



GREEN ADVERTISING AND GREEN PRODUCT INNOVATION DRIVING GREEN PURCHASE BEHAVIOR: THE MEDIATING ROLE OF GREEN BRAND AWARENESS AMONG GENERATION Z IN INDONESIA

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Abstract

Environmental sustainability has become a central concern in contemporary consumer behavior research, particularly among younger generations who demonstrate higher environmental awareness. Despite the growing interest in green consumption, the determinants of green purchase behavior remain insufficiently explored in developing country contexts. Prior studies have largely focused on consumer attitudes or purchase intentions, with limited attention to the role of marketing communication and product innovation in shaping environmentally responsible behavior. This study aims to examine how green advertising and green product innovation influence green purchase behavior through the mediating role of green brand awareness among Generation Z in Indonesia. The research adopts the Theory of Planned Behavior (TPB) as the primary theoretical framework to explain environmentally friendly purchasing behavior. A quantitative survey was conducted with 381 Generation Z consumers in Indonesia using purposive sampling. Data were analyzed using Structural Equation Modeling (SEM) with AMOS. The findings reveal that green advertising and green product innovation significantly influence green brand awareness and green purchase behavior. Green brand awareness also acts as a significant mediating variable that strengthens the relationship between marketing strategies and consumer purchasing behavior. Theoretically, this study extends the Theory of Planned Behavior by integrating green marketing communication and green product innovation as key antecedents of sustainable consumption behavior. Practically, the results suggest that companies targeting Generation Z should strengthen green communication strategies, invest in eco-friendly product innovations, and build strong green brand identities to encourage sustainable purchasing behavior.

Keywords: Green Advertising, Green Product Innovation, Green Brand Awareness, Purchasing Behavior, Theory of Planned Behavior

INTRODUCTION

Environmental sustainability has become one of the most pressing global challenges in recent decades. Increasing environmental degradation, climate change, and resource depletion have encouraged governments, companies, and consumers to adopt more sustainable practices (Shin & Ki, 2019). In this context, consumer purchasing behavior plays a crucial role in promoting sustainable development, particularly through the adoption of environmentally friendly products (Leonidou et al., 2011).

Green purchasing behavior has therefore become an important topic in marketing and consumer behavior research (Jirakraisiri et al., 2021) (Abadzhiev et al., 2022) (Arin et al., 2023) (Khoiriani et al., 2025). Numerous studies have attempted to explain environmentally responsible consumption using the Theory of Planned Behavior (TPB), which suggests that behavioral intentions are influenced by attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). Recent research has confirmed that TPB remains one of the most robust theoretical frameworks for explaining green consumption behavior across various contexts. (Baquero, 2024) (Yang & Singhdong, 2024) (Wu et al., 2024) (Padilla-Lozano & Collazzo, 2022)

However, previous studies have primarily focused on psychological determinants such as attitudes, environmental concern, or purchase intention, while marketing-driven factors such as green advertising and green product innovation have received relatively limited attention (Lopes et al., 2024) (Gandhi, 2020) (Malik et al., 2019). Recent studies suggest that marketing communication and innovation play a crucial role in shaping consumers' perceptions and environmental awareness. Nevertheless, the mechanisms through which these factors influence actual green purchase behavior remain underexplored (Luthra et al., 2024) (Triwinarso et al., 2022).

Furthermore, although green brand awareness has been recognized as an important determinant of sustainable consumption, its role as a mediating mechanism linking marketing strategies and purchasing behavior is still insufficiently investigated, particularly in emerging markets (Lopes et al., 2024) (Joshi & Rahman, 2016). Existing studies have largely been conducted in developed economies, leaving a significant research gap regarding how these relationships operate in developing countries (Jirakraisiri et al., 2021) (Abadzhiev et al., 2022)

Another limitation of previous research concerns the consumer segment under investigation. Generation Z represents a rapidly growing consumer group that is highly exposed to digital media and sustainability discourse (Baquero, 2024) (Yang & Singhdong, 2024) (Wu et al., 2024) (Padilla-Lozano & Collazzo, 2022) (Padilla-Lozano et al., 2024). Despite their strong environmental awareness, the factors influencing their actual purchasing behavior remain ambiguous (Manyati et al., 2024) (George et al., 2023). Therefore, this study aims to examine the influence of green advertising and green product innovation on green purchase behavior through the mediating role of green brand awareness among Generation Z in Indonesia.

The novelty of this research lies in integrating green marketing communication and green product innovation within the Theory of Planned Behavior framework while positioning green brand awareness as a mediating mechanism explaining environmentally friendly purchasing behavior among Generation Z in a developing country context.

REVIEW OF LITERATURE

Green Advertising and Eco-Friendly Purchasing Behavior

Green advertising refers to marketing communication that conveys environmental messages through symbols, language, or visuals emphasizing sustainability values. Beyond promotional purposes, green advertising also functions as an educational medium that shapes consumer awareness and perceptions regarding environmentally responsible behavior (D. Li, 2025)(Carrión-Bósquez et al., 2024)(Majeed et al., 2022). By consistently communicating sustainability values, companies can foster positive attitudes toward green products, which may influence consumers' purchasing behavior (Sun et al., 2025)(Guo et al., 2024)(Balaskas et al., 2023).

The relationship between green advertising and purchasing behavior can be explained through the Theory of Planned Behavior (TPB) (Ajzen, 1991). TPB suggests that attitudes, subjective norms, and perceived behavioral control influence behavioral intentions and actions. In this context, green advertising can strengthen consumers' attitudes toward environmentally friendly products by highlighting environmental benefits, social responsibility, and corporate commitment to sustainability (Leonidou et al., 2011)(Dahhan & Arenkov, 2025)(Ruangkanjanases et al., 2020).

Green advertising may influence consumer behavior through several mechanisms. First, it enhances consumers' cognitive awareness of environmental issues, encouraging more critical evaluation of product impacts (Lopes et al., 2024)(Y. Li & Shan, 2025)(X. Zhang et al., 2024). Second, sustainability messages can create emotional connections between consumers and brands, strengthening brand attachment (Gandhi, 2020)(X. Zhang et al., 2024). Third, green advertising may increase corporate credibility and social legitimacy, thereby improving consumer trust and purchase preference (Malik et al., 2019)(Majeed et al., 2022).

Empirical studies consistently show that green advertising positively influences environmentally friendly attitudes and purchasing intentions (Moser, 2015)(D. Li, 2025)(Eyada, 2024). Research focusing on Generation Z also highlights the important role of sustainability communication in encouraging environmentally responsible behavior (Confetto et al., 2023)(Eyada, 2024)(Obaid & Rashid, 2024). However, previous studies largely focus on consumers in developed countries and tend to examine purchase intention rather than actual purchasing behavior. In addition, the role of green advertising in the digital media environment remains underexplored.

Therefore, green advertising can be considered an important factor influencing environmentally friendly purchasing behavior, particularly among Generation Z consumers. Based on the TPB framework and prior literature, the following hypothesis is proposed. Based on a synthesis of the literature and the TPB framework, this study proposes the following hypothesis.

