

Mediation of Green Purchase Behavior in the Influence of Product Quality and Environmental Knowledge on Green Consumer Satisfaction in Agribusiness Marketing

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ABSTRACT

This study examines how product quality and environmental knowledge shape green purchase behavior and subsequently impact green consumer satisfaction within the context of digital marketing for environmentally friendly agricultural products in Indonesia. Despite growing environmental awareness, this awareness does not always translate into green purchasing decisions. Doubts about the quality of green products and limited consumer knowledge often influence purchasing choices and post-consumption satisfaction. The novelty of this study lies in the integration of pre-purchase factors, purchase behavior, and consumer satisfaction within the context of green agricultural products marketed through digital platforms, a domain still rarely explored in developing countries. A quantitative approach was employed, surveying 350 young digital consumers. Data were analyzed using Structural Equation Modeling with Partial Least Squares (SEM-PLS) to evaluate direct and mediating effects. Product quality and environmental knowledge positively influence green purchase behavior, which mediates and strengthens green consumer satisfaction. Enhancing product credibility and environmental literacy is crucial to promoting sustainable consumption and accelerating the adoption of the green market in Indonesia.

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1. INTRODUCTION

Recent years, the global shift in consumption patterns toward more sustainability-oriented behaviors has gained increasing prominence, compelling Indonesia to confront strategic challenges in bolstering its national food system (Firdaus *et al.*, 2025; Tubagus & Mahyuni, 2024). Despite Indonesia's robust agrarian structure,

conventional agricultural practices remain plagued by severe environmental issues, including excessive pesticide application, soil degradation, and water contamination in major production regions (Simarmata *et al.*, 2025). These circumstances underscore the imperative for more environmentally benign models of consumption and production. Concurrently, Indonesian

consumer preferences have undergone a profound transformation. Insights from Innova Market Insights' Sustainability Food Trends 2024 report reveal that 46% of consumers anticipate corporate investments in waste management and sustainable practices, reflecting heightened ecological consciousness and a growing demand for transparency in food products.

This transformation assumes heightened relevance amid the proliferation of digital platforms that bridge the divide between sustainable agricultural producers and urban consumers (Patil *et al.*, 2025; Vivekanandan *et al.*, 2023). Platforms such as qualityfarm.id exemplify how the adoption of green agricultural products transcends mere physical product attributes, being profoundly influenced by perceptions of quality, the credibility of digital information, and consumers' knowledge of environmental issues (A. Xu *et al.*, 2022; Yang *et al.*, 2023; Yu *et al.*, 2024; Yuan *et al.*, 2025). However, recent literature underscores that the relationship between product quality, environmental knowledge, and green purchasing behavior is far from straightforward. While these two factors play a pivotal role in shaping buying decisions, the consistency of consumer behavior is substantially moderated by perceived risks, levels of digital literacy, and the diverse socio-cultural factors characterizing (Hu & Meng, 2023; H. Liu *et al.*, 2025; X. Liu *et al.*, 2024; Wang & Zhang, 2025; Xiao *et al.*, 2023). Certainly, this needs to be adapted or further developed within the Indonesian context.

Despite the escalating demand for green agricultural products, significant theoretical and empirical gaps persist in comprehending how

consumers formulate purchasing behaviors within online contexts (Chauhan *et al.*, 2021; Fahlevi *et al.*, 2023; Shihab *et al.*, 2025). The majority of prior studies have concentrated on developed nations or presupposed equitable access to digital information (Chao, 2025; Chwialkowska *et al.*, 2024a, 2024b; Hazaea *et al.*, 2022; Ogiemwonyi, 2024), overlooking the pronounced heterogeneity evident in Indonesia's reality. Furthermore, much of the preceding research has bifurcated purchasing behavior from post-purchase experiences, notwithstanding their interdependence and implications for consumer satisfaction (Chou *et al.*, 2025; Fatmawati & Fajriana, 2023; Hou, 2025; Sinarwaty, 2025). These challenges highlight the necessity for a research paradigm capable of comprehensively delineating consumers' decision-making trajectories from initial perceptions of product quality and extant environmental knowledge, to their ramifications on purchasing conduct and post-transaction satisfaction.

