Additionally, the normality test in Table 3 indicates that the skewness and kurtosis values

have a threshold of ± 2 therefore the data are distributed normal, as cited by (Chinna & Yuen, 2015; Gravetter & Wallnau, 2014).

4.1 Findings & Interpretation

The following section provides the findings of this study, including the respondents' demographic profiles, descriptive analysis, correlation, and regression analysis.

4.2 Demographic Profile

The profile of the respondents studied is displayed in Table 2.

Table 2: Demographic Profile of Respondents (N = 432)

	Frequency	Percentage (%)
Gender		
Male	280	64.8 %
Female	152	35.2 %
Age		
18 ~ 24	40	9.3 %
25 ~ 34	76	17.6 %
35 ~ 44	92	21.3 %
45 ~ 54	92	21.3 %
>55	132	30.6 %
Employment status		
Student	40	9.3 %
Employed	296	68.6 %
Unemployed	4	9.0 %
Retired	92	21.3%
Income range (monthly)		
Less than or equal to RM 2,999	84	19.4 %
Between RM 3,000 ~ RM 4,999	104	24.1 %
More than RM 5,000	244	56.5 %
Eco-friendly product purchase frequency		
Less than once a month	140	32.4 %
Less than twice a month	208	48.1 %
Once a week or more often	84	19.4 %
Types of products purchased		
Food & groceries	352	81.5 %
Health supplements	28	6.5 %
Electronics (e.g., smartphones and tech devices)	8	1.9 %
Household products (e.g., stationaries, mechanical or electrical accessories)	44	10.2 %

According to the demographic analysis in Table 2 above, the number of responses collected is N=432. The demographics survey of respondents shows that the majority are males (64.8%). Regarding the age range, the majority are more than 55 years old, which is 132 respondents or (30.6%). The majority of the respondents are employed, which is 296 or (68.6%). In terms of the income range, the majority of the respondents earn more

than RM5000 per month, which is (56.5%). A majority of 208 or (48.1%) of respondents purchase eco-friendly products less than twice a month. Finally, based on the type of products purchased, a majority of the respondents purchased food and groceries, which is 352 or (81.5%).

4.3 Correlation Analysis

The Pearson's Correlation among variables in Table 3 shows the statistical analysis of this study.

Table 3: Correlation Matric (N = 432)

Variable	EW	ED	EA	EP	CPI
Eco-Friendly Awareness (EW)	1				
Eco-Friendly Distribution (ED)	0.148**	1			
Eco-Friendly Advertising (EA)	0.636**	0.168**	1		
Eco-Friendly Packaging (EP)	0.671**	0.188**	0.732**	1	
Consumer Purchasing Intention (CPI)	0.490**	0.295**	0.433**	0.537**	1

Based on the Pearson's correlation matrix shown in Table 3, it was observed that the data significantly supported the measurement model. It is evident that (EW), (EA) and (EP) shows a positive and moderate correlation with (CPI) ($r = 0.490$, $p < 0.001$), ($r = 0.433$, $p < 0.001$), and ($r = 0.537$, $p < 0.001$) respectively. The correlation between (ED) and (CPI) is positive but low ($r = 0.295$, $p < 0.001$).

4.4 Regression Analysis

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.605a	0.366	0.359	0.507

From Table 4 Model Summary, $R = 0.605$ indicates the multiple correlation coefficient value, which exhibits a high degree of predictive accuracy. The $R^2 = 0.366$. This implies that 36.6% of the variation in the dependent variable (consumer purchasing intention) can be explained by the independent variables (eco-friendly awareness, eco-friendly distribution, eco-friendly advertising, and eco-friendly packaging).

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.048	4	14.762	57.321	0.000
	Residual	102.498	398	0.258		
	Total	161.546	402			

a. Dependent Variable: Consumer Purchasing Intention

b. Predictors: (Constant), Eco-Friendly Awareness, Eco-Friendly Distribution, Eco-Friendly Advertising and Eco-Friendly Packaging

Table 5 ANOVA shows that the independent factors statistically and substantially predict the dependent variable ($F=57.321$, $p < 0.001$). Therefore, the regression model fit is good. Thus, the independent variables (eco-friendly awareness, eco-friendly distribution, eco-friendly advertising, and eco-friendly packaging) can be used to predict the dependent variable (consumer purchasing behaviour).