Hypothesis 1 (H1): Green advertising has a positive effect on environmentally friendly purchasing behavior.

Green Product Innovation and Environmentally Friendly Purchasing Behavior

Green product innovation (GPI) refers to sustainability-oriented innovation aimed at reducing environmental impacts through eco-friendly product design, sustainable raw materials, energy-efficient technologies, and environmentally responsible production processes (Jirakraisiri et al., 2021). Beyond improving environmental performance, GPI also

represents a strategic approach for firms to create competitive advantages and strengthen their sustainability-oriented brand image, which can enhance consumer trust and influence environmentally friendly purchasing decisions (Padilla-Lozano et al., 2024).

The relationship between GPI and environmentally friendly purchasing behavior can be explained through the Theory of Planned Behavior (TPB) (Ajzen, 1991)(Lavuri, 2022). Within this framework, consumers' attitudes toward a behavior are shaped by their beliefs regarding its outcomes. When consumers perceive green products as beneficial for the environment and aligned with their personal values, they tend to develop positive attitudes that encourage environmentally responsible purchasing behavior (Maziriri et al., 2023)(Naz et al., 2020)(L. Wang, 2022).

GPI influences consumer behavior through several mechanisms. First, it enhances the functional value of products, such as improved durability or energy efficiency ((Farida & Setiawan, 2024)(Wijekoon & Sabri, 2021). Second, it generates emotional value, as consumers often perceive purchasing environmentally friendly products as a contribution to environmental protection (Ahmad et al., 2023)(Tsai et al., 2025). Third, GPI can strengthen social value, allowing consumers to express their environmental identity through sustainable consumption (Guo et al., 2024)(Kamboj & Kishor, 2022).

Empirical studies provide evidence supporting this relationship. Previous research shows that green innovation can enhance consumer trust and strengthen positive attitudes toward environmentally friendly products, which ultimately increases the likelihood of green purchasing behavior (Padilla-Lozano et al., 2024)(Pino et al., 2020). In the context of Generation Z, GPI becomes particularly relevant because this group tends to prioritize sustainability and actively seek products that align with environmental values (Confetto et al., 2023). However, several research gaps remain. Many studies focus on the relationship between green innovation and organizational performance rather than its direct influence on consumer purchasing behavior. Additionally, existing research largely emphasizes large corporations, while the role of smaller firms remains underexplored (Alkebsee et al., 2023). Empirical evidence from developing countries, including Indonesia, is also still limited. Therefore, GPI can be considered an important factor influencing environmentally friendly purchasing behavior. Based on this reasoning, the following hypothesis is proposed. This study proposes the following hypotheses.

Hypothesis 2 (H2): Green product innovation has a positive effect on environmentally friendly purchasing behavior.

Green Advertising and Green Brand Awareness

Green advertising is a marketing communication strategy that emphasizes environmental messages to shape positive consumer perceptions of a product or brand. It not only communicates the functional benefits of a product but also conveys ethical and sustainability values associated with the brand (Shin & Ki, 2019)(Rahman & Nguyen-Viet, 2023)(J. Wang & Li, 2022). Through such communication, green advertising strengthens the environmental image of a brand and enhances consumer confidence in the company's commitment to sustainability (Agarwal & Kumar, 2020)(Shi & Jiang, 2023).

In marketing literature, green brand awareness (GBA) refers to consumers' ability to recognize, recall, and associate a brand with environmentally friendly attributes (Lopes et al., 2024)(Nhuong & Truong, 2024)(Dinh et al., 2023). High brand awareness plays an important role in shaping consumer preferences because consumers tend to include familiar brands in

their purchase considerations (Suttikun et al., 2025). Consequently, green advertising is considered an important mechanism for strengthening green brand awareness through consistent sustainability-oriented messages.

Green advertising influences GBA through several mechanisms. First, it enhances cognitive awareness by providing information about environmentally friendly product features such as renewable energy use or sustainable materials (Leonidou et al., 2011). Second, it creates emotional associations by linking brands with sustainability narratives, which strengthen consumer attachment to the brand (Confetto et al., 2023). Third, green advertising contributes to social legitimacy by demonstrating a company's commitment to sustainable practices, thereby increasing public trust in the brand (Malik et al., 2019).

Empirical studies support this relationship. Prior research shows that consistent green advertising can increase brand recognition and recall among environmentally conscious consumers (Leonidou et al., 2011)(Moser, 2015). Recent studies also highlight the importance of sustainability-related content on digital platforms in strengthening brand awareness among Generation Z (Confetto et al., 2023)(Carrión-Bósquez et al., 2024)(Herman et al., 2021). Given that Generation Z actively seeks information about sustainability through digital media, exposure to environmental messages in advertising can significantly increase their awareness of green brands.

However, several research gaps remain. Previous studies mainly focus on the role of green advertising in influencing purchase intention rather than brand awareness, particularly in developing countries. In addition, research has largely examined traditional advertising media, while the role of digital platforms in building green brand awareness is still underexplored (Suttikun et al., 2025)(Mansoor et al., 2022).

Therefore, green advertising can be considered a key driver of green brand awareness. Consistent and credible environmental messages help strengthen brand identity and increase consumer trust in environmentally responsible brands. Based on a synthesis of the literature, this study proposes the following hypothesis.

Hypothesis 3 (H3): Green advertising has a positive effect on green brand awareness.

Green Product Innovation and Green Brand Awareness

Green product innovation (GPI) refers to the development of environmentally friendly products and production processes, including the use of sustainable materials, energy efficiency, and the reduction of waste and pollution (Jirakraisiri et al., 2021)(Majali et al., 2022). Beyond improving environmental performance, GPI also serves as a strategic tool for companies to strengthen their brand image and differentiate themselves in competitive markets. From a marketing perspective, GPI is believed to enhance green brand awareness (GBA), defined as consumers' ability to recognize and associate a brand with environmentally responsible attributes (Padilla-Lozano et al., 2024)(Loučánová et al., 2021)(Y. Li et al., 2025).

Conceptually, the relationship between GPI and GBA can be explained through the Resource-Based View (RBV), which suggests that sustainable competitive advantage arises from unique organizational capabilities such as green innovation (Chen et al., 2021). Firms investing in GPI develop distinctive brand identities that are difficult for competitors to imitate, strengthening consumer awareness of environmentally responsible brands. Additionally, signaling theory suggests that green innovation acts as a credible signal of a

company's commitment to sustainability, thereby reinforcing brand recognition and trust among consumers (Loučanová et al., 2021)(Zhou et al., 2021).

GPI influences green brand awareness through several mechanisms. First, it strengthens cognitive associations by highlighting environmentally friendly product attributes such as eco-labels or recyclable packaging (Rupasinghe et al., 2024). Second, it creates emotional value, as consumers often feel satisfaction and pride when purchasing products aligned with their environmental values (Yang & Singhdong, 2024). Third, GPI contributes to social legitimacy, as companies perceived as green innovators are considered more responsible and trustworthy, which enhances brand recall and preference (M. Zhang et al., 2021)(Adomako & Tran, 2025).