Thus, this study assumes a pivotal position. Drawing upon the Theory of Planned Behavior (TPB) and Social Exchange Theory (SET), this research investigates how product quality and environmental knowledge function as primary drivers in shaping green purchase behavior, and how such behavior ultimately determines the level of consumer satisfaction. Furthermore, this study positions Green Purchase Behavior as a mediating mechanism that elucidates the process by which perceptions of quality and environmental knowledge are translated into satisfying consumption experiences. In doing so, this research not only articulates direct inter-variable

relationships but also examines the mediating role that represents a critical theoretical gap in the post-2023 literature.

The primary objective of this study is to furnish a more incisive understanding of how green purchase behavior emerges within the online shopping ecosystem for green agricultural products in Indonesia. This research endeavors to address the questions of how product quality and environmental knowledge influence green purchase behavior, and how such behavior subsequently propels consumer satisfaction. By positioning Indonesia as a distinctive research context, where environmental awareness is on the rise yet the structural complexities of the food system persist at elevated levels, this study is poised to deliver substantial empirical, theoretical, and methodological contributions. The findings are anticipated to enrich the academic discourse on sustainable consumers in developing countries, while concurrently offering practical implications for industry stakeholders, policymakers, and digital platforms seeking to fortify the sustainable adoption of green agricultural products.

2. LITERATURE REVIEW

2.1. TPB and Social Exchange Theory (SET)

Studies on green purchase behavior have largely relied on the Theory of Planned Behavior (TPB), which provides a robust framework for understanding how consumer intentions are formed when considering environmentally friendly products, including Green Agricultural Products (GAPs) on digital platforms (Chwialkowska *et al.*,

2024; Gupta, 2021; Hou, 2025; Patharia *et al.*, 2022; Rakuša & Milfelner, 2025; Sousa *et al.*, 2022). Since its initial development, TPB posits that intentions are influenced by attitudes, subjective norms, and perceived behavioral control. These three factors effectively elucidate consumers' pre-purchase motivations, particularly in contexts of rising environmental awareness. However, recent literature highlights that TPB, when applied to digital settings, often overlooks more complex dynamics, such as how fluctuations in information quality, ease of navigation, and digital barriers can reinforce or undermine perceptions of control (Z. Xu *et al.*, 2024). Consequently, while TPB adeptly maps initial consumer drivers, its predictive power for actual behavior in e-commerce hinges on adaptations that account for the technical and social realities of digital spaces.

Recent advancements underscore the need to extend TPB with more contextual variables, especially as research shifts toward the domain of green agricultural products marketed online. Prior studies have frequently treated attitudes, norms, and behavioral control as standalone entities, yet consumer experiences on digital platforms are profoundly shaped by encountered service quality and product quality. Elements such as service reliability, information transparency, and product authenticity have been shown to concretely shape consumer attitudes more than mere general preferences for sustainability. Similarly, environmental knowledge and social factors play a significant role in constructing the meaning and value of green purchases (Aly & Al-Salfiti, 2025; Chwialkowska *et al.*, 2024). By incorporating these

dimensions, the literature can address analytical gaps that have hitherto neglected how digital realities modify the psychological processes outlined by TPB.

While TPB delineates the formation of intentions, Social Exchange Theory (SET) offers a complementary lens for comprehending the dynamics of consumer-seller relationships in sustainable transactions (Ajzen & Schmidt, 2020; Musleh & Cross, 2025). SET explains that consumers are inclined to build relationships when they perceive net benefits, encompassing both functional advantages like product quality and food safety, as well as emotional and ethical ones, such as the satisfaction derived from supporting eco-friendly practices (Liang *et al.*, 2024). In online ecosystems, perceptions of this exchange value critically determine whether consumers develop trust, exhibit loyalty, or recommend products to others. However, the literature also notes that SET risks oversimplifying ethical actions as mere profit exchanges, necessitating research that explores how altruistic motivations or moral commitments endure even when rewards are not immediate or material (Bian *et al.*, 2025; Sun *et al.*, 2025).