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
Variables	(Constant)**	1.417	0.161		8.819	0.001
	Eco-Friendly Awareness	0.219	0.053	0.229	4.113	0.001
	Eco-Friendly Distribution	0.194	0.042	0.190	4.657	0.001
	Eco-Friendly Advertising	0.019	0.058	0.022	0.334	0.738
	Eco-Friendly Packaging	0.283	0.054	0.343	5.275	0.001

**Dependent Variable: Consumer Purchasing Intention

Table 6 Coefficients, show that eco-friendly awareness (EW) ($B = 0.219$; $p < 0.001$), eco-friendly distribution (ED) ($B = 0.194$; $p < 0.001$) and eco-friendly packaging (EP) ($B = 0.283$; $p < 0.001$) are statistically significant. On the other hand, eco-friendly advertising (EA) is insignificant ($B = 0.019$; $p > 0.001$)

Thus, this implies a significant relationship between the predictor variables (eco-friendly awareness, eco-friendly distribution, eco-friendly packaging) and the dependent variable (consumer purchasing intention).

Based on Table 7 Coefficients, the linear regression equation is as follows:

$$CPI = 1.417 + 0.219 (EW) + 0.194 (ED) + 0.283 (EP)$$

Where;

CPI = Consumers' Purchasing Intention

EW = Eco-Friendly Awareness

ED = Eco-Friendly Distribution

EP = Eco-Friendly Packaging

1.417 = Constant or the y-intercept

The result indicates that with a one-unit increase in eco-friendly awareness (EW), there is an increase in consumer purchasing intention (CPI) by 0.219 units. Similarly, one

unit increase in eco-friendly distribution and packaging will increase the consumer's purchasing intention by 0.194 and 0.283 units, respectively.

Additionally, the outcome of multiple regression analysis rates the influence of independent factors on the dependent variable. The stronger the standardization coefficient, the more significant the influence of the predictor variables on the consumer's purchasing intention. With a standard coefficient (Beta = 0.343), the predictor eco-friendly packaging (EP) contributes the most to the variance in consumers' purchasing intention and eco-friendly awareness (EW), and eco-friendly distribution (ED) follows with (Beta = 0.229) and (Beta = 0.190).

4.5 Summary of Hypothesis Test

Table 7: Summary of Hypothesis Results (N=432)

Hypothesis	P-value	Result
H1: There is a statistically significant relationship between eco-friendly awareness and consumer purchasing intention.	0.001	Supported by data
H2: There is a statistically significant relationship between eco-friendly distribution and consumer purchasing intention.	0.001	Supported by data
H3: There is a statistically significant relationship between eco-friendly advertising and consumer purchasing intention.	0.738	Not supported by data
H4: There is a statistically significant relationship between eco-friendly packaging and consumer purchasing intention.	0.001	Supported by data

From Table 7 Summary of Hypothesis Results, the first hypothesis (H1) tests if there is a statistically significant relationship between eco-friendly awareness and consumer purchasing intention. The p-value of eco-friendly awareness is 0.001. Consequently, indicating a statistically significant relationship between eco-friendly awareness and consumer purchasing intention.

The second hypothesis (H2) tests if there is a statistically significant relationship between eco-friendly distribution and consumer purchasing intention. The p-value of environmental attitude is 0.001. Therefore, it denotes a statistically significant relationship between eco-friendly distribution and consumer purchasing intention.

The third hypothesis (H3) is to investigate if there is a statistically significant relationship between eco-friendly advertising and consumer purchasing intention. The p-value of environmental concern is 0.738, which is more than 0.001. Hence, this implies a statistically insignificant relationship between eco-friendly advertising and consumer purchasing intention.

The fourth hypothesis (H4) tests if there is a statistically significant relationship between eco-friendly packaging and consumer purchasing intention. The p-value of eco-friendly packaging is 0.001. Thus, demonstrating a statistically significant relationship between eco-friendly packaging and consumer purchasing intention.

5. Discussion

In this section, the results of the study are deliberated. The results are generated using the IBM Statistical Package for Social Science version 26. The multiple regression analysis was applied to determine the relationship between the independent variables (eco-friendly awareness, eco-friendly distribution, eco-friendly advertising, eco-friendly packaging) and the dependent variable (consumer purchasing intention). Then, Pearson's correlation coefficient was observed to determine the size and direction of the association and whether it was statistically significant.