Empirical studies support these arguments. Research shows that green innovation contributes to stronger brand recognition and positive consumer perceptions of environmentally responsible companies (Padilla-Lozano et al., 2024) (Alkebsee et al., 2023). In Indonesia, green innovation has also been found to strengthen corporate image and brand credibility in the real estate sector (Farida & Setiawan, 2024). For Generation Z, green innovation is particularly important because this group actively seeks sustainability information through digital platforms and tends to trust brands that demonstrate authentic environmental commitment (Confetto et al., 2023) (Luthra et al., 2024).

However, several research gaps remain. Previous studies primarily examine the relationship between green innovation and organizational performance rather than its impact on green brand awareness. Additionally, many studies focus on multinational companies, while the role of MSMEs in green innovation remains underexplored (Rupasinghe et al., 2024). Furthermore, limited research investigates how green innovation interacts with digital communication channels to strengthen brand awareness among younger consumers.

Therefore, GPI can be considered a strategic factor in strengthening green brand awareness through cognitive, emotional, and social mechanisms. When integrated with effective communication strategies, green product innovation can build a credible brand identity and enhance brand differentiation in sustainable markets. Based on a synthesis of theory and empirical evidence, this study proposes the following hypothesis.

Hypothesis 4 (H4): Green product innovation has a positive effect on green brand awareness.

Green Brand Awareness and Eco-Friendly Purchasing Behavior

Green brand awareness (GBA) refers to consumers' ability to recognize, recall, and associate a brand with sustainability values and environmentally friendly attributes ((Nhuong & Truong, 2024)(Tan et al., 2022). This awareness reflects consumers' cognitive and emotional connection with a brand and plays an important role in influencing purchasing decisions. In the context of increasing environmental concern, GBA has become a key factor encouraging consumers to shift their preferences toward environmentally friendly products (Lopes et al., 2024)(Tan et al., 2022)(Ha, 2021).

The relationship between GBA and environmentally friendly purchasing behavior can be explained through the Theory of Planned Behavior (TPB) (Ajzen, 1991). Within this framework, consumers' attitudes and behavioral intentions are influenced by their knowledge and awareness. Higher awareness of green brands tends to create more positive attitudes toward these brands, which in turn increases the likelihood of purchasing environmentally friendly products (Maziriri et al., 2023). Moreover, strong brand awareness can reduce consumer uncertainty and strengthen trust in green products (Malik et al., 2019).

GBA influences purchasing behavior through several mechanisms. First, it enhances cognitive value, as consumers who recognize a brand's environmental identity are more likely to understand the environmental benefits of its products (Nhuong & Truong, 2024). Second, it creates emotional value, where consumers feel pride and satisfaction when purchasing products associated with environmental responsibility (Confetto et al., 2023). Third, GBA also provides social value, as environmentally conscious consumption can reflect social responsibility and strengthen consumers' identity within their community (Yang & Singhdong, 2024).

Empirical evidence supports these relationships. Previous studies show that high levels of green brand awareness increase the probability of purchasing environmentally friendly products (Moser, 2015)(Saeed et al., 2023). Research also indicates that GBA acts as an important mediator between environmental concern and green purchasing behavior (Lopes et al., 2024)(Correia et al., 2023). Generation Z consumers, in particular, tend to be more responsive to brands with strong environmental identities, making brand awareness an important driver of sustainable consumption (Confetto et al., 2023)(Saeed et al., 2023).

However, several research gaps remain. Most studies focus on consumers in developed countries, while evidence from developing countries such as Indonesia remains limited. Additionally, many studies examine purchase intention rather than actual purchasing behavior. Limited research also considers situational factors such as price, accessibility, and cultural preferences that may influence green purchasing decisions (Rukhsar et al., 2025)(Khandai et al., 2025).

Therefore, green brand awareness can be considered an important determinant of environmentally friendly purchasing behavior by strengthening consumers' cognitive, emotional, and social motivations. Based on this reasoning, the following hypothesis is proposed.

Hypothesis 5 (H5): Green brand awareness has a positive effect on environmentally friendly purchasing behavior.

The Mediating Role of Green Brand Awareness

Green brand awareness (GBA) not only functions as an independent construct influencing environmentally friendly purchasing behavior but also plays a strategic role as a mediating variable linking sustainability-oriented marketing strategies and consumer behavior. Conceptually, GBA bridges the influence of green advertising (GA) and green product innovation (GPI) on green purchase behavior (GPB). When consumers are exposed to green advertising or observe environmentally friendly product innovations, their awareness of the brand increases, which subsequently strengthens their preferences and encourages purchasing behavior (Bashir et al., 2020)(Tan et al., 2022)(Sutisna et al., 2025).

From the perspective of the Theory of Planned Behavior (TPB) (Ajzen, 1991), consumer intentions and behaviors are influenced by attitudes, subjective norms, and perceived behavioral control. In this framework, GBA strengthens consumer attitudes and social norms through increased knowledge and positive associations with environmentally responsible brands (Lopes et al., 2024)(Tan et al., 2022). Consequently, marketing strategies such as green advertising or green innovation may not effectively influence behavior if consumers lack sufficient awareness of the brand.

The mediating mechanism of GBA can be explained through several dimensions. First, GBA strengthens cognitive value, as advertising and product innovations help

consumers recognize brands and recall their environmentally friendly attributes (Y. Li & Shan, 2025)(Shi & Jiang, 2023). Second, GBA creates emotional value, where awareness of a green brand generates pride and positive feelings, encouraging consumers to choose sustainable products. Third, GBA enhances social legitimacy, as consumers perceive brands with strong environmental identities as more credible and responsible.

Empirical studies support the mediating role of GBA. Previous research indicates that brand awareness mediates the relationship between environmentally oriented advertising and consumer purchasing behavior (Hasrama et al., 2025)(Nguyen-Viet, 2022). Similarly, studies show that sustainability-related communication on social media can increase brand awareness, which ultimately encourages environmentally responsible consumption, particularly among Generation Z (Confetto et al., 2023). Research on green innovation also demonstrates that GPI enhances brand awareness, which subsequently influences green purchasing decisions (Padilla-Lozano et al., 2024).

Generation Z represents a particularly relevant consumer group, as they actively seek sustainability-related information through digital media and tend to trust brands with strong environmental identities (Confetto et al., 2023)(Luthra et al., 2024). Consequently, GBA plays a crucial role in strengthening the impact of GA and GPI on green purchasing behavior within this segment.

However, several research gaps remain. Most studies examining the mediating role of GBA focus on developed countries, while empirical evidence from developing countries such as Indonesia remains limited. Additionally, existing research largely emphasizes purchase intention rather than actual purchasing behavior. The role of digital media, particularly social platforms widely used by younger consumers, also requires further investigation.

Therefore, GBA can be considered a strategic mediating variable that strengthens the influence of green advertising and green product innovation on environmentally friendly purchasing behavior. Based on theoretical foundations and empirical evidence, this study proposes the following hypothesis.

Hypothesis 6 (H6): Green brand awareness mediates the effect of green advertising on environmentally friendly purchasing behavior.