The integration of TPB and SET in green purchase behavior studies opens avenues for a more comprehensive and critical theoretical model. TPB aids in mapping the cognitive processes of intention formation, whereas SET captures the relational aspects that ensure such intentions evolve into repeated and sustainable behaviors. This combined approach challenges prior theoretical practices that segregated intentions from actual behaviors, particularly in fragile digital contexts characterized

by trust vulnerabilities and inconsistent user experiences. By synthesizing the two theories, the literature can provide a more holistic understanding of how consumers evaluate benefits, weigh risks, interpret seller relationships, and ultimately forge commitments to green products. This model not only expands the conceptual landscape but also furnishes practical guidelines for developing marketing strategies that are more attuned to consumer needs and digital-era dynamics.

2.2. Hypothesis Development

Various prior studies indicate that product quality serves as a primary determinant in green product purchase decisions, particularly when consumers operate within digital environments characterized by information asymmetry. Research conducted in Southeast Asia affirms that consumers tend to rely on product attributes such as safety, freshness, green certifications, and source transparency as foundational elements for building trust in sustainable agricultural products (Azzahra & Kamarudin, 2025). In the Indonesian context, these preferences are further reinforced amid growing concerns over food contamination and environmentally unfriendly farming practices. Theoretically, the Theory of Planned Behavior (TPB) elucidates that consumer behavior is influenced by their evaluations of action outcomes; thus, higher perceptions of product quality increase the likelihood of consumers exhibiting green purchase behavior (Baltaci *et al.*, 2024; Cui *et al.*, 2024; Rakuša & Milfelner, 2025). Therefore, the better the product quality perceived by consumers, the stronger their impetus to engage in green purchases, thereby formulating the first hypothesis.

H1: Product quality has a positive and significant influence on green purchase behavior.

Other research underscores that environmental knowledge also plays a significant role in shaping consumer preferences for green products (El Nemar *et al.*, 2022a; Fait, 2025; Li, 2025). Environmental knowledge not only enhances consumers' ability to recognize the ecological benefits of a product but also mitigates uncertainty in the decision-making process, especially on online platforms prone to information manipulation (Ashwini *et al.*, 2025; Dai *et al.*, 2022; Thania & Halim, 2024). Consumers with a stronger understanding of pesticide impacts, the importance of soil and water sustainability, and the benefits of organic farming tend to be more consistent in selecting products aligned with their ecological values. Theoretically, such knowledge bolsters consumers' perceptions of control and self-efficacy in choosing more responsible options. Consequently, higher levels of environmental knowledge among consumers lead to a greater propensity for green purchase behavior (Akandere & Gümrah, 2025; El Nemar *et al.*, 2022), providing the basis for the second hypothesis.

H2: Environmental knowledge has a positive and significant influence on green purchase behavior.

Furthermore, green purchase behavior itself has been demonstrated in numerous studies as a critical determinant of consumer satisfaction in the context of sustainable products. Consumers who engage in green purchases tend to experience higher satisfaction, as their decisions fulfill not only

functional needs but also psychological and moral ones, such as a sense of security, ethical value, and contribution to the environment (Ahmed *et al.*, 2023; Hur *et al.*, 2015; Sun *et al.*, 2025). Social Exchange Theory (SET) provides an explanation that satisfaction arises when consumers perceive a positive reciprocity between expectations and received benefits (Musleh & Cross, 2025). In the realm of green agricultural products, when consumers successfully obtain products deemed safe, ethical, and aligned with their personal values, green purchase behavior enhances their satisfaction levels (Fu *et al.*, 2022, 2023; A. Xu *et al.*, 2022), thereby establishing a robust logical foundation for the third hypothesis.

H3: Green purchase behavior has a positive and significant influence on green consumer satisfaction.