Firstly, this study examined if there is a statistically significant relationship between eco-friendly awareness and consumers' purchase intention in Klang Valley, Malaysia, and tested hypothesis H1: There is a statistically significant relationship between eco-friendly awareness and consumer purchasing intention.

The results of this study showed that the relationship between eco-friendly awareness and consumer purchasing intention is statistically significant, with a moderate positive correlation (p-value is less than 0.001). Therefore, the results are consistent with the literature, suggesting that eco-friendly awareness significantly determines consumers' purchase intention.

The findings of this study are parallel to the discoveries of (Hossain et al., 2021; Zaman et al., 2020; Chia & Keng-Boon, 2020; Ab Latiff et al., 2020; Kim & Chung, 2016), who reported a positive and significant relationship between eco-friendly awareness and consumer purchase intention.

Conversely, this study invalidates the findings of (Rahman, 2020; Huang & Wu, 2018), who firmly believe an insignificant relationship exists between eco-friendly awareness and consumer purchase intention.

Therefore, this study has shown strong evidence that eco-friendly awareness has become essential for many consumers who prioritize sustainability and environmental protection. Consumers may also be motivated by a sense of social responsibility. They may want to support companies committed to sustainability and environmental protection and be willing to pay a premium for products that meet these standards.

Thus, the findings of this research have answered the first research question and narrowed the literature gap.

Secondly, this study examined if there is a statistically significant relationship between eco-friendly distribution and consumers' purchase intention in Klang Valley, Malaysia, and tested the hypothesis H2: There is a statistically significant relationship between eco-friendly distribution and consumer purchasing intention.

The results signified that the relationship between eco-friendly distribution and consumer purchase intention is statistically significant with a low positive correlation (p-value is less than 0.001). Therefore, the results are consistent with the literature, suggesting that eco-friendly distribution significantly determines consumers' purchasing intention.

The findings of this study complement the previous studies of (Wang et al., 2020; Li et al., 2018; Choi & Lee, 2017; Carrington et al., 2016; Maignan & Ferrell, 2004). These researchers have made a sound conviction that a significant strong positive relationship exists between eco-friendly distribution and consumer purchasing intention

On the other hand, this study nullifies the outcomes of previous research (Kim et al., 2017; Yeo & Goh, 2015), which found an insignificant relationship between eco-friendly distribution and consumer purchase intention.

Therefore, this study has significantly and positively declared that eco-friendly distribution could appeal to consumers on multiple levels, from environmental and social responsibility to reputation and cost savings. As a result, companies that prioritize sustainability and eco-friendly distribution may be more likely to attract and retain environmentally conscious consumers.

Thus, the findings of this research have answered the second research question and narrowed the literature gap.

Thirdly, this study scrutinized if there is a statistically significant relationship between eco-friendly advertising and consumers' purchase intention in Klang Valley, Malaysia, and tested the hypothesis H3: There is a statistically significant relationship between eco-friendly advertising and consumer purchasing intention.

The results revealed that the relationship between eco-friendly advertising and consumer purchasing intention is statistically insignificant (p -value is more than 0.001). Therefore, the results are consistent with the literature, suggesting that eco-friendly advertising is not a significant determinant of consumers' purchase intention.

The findings of this study verify previous research results of (Yan & Chen, 2018; Bai, Kim, & Kim, 2016; Hong & Lee, 2015; Montecchi & Molesworth, 2010; Thøgersen, 2004), who also discovered that eco-friendly advertising does not significantly impact the consumers' purchase intention but was more influenced by the product's quality, price, and functionality.

In contrast, this study annuls the findings of (Kim & Choi, 2019; Chen, Hung, & Wang, 2016; Kang & Hustvedt, 2014). These researchers found that eco-friendly advertising significantly influences the consumers' purchase intention.

Therefore, the verdict of this study is that eco-friendly advertising may only be crucial for some consumer segments. Consumers prioritize eco-friendly awareness, distribution, and packaging in this study over eco-friendly advertising considerations. This research indicates that eco-friendly advertising alone may not change consumer behavior or attitudes toward sustainability. Moreover, eco-friendly advertising can be seen as greenwashing if the company's sustainability claims are not supported by concrete actions or are exaggerated. This can lead to consumer skepticism and even backlash.

Thus, the findings of this research have answered the third research question and narrowed the literature gap.