Hypothesis 7 (H7): Green brand awareness mediates the effect of green product innovation on environmentally friendly purchasing behavior.

RESEARCH METHOD

This study employed a quantitative research design using a survey approach to examine the relationships among green advertising, green product innovation, green brand awareness, and green purchase behavior among Generation Z consumers in Indonesia. The quantitative approach was selected because it allows for the empirical testing of causal relationships between latent constructs and provides statistical evidence for theoretical models(Hair & Alamer, 2022). Structural Equation Modeling (SEM) using AMOS was employed to analyze the data. SEM is considered an appropriate analytical technique because it enables the simultaneous estimation of multiple relationships between latent variables while accounting for measurement error. Furthermore, SEM is widely used in consumer behavior and green marketing research to test complex theoretical models involving mediation relationships(Santoso, 2021)(Collier, 2020).The study targeted Generation Z

consumers in Indonesia, defined as individuals born between 1995 and 2010. This demographic group was selected because they represent a digitally connected generation that demonstrates relatively high awareness of environmental sustainability issues. A total of 381 respondents participated in the study. The sample size is considered adequate for SEM analysis, as recommended by Hair et al., which suggest a minimum sample size of 200 respondents for structural model testing. Data were collected using purposive sampling with the following criteria: Respondents belong to Generation Z, Respondents reside in Indonesia, Respondents have been exposed to information about environmentally friendly products. The research instrument used a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

RESULTS AND DISCUSSION

Respondent Profile

Table 1. Demographic Characteristics of Respondents

No	Characteristics	Category	Number of People	Percentage
1	Gender	Male	173	45.4
		Female	208	54.6
		Total	381	100.0
2	Age	19–22 years old	318	83.5
		23–26 years old	63	16.5
		Total	381	100.0
3	Level of Education	High School	42	11
		Bachelor's Degree (S1)	339	89.0
		Total	381	100.0
4	Monthly Income	< Rp. 2,000,000	228	59.8
		IDR 2,000,000 - IDR 4,000,000	87	22.8
		IDR 4,000,100 - IDR 6,000,000	12	3.1

No	Characteristics	Category	Number of People	Percentage
		IDR 6,000,100 - IDR 8,000,000	28	7.3
		> Rp. 8,000,000	26	6.8
		Total	381	100

This study involved 381 respondents with a relatively balanced gender distribution, although females slightly dominated the sample. Female respondents accounted for 54.6%, while males represented 45.4%, indicating adequate representation from both groups. In terms of age, the majority of respondents were 19–22 years old (83.5%), followed by 23–26 years old (16.5%). This distribution indicates that the sample mainly represents Generation Z, a demographic group known for its high engagement with digital technology, social media, and environmental issues, making them relevant to the focus of this study. Regarding educational background, most respondents held a bachelor's degree (89.0%), while 11.0% had completed high school. This relatively high level of education suggests that respondents are likely to have a better understanding of sustainability concepts and environmentally friendly products. In terms of income, the majority of respondents (59.8%) reported a monthly income of less than Rp2,000,000, followed by 22.8% earning Rp2,000,000–Rp4,000,000. Smaller proportions reported higher income levels, including 7.3% (Rp6,000,100–Rp8,000,000), 6.8% (>Rp8,000,000), and 3.1% (Rp4,000,100–Rp6,000,000). This distribution indicates that most respondents fall within the low to middle income category, which is relevant when analyzing purchasing behavior toward green products.

Instrument Quality Test

Table 2.
Confirmatory Factor Analysis (CFA) Results

Variable	Item	Calculation Results				
		Loading	Error	Construct Reliability (CR)	AVE	Description
Green Advertising	GAD1	0.819	0.329			Valid
	GAD2	0.910	0.172			Valid
	GAD3	0.628	0.606			Valid
	Total	2,357	1,107	0.834	0.631	Reliable
Green Product Innovation	GPI1	0.677	0.542			Valid
	GPI2	0.782	0.388			Valid
	GPI3	0.662	0.562			Valid
	GPI4	0.697	0.514			Valid
	GPI5	0.752	0.434			Valid
	Total	3,570	2,441	0.839	0.512	Reliable
Green Brand Awareness	GBA1	0.817	0.333			Valid
	GBA2	0.801	0.358			Valid

	GBA3	0.864	0.254			Valid
	GBA4	0.832	0.308			Valid
	Total	3,314	1,252	0.898	0.687	Reliable
Green Purchase Behavior	GPB1	0.790	0.376			Valid
	GPB2	0.879	0.227			Valid
	GPB3	0.736	0.458			Valid
	Total	2,405	1,062	0.845	0.646	Reliable

Validity and Reliability Test (Concise Version)

The validity test results indicate that all measurement items have factor loadings above the recommended threshold of 0.5, demonstrating a significant relationship between the indicators and their respective constructs. For instance, the Green Advertising indicators show loading values of 0.819 (GAD1), 0.910 (GAD2), and 0.628 (GAD3), confirming that all indicators across the four variables—Green Advertising, Green Product Innovation, Green Brand Awareness, and Green Purchase Behavior—are valid for measuring the intended constructs. The reliability test was assessed using Construct Reliability (CR) and Average Variance Extracted (AVE). The results show that all variables meet the recommended criteria, with CR values exceeding 0.7 and AVE values above 0.5, indicating good internal consistency and reliability. Specifically, Green Advertising (CR = 0.834; AVE = 0.631), Green Product Innovation (CR = 0.839; AVE = 0.512), Green Brand Awareness (CR = 0.898; AVE = 0.687), and Green Purchase Behavior (CR = 0.845; AVE = 0.646) all demonstrate satisfactory reliability. These results confirm that the measurement instruments used in this study are valid and reliable for assessing the proposed constructs.

Goodness of Fit Test Results

Figure 1.
Full model (Goodness of Fit Test Results)