Building on the preceding discussion, green purchase behavior can be positioned as a pivotal mechanism linking cognitive evaluations to consumer satisfaction in the context of green consumption. Product quality and environmental knowledge represent important antecedent beliefs that shape how consumers assess green products. However, these beliefs alone do not automatically generate satisfaction, as satisfaction is fundamentally a post-consumption evaluation that requires experiential engagement. Thus, the translation of knowledge and perceptions into actual purchasing behavior becomes central to understanding how satisfaction is formed (Cui *et al.*, 2024; Kaur *et al.*, 2024).

From a behavioral perspective, consumers experience satisfaction when their evaluations of

product quality are confirmed through real consumption experiences. High perceptions of green product quality encourage consumers to engage in green purchasing, allowing them to directly assess performance, reliability, and value. Through this behavioral enactment, consumers validate their initial quality judgments, which strengthens positive emotional and cognitive responses after purchase. In this way, green purchase behavior functions as a conduit through which perceived product quality is transformed into green consumer satisfaction (Silintowe & Made Sukresna, 2023).

Similarly, environmental knowledge influences satisfaction indirectly by motivating consumers to align their purchasing actions with their environmental understanding. Consumers who possess greater environmental knowledge tend to seek consistency between what they know and how they behave in the marketplace. Satisfaction emerges when green purchase behavior allows consumers to realize this alignment, as it provides both psychological reassurance and a sense of meaningful contribution. Empirical findings suggest that such value-behavior congruence enhances satisfaction by reducing internal conflict and reinforcing self-consistency (Irshad, 2025).

Taken together, these arguments suggest that green purchase behavior plays a mediating role in converting cognitive inputs into positive consumption outcomes. Product quality and environmental knowledge increase the likelihood of green purchasing, which in turn enables consumers to experience the functional, symbolic, and psychological benefits associated with green

products. Based on this reasoning, green purchase behavior is proposed to mediate the positive and significant influence of product quality and environmental knowledge on green consumer satisfaction, forming the foundation for Hypotheses 4 and 5.

H4: Green purchase behavior mediates the positive and significant influence of product quality on green consumer satisfaction.

H5: Green purchase behavior mediates the positive and significant influence of environmental knowledge on green consumer satisfaction.

3. METHOD, DATA, AND ANALYSIS

3.1. Sampling

This study targets consumers who have purchased green agricultural products through digital platforms, encompassing both general marketplaces and specialized sites such as qualityfarm.id. The selection of this population is grounded in the burgeoning characteristics of Indonesia's online market, which plays a pivotal role in shaping sustainable consumption behaviors. The unit of analysis comprises individual consumers, as the measurement of perceptions regarding product quality, environmental knowledge, green purchase behavior, and green satisfaction necessitates personal cognitive responses.

The sampling technique employs purposive sampling, chosen due to the requirement for respondents with relevant experiences and a fundamental understanding of green agricultural products. A total of 350 respondents were gathered, a sample size deemed sufficient for structural

equation modeling analysis and fulfilling the minimum sample-to-item ratio standards in digital consumer behavior research. The respondent profile reveals that the majority belong to younger demographics, with middle-income levels and higher education, reflecting the segment of Indonesian consumers most responsive to green products and actively engaged in online shopping services.

3.2. Data Collection Procedure

Data collection was conducted via an online survey utilizing a structured questionnaire distributed through social media channels, organic product user communities, and consumer groups on e-commerce platforms. This approach aligns with the research context, which emphasizes behaviors within digital ecosystems, ensuring that the obtained respondents are genuine participants actively engaged in online purchases.

The instrument was designed through adaptation of scales from prior studies that have been validated for reliability and validity, subsequently tailored to the Indonesian context to preserve cultural and linguistic relevance. Prior to widespread dissemination, the questionnaire underwent pilot testing with initial respondents to verify question clarity and contextual appropriateness. The overall research process was carried out over a three-month period, from August to October 2025, with one and a half months allocated to data collection and the remaining one and a half months dedicated to data analysis and interpretation. The data collection stage incorporated response screening mechanisms to

ensure data quality, such as checks for response time, attention tests, and answer consistency.