Finally, this study scrutinized if there is a statistically significant relationship between eco-friendly packaging and consumers' purchase intention in Klang Valley,

Malaysia, and tested hypothesis H4: There is a statistically significant relationship between eco-friendly packaging and consumer purchasing intention.

The results indicated that the relationship between eco-friendly packaging and consumer purchasing intention is statistically significant (p-value is less than 0.001). Therefore, the results are consistent with the literature, suggesting that eco-friendly packaging significantly determines consumers' purchase intention.

The findings of this study complement the discoveries of (Gyan Prakasha, 2018; van Herpen et al., 2016; Chun et al., 2016; Sung & Kim, 2015; Wier & Calverley, 2014; Vermeir & Verbeke, 2006), who revealed that consumers prefer products that are packaged using eco-friendly and biodegradable materials.

Contrarily, this study invalidates the findings of (Arroyo et al., 2019; Kang & Sung, 2018; Nguyen & Nguyen, 2018; Nijssen & Leeflang, 2016; Bai, Kim, & Kim, 2016). These researchers strongly believe that even though consumers are aware of the implications of using eco-friendly packaged products, it does not lead to purchase intention because their primary concern is the product's price.

Therefore, according to this study, eco-friendly packaging can demonstrate a company's commitment to sustainability, enhancing its reputation and brand image. Furthermore, consumers are becoming increasingly aware of the environmental impact of packaging waste and are looking for products with minimal environmental footprint. The verdict from this study is that eco-friendly packaging can attract environmentally conscious consumers and improve their purchase intention.

Thus, the findings of this research have answered the fourth research question and narrowed the literature gap.

6. Conclusion and Implications

This study examined how eco-friendly elements affect consumers' propensity to buy in the Klang Valley. The researchers also discussed how consumer awareness, distribution, advertising, and packaging affect consumers' purchase intention.

The first objective was to examine if there is a statistically significant relationship between eco-friendly awareness and consumers' purchase intention. There is strong evidence in this study to suggest that there is a significant relationship between eco-friendly awareness and consumers' purchase intention. Consumers are becoming increasingly aware of the environmental impact of their purchasing decisions and, as such, are more likely to purchase products that are marketed as eco-friendly. Numerous studies have provided evidence to support this relationship. A study by (Zaman et al., 2020) found that consumers' eco-friendly awareness significantly influenced their purchase intention for green products. Similarly, a study by (Hossain et al., 2021) found that eco-friendly awareness positively impacted consumers' purchase intention for organic food products.

Additionally, (Li & Chen, 2021) have utilized the Theory of Planned Behaviour to study how eco-friendly awareness influences consumers' purchase intentions. Just as this

study, the findings of (Li & Chen, 2021) indicate that eco-friendly awareness has a noteworthy impact on consumer purchase intention, with attitudes being the most influential factor.

Thus, these findings highlight the importance of eco-friendly awareness as a marketing strategy for companies looking to attract environmentally conscious consumers. By promoting their eco-friendly products, companies can increase their sales and contribute to protecting the planet.

The second objective of this study was to examine if there is a statistically significant relationship between eco-friendly distribution and consumers' purchase intention. From this study, there is evidence to suggest that there is a significant relationship between eco-friendly distribution and consumers' purchase intention. Consumers are becoming more aware of the environmental impact of the entire product lifecycle, including the distribution process. As such, eco-friendly distribution strategies can positively influence consumers' purchase intentions. A study by (Wang et al., 2020) found that eco-friendly distribution positively affected consumers' purchase intention for green products. Similarly, a study by (Carrington et al., 2016) found that consumers were likelier to purchase products from companies with environmentally friendly distribution practices. These findings suggest that companies can benefit from adopting eco-friendly distribution strategies, such as using sustainable transportation and packaging materials. By doing so, they can not only attract environmentally conscious consumers but also contribute to the reduction of their carbon footprint. In terms of eco-friendly distribution, the method chosen for delivery must guarantee that it does not hurt the environment.

Based on the Theory of Planned Behaviour, (Lu et al., 2019; Tung et al., 2017) found that eco-friendly distribution positively influenced consumer purchase intention through the mediation of attitude and perceived behavioural control. Hence, this study is in line with the TPB.

Furthermore, managing logistics, including transportation costs and procuring raw materials, is a few ways businesses can lower their carbon footprint. Corporations must carefully evaluate the logistic of their sales in order to market environmentally friendly products successfully.