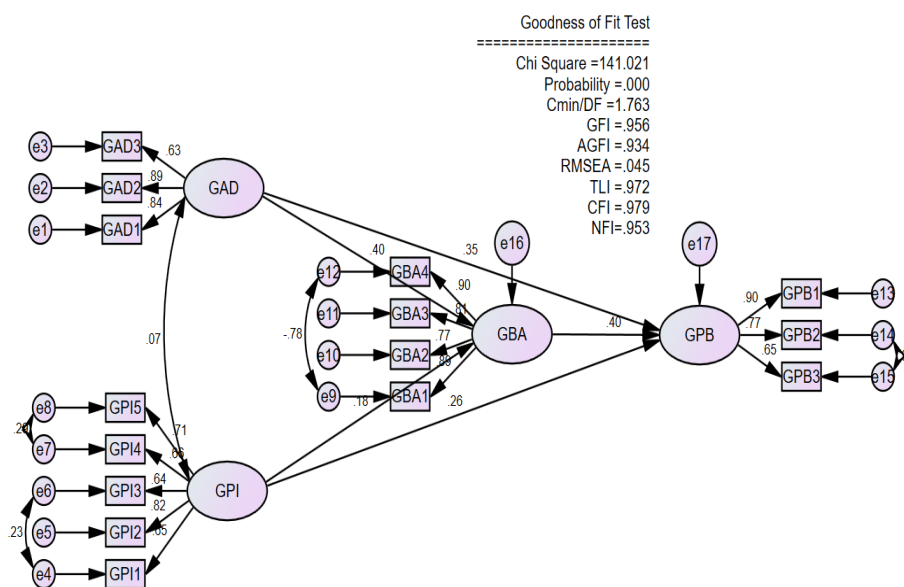


Table 3. Goodness of Fit Test Results

No.	Parameter	Expected Value	Test Results	Description
1	CMIN (Chi-Square)	$P < 0.05$	141.021, $p = 0.000$	Model does not fit ($p\text{-value} < 0.05$)
2	CMIN/DF	≤ 3	1,763	Okay, the model fits the data
3	RMR (Root Mean Square Residual)	≤ 0.05	0.023	Good, the model has small residuals
4	GFI (Goodness of Fit Index)	≥ 0.90	0.956	Good, the model has a high fit index
5	AGFI (Adjusted Goodness of Fit Index)	≥ 0.90	0.934	Good, the model has an adjusted fit
6	PGFI (Parsimony Goodness of Fit Index)	≥ 0.50	0.637	Good, the model has an appropriate index
7	NFI (Normed Fit Index)	≥ 0.90	0.953	Good, the model has a high fit index
8	RFI (Relative Fit Index)	≥ 0.90	0.938	Good, the model has a high relative index
9	IFI (Incremental Fit Index)	≥ 0.90	0.979	Good, the model has a high incremental index
10	TLI (Tucker-Lewis Index)	≥ 0.90	0.972	Good, the model has a high TLI index
11	CFI (Comparative Fit Index)	≥ 0.90	0.979	Good, the model has a high comparative index
12	RMSEA (Root Mean Square Error of Approximation)	≤ 0.08	0.045	Good, the model has a low approximation error

The Goodness of Fit results indicate that the proposed structural model fits the data well. The Chi-Square value is 141.021 with a p-value of 0.000. Although the Chi-Square significance suggests a less optimal fit, this indicator is sensitive to sample size. Therefore, additional fit indices are used to evaluate model adequacy. The CMIN/DF value of 1.763 is below the recommended threshold of 3, indicating a good model fit. The RMR value of 0.023 also meets the recommended criterion (≤ 0.05), suggesting that the model has very small residual errors.

Other fit indices further confirm the adequacy of the model. The values of GFI (0.956), AGFI (0.934), and PGFI (0.637) meet the recommended thresholds, indicating that the model explains the variance and covariance structure of the data effectively while maintaining acceptable model parsimony. Similarly, incremental fit indices such as NFI (0.953), RFI (0.938), IFI (0.979), TLI (0.972), and CFI (0.979) exceed the recommended value of 0.90, demonstrating that the proposed model has a strong comparative fit relative to the independent model. Finally, the RMSEA value of 0.045 is below the recommended threshold of 0.08, indicating a low approximation error and confirming that the model adequately represents the observed data..

Hypothesis Test

Table 4. Hypothesis test results

No.	Variable Relationship	Estimated Coefficient	P-Value	Description
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1	GAD → GBA	0.434	0.000	H1 accepted
2	GPI → GBA	0.229	0.000	H2 accepted
3	GAD → GPB	0.370	0	H3 accepted
4	GPI → GPB	0.330	0.000	H4 accepted
5	GBA → GPB	0.395	0.000	H5 accepted
6	GAD → GPB → GBA (mediated)	0.000	0.006	H6 accepted
7	GPI → GPB → GBA (mediated)	0.072	0.007	H7 accepted

Hypothesis H1: Green Advertising (GAD) has a positive effect on Green Brand Awareness (GBA)

H1: The results show that Green Advertising (GAD) has a significant positive effect on Green Brand Awareness (GBA) ($\beta = 0.434$, $p < 0.001$). This indicates that stronger green advertising increases consumers' awareness of environmentally friendly brands. Therefore, H1 is accepted.

H2: Green Product Innovation (GPI) also has a significant positive effect on Green Brand Awareness (GBA) ($\beta = 0.229$, $p < 0.001$). This suggests that environmentally oriented product innovations contribute to strengthening consumers' recognition of green brands. Thus, H2 is accepted.

H3: The relationship between Green Advertising (GAD) and Green Purchase Behavior (GPB) is positive and significant ($\beta = 0.370$, $p < 0.001$). This finding indicates that sustainability-oriented advertising can encourage consumers to engage in environmentally friendly purchasing behavior. Therefore, H3 is accepted.

H4: Green Product Innovation (GPI) significantly influences Green Purchase Behavior (GPB) ($\beta = 0.330$, $p < 0.001$). This result suggests that environmentally friendly product innovations increase consumers' likelihood of purchasing green products. Hence, H4 is accepted.

H5: Green Brand Awareness (GBA) has a significant positive effect on Green Purchase Behavior (GPB) ($\beta = 0.395$, $p < 0.001$), indicating that higher awareness of green brands encourages environmentally responsible purchasing decisions. Therefore, H5 is accepted.

H6: The mediation test indicates that Green Brand Awareness significantly mediates the relationship between Green Advertising and Green Purchase Behavior ($p = 0.006$). This result confirms that green advertising influences purchasing behavior both directly and indirectly through increased brand awareness. Thus, H6 is accepted.

H7: Green Brand Awareness also mediates the relationship between Green Product Innovation and Green Purchase Behavior ($\beta = 0.072$, $p = 0.007$). This finding suggests that green product innovation strengthens purchasing behavior through enhanced brand awareness. Therefore, H7 is accepted.

Discussion

The findings of this study provide important insights into the determinants of green purchase behavior among Generation Z consumers in Indonesia. First, the results confirm that green advertising significantly influences green purchase behavior. This finding supports previous studies that highlight the role of sustainability-oriented communication in shaping environmentally responsible consumer behavior. Green advertising not only increases awareness but also strengthens consumers' perceptions of the environmental benefits associated with green products. Second, the study demonstrates that green product innovation positively affects green purchase behavior. This result suggests that consumers are increasingly attracted to products that incorporate environmentally friendly features such as sustainable materials, recyclable packaging, and energy-efficient technologies. Third, green brand awareness emerged as the strongest predictor of green purchase behavior. This finding indicates that consumers are more likely to purchase environmentally friendly products when they recognize and trust brands associated with sustainability values. Furthermore, the mediation analysis confirms that green brand awareness strengthens the relationship between marketing strategies and purchasing behavior. This suggests that marketing efforts and product innovations are more effective when they contribute to building a strong green brand identity. These findings reinforce the importance of integrating sustainability communication, product innovation, and branding strategies to encourage environmentally responsible consumption among younger consumers.