3.3. Measures

Research variables were measured using a five-point Likert scale (1 = strongly disagree; 5 = strongly agree), selected for its adequate response range to capture the depth of consumers' perceptions toward green products. Product Quality (PRQ) was assessed through indicators representing freshness, food safety, green certification, and product information transparency. Environmental Knowledge (EK) was evaluated via items reflecting respondents' understanding of the environmental impacts of agricultural practices, the benefits of green products, and sustainability issues.

The Green Purchase Behavior (GPB) variable was measured based on consumers' intentions and actual actions in purchasing green agricultural products online. Meanwhile, Green Consumer Satisfaction (GCS) gauged the level of satisfaction arising from functional, emotional, and moral value aspects following green purchases. Each indicator underwent validity and reliability analysis to ensure the instrument accurately and consistently captured the construct variables. All measurements were processed within a structural model to examine causal relationships while testing the mediating role of GPB.

3.4. Data Analysis Strategy

Data analysis was conducted using Structural Equation Modeling (SEM) based on Partial Least Squares (PLS), as this method is particularly suitable for research involving complex models, latent variables, and data distributions that

are not entirely normal, a scenario commonly observed in digital consumer surveys. SEM-PLS enables researchers to examine both direct and indirect relationships among variables, including mediation effects, in alignment with the research hypotheses (Lin *et al.*, 2020). Researchers used SMART-PLS 3.0 software

The analytical steps encompassed testing the outer model (encompassing convergent validity, discriminant validity, and construct reliability), followed by evaluation of the inner model to assess the significance of inter-variable relationships. Bootstrapping was utilized to derive statistical significance values, while model effectiveness was gauged through R^2 values, Q^2 , and mediation effect analysis. This approach was selected for its flexibility in more comprehensively capturing the dynamics of consumer behavior toward green agricultural products, surpassing the limitations of conventional statistical techniques.

4. RESULT AND DISCUSSION

4.1. Demographic Profile

This study involved 350 respondents representing consumers of green agricultural products via online platforms in Indonesia. In terms of gender, 58.3% of respondents were female ($n=204$) and 41.7% were male ($n=146$). This composition aligns with findings from various local studies, which indicate that women tend to be more actively involved in decision-making for healthy and environmentally friendly food products.

Regarding monthly income, the majority of respondents fell into the middle-income category, with 36.0% earning between Rp3,000,001–

Rp5,000,000. Additionally, 30.3% had incomes below Rp3,000,000, 22.9% were in the Rp5,000,001–Rp8,000,000 range, and 10.8% earned above Rp8,000,000. This income structure reflects the characteristics of urban and suburban Indonesian consumers who are increasingly incorporating green products into their healthy lifestyles while remaining price-sensitive.

In terms of age, respondents were predominantly from the young productive group: 42.6% aged 21–25 years, 28.0% aged 26–30 years, and 20.3% in the 31–35 years range. The remaining 9.1% were 36 years and older. This composition suggests that interest in green products largely stems from digitally savvy generations with a strong awareness of sustainability issues.

Respondents' education levels also exhibited a relatively high trend. Specifically, 40.9% held bachelor's degrees, 28.6% had postgraduate qualifications, and 18.0% were diploma graduates. Meanwhile, 12.5% possessed other forms of education, such as professional certifications or vocational training. This elevated education level correlates with consumers' capacity to comprehend health issues, food safety, and environmental sustainability.

Overall, the demographic profile reveals that young, well-educated, and middle-income consumers represent the most responsive segment toward green products in Indonesia. This underscores the importance of marketing strategies that emphasize product quality, supply chain transparency, and accessible environmental education to enhance consumer interest and trust.

4.2. Factor Loadings, Construct Reliability and Validity

The results of the testing, as presented in Table 1, indicate that all indicators for each variable exhibit factor loading values exceeding the threshold of 0.70. These findings affirm that each indicator consistently represents the underlying latent construct being measured (Ghazali *et al.*, 2025). For the Product Quality variable, loading values range from 0.710 (PRQ3) to 0.775 (PRQ2), reflecting stable measurement strength. A similar pattern is observed in Environmental Knowledge, with loadings spanning 0.789 (EK3) to 0.834 (EK2). Meanwhile, indicators for Green Purchase Behavior demonstrate the strongest performance, with values between 0.885 (GPB2, GPB3) and 0.900 (GPB1). For the Green Consumer Satisfaction variable, loading values fall within the range of 0.838 (GCS2) to 0.873 (GCS1), further underscoring construct consistency.