As technology has developed, social media has emerged as one of the most efficient eco-friendly channels for green marketing (Kanapathipillai, 2021). Marketers can leverage the social media platform's controllable elements to sway their target market's opinions, information, and behaviour (Kanapathipillai & Mahbob, 2021). Interesting conclusions include environmental concerns and consumer beliefs that influence their environmental views, eco-labelling (EL), green packaging and branding (GPB), green products, premium pricing (GPPP), and eco-products (EP). The study discovered that eco-friendly advertising could affect customer perceptions and change consumers' intentions to buy the goods by using green marketing in communications for brand marketing.

The third objective of this study was to examine if there is a statistically significant relationship between eco-friendly advertising and consumers' purchase intention. While

eco-friendly advertising is an essential aspect of promoting sustainable products and services, this study has revealed that it does not significantly impact consumers' purchase intention. Previous studies have found that eco-friendly advertising does not necessarily lead to increased sales or changes in consumer behavior. A study by (Thøgersen, 2004) found that eco-labels and other eco-friendly advertising did not significantly affect consumers' purchase intention for environmentally friendly products. Similarly, a study by (Montecchi & Molesworth, 2010) found that environmental advertising did not significantly impact consumers' purchase intention for environmentally friendly products, except in certain circumstances. These findings suggest that while eco-friendly advertising can be essential for promoting sustainable products and services, it may not always influence consumers' purchasing decisions. In conclusion, eco-friendly advertising can increase brand loyalty, attract environmentally conscious consumers, and create a halo effect. However, it may not effectively promote low-involvement products and attract price-sensitive consumers (Bai, Kim, & Kim, 2016).

Therefore, this study reveals that it is not synchronous with the Theory of Planned Behaviour and is not in line with studies by (Siwar et al., 2019; Liu & Chan, 2019), who used TPB to research to show that eco-friendly advertising positively affects consumer purchase intention.

Thus, businesses must carefully consider their target audience and the nature of their products when deciding to use eco-friendly advertising in their marketing strategies.

The fourth objective of this study was to examine if there is a statistically significant relationship between eco-friendly packaging and consumers' purchase intention. This study has uncovered that there is strong evidence to suggest that there is a significant relationship between eco-friendly packaging and consumers' purchase intention.

Additionally, this study is supported by the Theory of Planned Behaviour and is in line with the study of (Wang et al., 2016; Cervellon et al., 2012), who used TPB to prove that eco-friendly packaging positively impacts the purchase intention of consumers.

Consumers are increasingly aware of the environmental impact of packaging waste and, as such, are more likely to purchase products that are packaged in an eco-friendly manner. Numerous studies have provided evidence to support this relationship. A study by (Wier & Calverley, 2014) found that eco-friendly packaging significantly influenced consumers' purchase intention for environmentally friendly products. Similarly, a study by (van Herpen et al., 2016) found that eco-friendly packaging significantly positively impacted consumers' purchase intention for sustainable food products. These findings highlight the importance of eco-friendly packaging design for companies looking to attract environmentally conscious consumers. By using sustainable packaging materials and designs, companies can appeal to environmentally conscious consumers and contribute to reducing their carbon footprint. Consumer opinions about liking and disliking are strongly correlated, affecting consumers' propensity to buy products that are packaged sustainably. Less packaging waste, using biodegradable

materials, and recyclable packaging when empty are essential needs for consumers when buying eco-friendly packaging products. For an effective shift to a more sustainable industry, consumers' demands and motivations for utilising eco-friendly packaging must be addressed.

In conclusion, while eco-friendly packaging can positively influence consumers' perceptions of a product's quality and increase their willingness to pay a premium, it may not necessarily translate into increased sales. Companies must carefully consider their target audience and the nature of their products when deciding to use eco-friendly packaging in their marketing strategies. Moreover, to promote items with eco-friendly packaging, marketers must pay close attention to consumer preferences and decision-making processes (Muhammad Imran Malik, 2019).

An environmentally conscious attitude will educate consumers, mould attitudes, and raise environmental awareness to produce intentions to purchase environmentally friendly products, even though consumers will occasionally pay more.

Conflict of Interest Statement

The authors declare no conflicts of interest.

About the Authors

There are five authors involved in this research. Below is a brief introduction of each author.

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