CONCLUSION

This study successfully tested and proved the influence of green advertising (GAD), green product innovation (GPI), and green brand awareness (GBA) on green purchase behavior (GPB) among Generation Z in Indonesia. All hypotheses (H1–H7) were accepted with significant estimation coefficient values ($p < 0.01$). Specifically: GAD has a positive effect on GBA ($\beta = 0.434$; $p < 0.001$) and GPB ($\beta = 0.370$; $p < 0.001$). GPI has a positive effect on GBA ($\beta = 0.229$; $p < 0.001$) and GPB ($\beta = 0.330$; $p < 0.001$). GBA has a positive effect on GPB ($\beta = 0.395$; $p < 0.001$) and plays a significant role as a mediator in the relationship between GAD $\rightarrow$ GPB ($p = 0.006$) and GPI $\rightarrow$ GPB ($p = 0.007$). These findings confirm that GBA is the strongest determinant bridging sustainability-based marketing strategies with green consumption behavior among Generation Z.

Limitations and Recommendations

Although this study makes a significant contribution, there are several limitations: The research sample was limited to Generation Z in Indonesia, so generalizations to other age groups or different countries should be made with caution. Situational variables such as price, accessibility, and purchasing power have not been deeply integrated, even though these factors can influence the gap between intention and purchasing behavior (Malik et al., 2019). This study still focuses on general products, so further exploration is needed on specific product categories, such as fashion, organic food, or electric vehicles.

To enrich our understanding of environmentally friendly purchasing behavior, further research is recommended to test the model across generations (millennials, Gen X) or across countries to see cultural differences in responses to green advertising and innovation. Integrate variables such as green trust, perceived value, or digital engagement as new

moderators/mediators in the TPB framework. Use a longitudinal approach to test the consistency of green consumption behavior over time.

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REFERENCES

- Abadzhiev, A., Sukhov, A., Sihvonen, A., & Johnson, M. (2022). Managing the complexity of green innovation. *European Journal of Innovation Management*, 25(6), 850–866.
- Adomako, S., & Tran, M. D. (2025). Responsible Entrepreneurship and Social Legitimacy in Turbulent and Demanding Market Environments. *Corporate Social Responsibility and Environmental Management*, 32(3), 3278–3289. <https://doi.org/10.1002/csr.3131>
- Agarwal, N. D., & Kumar, V. V. R. (2020). Three decades of green advertising – a review of literature and bibliometric analysis. *Benchmarking*, 28(6), 1934–1958.
- Ahmad, W., Jafar, R. M. S., Waheed, A., Sun, H., & Kazmi, S. S. A. S. (2023). Determinants of CSR and green purchase intention: Mediating role of customer green psychology during COVID-19 pandemic. *Journal of Cleaner Production*, 389, 135888. <https://doi.org/10.1016/j.jclepro.2023.135888>
- Ajzen, I. (1991). The Theory of planned behavior. *Organizational Behavior and Human Decision Processes*.
- Alkebeese, R., Habib, A., & Li, J. (2023). Green innovation and the cost of equity: evidence from China. *China Accounting and Finance Review*, 25(3), 368–395.
- Arin, K. P., De Iudicibus, A., Sayour, N., & Spagnolo, N. (2023). Environmental awareness and firm creation. *Journal of Economic Studies*, 51(9), 137–147.
- Balaskas, S., Panagiotarou, A., & Rigou, M. (2023). Impact of Environmental Concern, Emotional Appeals, and Attitude toward the Advertisement on the Intention to Buy Green Products: The Case of Younger Consumer Audiences. *Sustainability*, 15(17), 13204. <https://doi.org/10.3390/su151713204>
- Baquero, A. (2024). Linking green entrepreneurial orientation and ambidextrous green innovation to stimulate green performance: a moderated mediation approach. *Business Process Management Journal*, 30(8), 71–98.
- Bashir, S., Khwaja, M. G., Rashid, Y., Turi, J. A., & Waheed, T. (2020). Green Brand Benefits and Brand Outcomes: The Mediating Role of Green Brand Image. *Sage Open*, 10(3). <https://doi.org/10.1177/2158244020953156>
- Carrión-Bósquez, N., Veas-González, I., Naranjo-Armijo, F., Llamas-Burga, M., Ortiz-Regalado, O., Ruiz-García, W., Guerra-Regalado, W., & Vidal-Silva, C. (2024). Advertising and Eco-Labels as Influencers of Eco-Consumer Attitudes and

- Awareness—Case Study of Ecuador. *Foods*, 13(2), 228. <https://doi.org/10.3390/foods13020228>
- Chen, L., Qie, K., Memon, H., & Yesuf, H. M. (2021). The Empirical Analysis of Green Innovation for Fashion Brands, Perceived Value and Green Purchase Intention—Mediating and Moderating Effects. *Sustainability*, 13(8), 4238. <https://doi.org/10.3390/su13084238>
- Collier, J. (2020). *Applied structural equation modeling using AMOS: Basic to advanced techniques*. Routledge.
- Confetto, M. G., Covucci, C., Addeo, F., & Normando, M. (2023). Sustainability advocacy antecedents: how social media content influences sustainable behaviours among Generation Z. *Journal of Consumer Marketing*, 40(6), 758–774. <https://doi.org/10.1108/JCM-11-2021-5038>
- Correia, E., Sousa, S., Viseu, C., & Larguinho, M. (2023). Analysing the Influence of Green Marketing Communication in Consumers' Green Purchase Behaviour. *International Journal of Environmental Research and Public Health*, 20(2), 1356. <https://doi.org/10.3390/ijerph20021356>
- Dahhan, A., & Arenkov, I. (2025). The impact of green advertising on consumer purchase intention based on the theory of planned behavior. *Multidisciplinary Science Journal*, 7(9), 2025427. <https://doi.org/10.31893/multiscience.2025427>
- Dinh, K. C., Nguyen-Viet, B., & Phuong Vo, H. N. (2023). Toward Sustainable Development and Consumption: The Role of the Green Promotion Mix in Driving Green Brand Equity and Green Purchase Intention. *Journal of Promotion Management*, 29(6), 824–848. <https://doi.org/10.1080/10496491.2023.2165209>
- Eyada, B. (2024). The Role of Advertising in Shaping Consumer Perceptions of Sustainable Brands. *Journal of Ecohumanism*, 3(3), 930–943. <https://doi.org/10.62754/joe.v3i3.3431>
- Farida, I., & Setiawan, D. (2024). The nexus between management control systems, firm performance, green innovation and social media networking in Indonesian real estate companies. *Innovation and Management Review*.
- Gandhi, A. V. (2020). Studying green consumer behavior through multiple lenses in a developing country. *Smart and Sustainable Built Environment*, 10(2), 274–292.
- George, H. J., Susainathan, S., & Parayitam, S. (2023). The relationship between green packaging awareness, initiatives, and behavior: an exploratory study on India rural population. *RAUSP Management Journal*, 58(4), 286–317.
- Guo, J., Yang, X., Yao, S., Gu, F., & Zhang, X. (2024). How green advertising drives pro-environmental willingness to pay? Evidence from a within-participant between-group experiment. *Management of Environmental Quality: An International Journal*, 35(6), 1295–1314. <https://doi.org/10.1108/MEQ-08-2023-0281>
- Ha, M.-T. (2021). Optimizing Green Brand Equity: The Integrated Branding and Behavioral Perspectives. *Sage Open*, 11(3). <https://doi.org/10.1177/21582440211036087>
- Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3), 100027.
- Hasrama, E., Myftaraj, E., & Noti, E. (2025). Exploring the impact of green advertising and the mediating role of consumer awareness on sustainable tourism purchase attitude

- Albanian case. *International Journal of Innovative Research and Scientific Studies*, 8(1), 1380–1392. <https://doi.org/10.53894/ijirss.v8i1.4615>
- Herman, L. E., Udayana, I. B. N., & Farida, N. (2021). YOUNG GENERATION AND ENVIRONMENTAL FRIENDLY AWARENESS: DOES IT THE IMPACT OF GREEN ADVERTISING? *Business: Theory and Practice*, 22(1), 159–166. <https://doi.org/10.3846/btp.2021.12417>
- Jirakraisiri, J., Badir, Y. F., & Frank, B. (2021). Translating green strategic intent into green process innovation performance: the role of green intellectual capital. *Journal of Intellectual Capital*, 22(7), 43–67.
- Joshi, Y., & Rahman, Z. (2016). Predictors of young consumer's green purchase behaviour. *Management of Environmental Quality: An International Journal*, 27(4), 452–472.
- Kamboj, K., & Kishor, N. (2022). Influence of Customer Perceived Values on Organic Food Consumption Behaviour: Mediating Role of Green Purchase Intention. *FIIB Business Review*. <https://doi.org/10.1177/23197145221125283>
- Khandai, S., Kataria, S., Kohli, H. S., Yadav, R., & Mathew, J. (2025). Green choices and brand happiness: A recipe for brand evangelism. *Sustainable Development*, 33(2), 2486–2501. <https://doi.org/10.1002/sd.3237>
- Khoiriani, A., Triwinarso, A., & Shalahuddin. (2025). Kualitas Produk, Harga Dan Promosi Terhadap Keputusan Pembelian Yamaha Fazzio Pada Astra Motor Kabupaten Jembrana. *Optimal*, 21(2), 21–30.
- Khoirianti, A., Susianti, Comala, N. P. D., & Triwinarso, A. (2024). Pengaruh Motivasi, Komunikasi, Dan Stres Kerja Terhadap Kepuasan Kerja Karyawan Di Cv. Saraswati 108 Tahun 2023. *IJMA (Indonesian Journal of Management and Accounting)*, 5, 81–90.
- Lavuri, R. (2022). Extending the theory of planned behavior: factors fostering millennials' intention to purchase eco-sustainable products in an emerging market. *Journal of Environmental Planning and Management*, 65(8), 1507–1529. <https://doi.org/10.1080/09640568.2021.1933925>
- Leonidou, L. C., Leonidou, C. N., Palihawadana, D., & Hultman, M. (2011). Evaluating the green advertising practices of international firms: A trend analysis. *Studies in Economics and Finance*, 28(1), 6–33.
- Li, D. (2025). Impact of green advertisement and environmental knowledge on intention of consumers to buy green products. *BMC Psychology*, 13(1), 220. <https://doi.org/10.1186/s40359-025-02538-x>
- Li, Y., & Shan, B. (2025). The influence mechanism of green advertising on consumers' purchase intention for organic foods: the mediating roles of green perceived value and green trust. *Frontiers in Sustainable Food Systems*, 9. <https://doi.org/10.3389/fsufs.2025.1515792>
- Li, Y., Zou, C., Huang, Y., & Wan, A. (2025). Environmental Regulation, Green Innovation, and Corporate Brand Value. *Sustainability*, 17(8), 3445. <https://doi.org/10.3390/su17083445>
- Lopes, J. M. M., Gomes, S., & Trancoso, T. (2024). Navigating the green maze: insights for businesses on consumer decision-making and the mediating role of their environmental concerns. *Sustainability Accounting, Management and Policy Journal*, 15(4), 861–883.

- Loučanová, E., Šupín, M., Čorejová, T., Repková-Štofková, K., Šupínová, M., Štofková, Z., & Olšiaková, M. (2021). Sustainability and Branding: An Integrated Perspective of Eco-innovation and Brand. *Sustainability*, 13(2), 732. <https://doi.org/10.3390/su13020732>
- Luthra, C., Deshwal, P., Kushwah, S., & Gokarn, S. (2024). A bibliometric review analysing intellectual landscape and mapping emerging themes on green purchase in the past three decades. *IIMT Journal of Management*.
- Majali, T., Alkaraki, M., Asad, M., Aladwan, N., & Aledeinat, M. (2022). Green Transformational Leadership, Green Entrepreneurial Orientation and Performance of SMEs: The Mediating Role of Green Product Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(4), 191. <https://doi.org/10.3390/joitmc8040191>
- Majeed, M. U., Aslam, S., Murtaza, S. A., Attila, S., & Molnár, E. (2022). Green Marketing Approaches and Their Impact on Green Purchase Intentions: Mediating Role of Green Brand Image and Consumer Beliefs towards the Environment. *Sustainability*, 14(18), 11703. <https://doi.org/10.3390/su141811703>
- Malik, M. I., Nawaz Mir, F., Hussain, S., Hyder, S., Anwar, A., Khan, Z. U., & al., et. (2019). Contradictory results on environmental concern while re-visiting green purchase awareness and behavior. *Asia Pacific Journal of Innovation and Entrepreneurship*, 13(1), 17–28.
- Mansoor, M., Saeed, A., Rustandi Kartawinata, B., & Naqi Khan, M. K. (2022). Derivers of green buying behavior for organic skincare products through an interplay of green brand evaluation and green advertisement. *Journal of Global Fashion Marketing*, 13(4), 328–343. <https://doi.org/10.1080/20932685.2022.2085597>
- Manyati, T. K., Kalima, B. G., Owolabi, T., & Mutsau, M. (2024). Exploring the potential for enhancing green skills training, innovation and sustainable livelihoods in informal spaces of Harare, Zimbabwe: identifying gaps and opportunities. *IIMBG Journal of Sustainable Business and Innovation*, 2(1), 60–79.
- Maziriri, E. T., Nyagadza, B., Chuchu, T., & Mazuruse, G. (2023). Antecedents of attitudes towards the use of environmentally friendly household appliance products in Zimbabwe: an extension of the theory of planned behaviour. *PSU Research Review*.
- Moser, A. K. (2015). Thinking green, buying green? Drivers of pro-Environmental purchasing behavior. *Journal of Consumer Marketing*, 32(3), 167–175.
- Naz, F., Oláh, J., Vasile, D., & Magda, R. (2020). Green Purchase Behavior of University Students in Hungary: An Empirical Study. *Sustainability*, 12(23), 10077. <https://doi.org/10.3390/su122310077>
- Nguyen-Viet, B. (2022). Understanding the Influence of Eco-label, and Green Advertising on Green Purchase Intention: The Mediating Role of Green Brand Equity. *Journal of Food Products Marketing*, 28(2), 87–103. <https://doi.org/10.1080/10454446.2022.2043212>
- Nhuong, B. H., & Truong, D. D. (2024). Impacts of integrated marketing communications on customers' green brand awareness: an empirical case study in Vietnam. *Environmental Research Communications*, 6(7), 075004. <https://doi.org/10.1088/2515-7620/ad54a3>
- Obaid, M., & Rashid, D. S. (2024). Green Marketing: The Impact of Green Advertising on

- Consumer Purchasing Behavior. *Electronic Green Journal*, 1(50).
<https://doi.org/10.5070/G315061485>
- Padilla-Lozano, C. P., & Collazzo, P. (2022). Corporate social responsibility, green innovation and competitiveness causality in manufacturing. *Competitiveness Review*, 32(7), 21–39.
- Padilla-Lozano, C. P., Padilla-Lozano, J., Reyes Ortiz, G. E., & Collazzo, P. (2024). Green innovation and competitiveness: empirical evidence from Ecuadorian manufacturing. *Management Research*, 22(3), 303–323.
- Pino, R. M., Arévalo-Avecillas, D., & Padilla-Lozano, C. (2020). El liderazgo servidor y la satisfacción laboral en estudiantes de maestría en administración de empresas. *Formación Universitaria*, 13(6), 205–216. <https://doi.org/10.4067/S0718-50062020000600205>
- Rahman, S. ur, & Nguyen-Viet, B. (2023). Towards sustainable development: Coupling green marketing strategies and consumer perceptions in addressing greenwashing. *Business Strategy and the Environment*, 32(4), 2420–2433. <https://doi.org/10.1002/bse.3256>
- Ruangkanjanases, A., You, J.-J., Chien, S.-W., Ma, Y., Chen, S.-C., & Chao, L.-C. (2020). Elucidating the Effect of Antecedents on Consumers' Green Purchase Intention: An Extension of the Theory of Planned Behavior. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.01433>
- Rukhsar, Yameen, M., & Khanam, Z. (2025). Understanding the consumer purchase behaviour towards green electronic products: using insight from the theory of planned behaviour. *IIM Ranchi Journal of Management Studies*, 4(1), 31–54.
- Rupasinghe, L. R., Pushpakumari, M. D., & Perera, G. D. N. (2024). Mapping the knowledge of green innovation: a systematic literature review. *Journal of Humanities and Applied Social Sciences*, 6(4), 357–376.
- Saeed, M., Ahmed, A., Boğan, E., Abul, O., & Qammar, A. (2023). 'Buying green': the role of green customer-based brand equity in shaping customers' green buying behavior. *Environment, Development and Sustainability*, 27(3), 5981–5997. <https://doi.org/10.1007/s10668-023-04110-2>
- Santoso, S. (2021). *Analisis structural equation modelling (SEM) menggunakan AMOS 26*.
- Shi, J., & Jiang, Z. (2023). Competence or warmth: why do consumers pay for green advertising? *Asia Pacific Journal of Marketing and Logistics*, 35(11), 2834–2857. <https://doi.org/10.1108/APJML-01-2023-0002>
- Shin, S., & Ki, E. J. (2019). The effects of congruency of environmental issue and product category and green reputation on consumer responses toward green advertising. *Management Decision*, 57(3), 606–620.
- Sun, Y., Lin, Y., & Wang, S. (2025). Research on the impact of green advertising information on green purchase behavior in social media: SEM-ANN approach. *Asia Pacific Journal of Marketing and Logistics*. <https://doi.org/10.1108/APJML-12-2024-1803>
- Sutisna, Elisiyah, Umalihayati, Hidayat, S., & Gunawan, T. (2025). The intervening role of the image of green brands in increasing green brands' purchasing intention of personal care product. *Innovative Marketing*, 21(2), 1–13. [https://doi.org/10.21511/im.21\(2\).2025.01](https://doi.org/10.21511/im.21(2).2025.01)
- Suttikun, C., Mahasuweerachai, P., & Bicksler, W. H. (2025). Environmental messaging,

- corporate values, online engagement and purchase behavior: a study of green communications among eco-friendly coffee retailers. *Journal of Hospitality and Tourism Insights*, 8(3), 1073–1094. <https://doi.org/10.1108/JHTI-06-2024-0556>
- Tan, Z., Sadiq, B., Bashir, T., Mahmood, H., & Rasool, Y. (2022). Investigating the Impact of Green Marketing Components on Purchase Intention: The Mediating Role of Brand Image and Brand Trust. *Sustainability*, 14(10), 5939. <https://doi.org/10.3390/su14105939>
- Triwinarso, A., Giovani Putri Leda, M., & Dharmala, A. (2022). Pajak hotel di Kabupaten Ende: trend, efektivitas dan kontribusi terhadap pajak asli daerah. *E-Jurnal Perspektif Ekonomi Dan Pembangunan Daerah*, 11(2), 1255–2303.
- Tsai, C.-M., Kao, W.-Y., & Liu, W.-C. (2025). Navigating Sustainable Mobility in Taiwan: Exploring the Brand-Specific Effects of Perceived Green Attributes on the Green Purchase Intention for Battery Electric Vehicles. *Sustainability*, 17(3), 985. <https://doi.org/10.3390/su17030985>
- Wang, J., & Li, A. (2022). The Impact of Green Advertising Information Quality Perception on Consumers' Response: An Empirical Analysis. *Sustainability*, 14(20), 13248. <https://doi.org/10.3390/su142013248>
- Wang, L. (2022). Determinants of Consumers Purchase Attitude and Intention Toward Green Hotel Selection. *Journal of China Tourism Research*, 18(1), 203–222. <https://doi.org/10.1080/19388160.2020.1816241>
- Wijekoon, R., & Sabri, M. F. (2021). Determinants That Influence Green Product Purchase Intention and Behavior: A Literature Review and Guiding Framework. *Sustainability*, 13(11), 6219. <https://doi.org/10.3390/su13116219>
- Wu, L., Yi, X., Hu, K., Lyulyov, O., & Pimonenko, T. (2024). The effect of ESG performance on corporate green innovation. *Business Process Management Journal*.
- Yang, G., & Singhdong, P. (2024). A conceptual framework of green supply chain integration toward enterprise performance through ambidextrous green innovation: an organizational capability perspective. *Journal of International Logistics and Trade*, 22(2), 93–106.
- Zhang, M., Zeng, W., Tse, Y. K., Wang, Y., & Smart, P. (2021). Examining the antecedents and consequences of green product innovation. *Industrial Marketing Management*, 93, 413–427. <https://doi.org/10.1016/j.indmarman.2020.03.028>
- Zhang, X., Chen, K., & Li, S. (2024). The effects of green advertising appeal and message type on purchase intention. *Journal of Retailing and Consumer Services*, 81, 104007. <https://doi.org/10.1016/j.jretconser.2024.104007>
- Zhou, J., Sawyer, L., & Safi, A. (2021). Institutional Pressure and Green Product Success: The Role of Green Transformational Leadership, Green Innovation, and Green Brand Image. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.704855>