Convergent validity is further bolstered by Average Variance Extracted (AVE) values that all surpass the minimum threshold of 0.50 (Collier, 2020; Lin *et al.*, 2020). The highest AVE is recorded for Green Purchase Behavior (0.792), followed by Green Consumer Satisfaction (0.734), Environmental Knowledge (0.656), and Product Quality (0.564). These values demonstrate that a substantial portion of the indicators' variance is explained by their respective constructs, thereby establishing robust measurement precision for each variable.

In terms of reliability, both Cronbach's Alpha and Composite Reliability (CR) yield solid values exceeding 0.70, indicating high internal consistency

of the instruments employed (Hayashi & Yuan, 2023). Cronbach's Alpha ranges from 0.738 for Environmental Knowledge to 0.869 for Green Purchase Behavior. Meanwhile, CR values span from 0.838 (Product Quality) to 0.920 (Green Purchase Behavior). This elevated consistency instills confidence that the formulated indicators operate reliably in capturing their constructs.

Overall, these validity and reliability outcomes provide a solid methodological foundation for proceeding to subsequent analytical stages. All constructs satisfy stringent measurement criteria, enabling the research model to be tested with high confidence.

4.3. HTMT ratio

Overall, as presented in Table 2, all Heterotrait-Monotrait (HTMT) values fall below the threshold of 0.90 and even tend to be lower than 0.85 (Dirgijatmo, 2023). These findings indicate that each analyzed construct, namely, Product Quality, Environmental Knowledge, Green Purchase Behavior, and Green Consumer Satisfaction, exhibits strong discriminant validity. In other words, each construct distinctly represents a unique concept without significant overlap with the others. This condition provides a compelling foundation that the employed measurement model effectively differentiates the variables, rendering it suitable for progression to the subsequent structural analysis phase.

Table 2. HTMT criterion

	PRQ	EK	GPB
EK	0.647		
GPB	0.743	0.585	
GCS	0.613	0.423	0.584

Table 1. Factor loading, convergent reliability and validity

Variable	Items	Loadings	Alpha	CR	AVE
Product Quality (PRQ)	PRQ1	0.745	0.766	0.838	0.564
	PRQ2	0.775			
	PRQ3	0.710			
	PRQ4	0.773			
Environmental Knowledge (EK)	EK1	0.806	0.738	0.851	0.656
	EK2	0.834			
	EK3	0.789			
Green Purchase Behavior (GPB)	GPB1	0.900	0.869	0.920	0.792
	GPB2	0.885			
	GPB3	0.885			
Green Consumer Satisfaction (GCS)	GCS1	0.873	0.819	0.892	0.734
	GCS2	0.838			
	GCS3	0.859			

4.4. Hypothesis Testing

The results of the analysis in Table 3 depict the direct relationships among latent variables through path coefficient testing, standard deviation values, t-values, and p-values, which determine the acceptance or rejection of the research hypotheses.

H1: The Influence of Product Quality on Green Purchase Behavior

Product Quality exhibits a path coefficient of 0.606, with a t-value of 20.097 and a p-value of 0.000 ($p < 0.05$). These findings confirm that product quality exerts a positive and significant influence on Green Purchase Behavior. In essence, when consumers perceive green agricultural products as possessing high quality encompassing aspects such as freshness, safety, and production process transparency their propensity to engage in

green purchasing increases substantially. This pattern aligns with the characteristics of the study's respondents, who are predominantly urban consumers with high education levels and strong expectations regarding food quality and safety. This study is supported by previous research conducted by Baltaci *et al.* (2024), Cui *et al.* (2024), and Rakuša & Milfelner (2025) which states that there is a positive and significant relationship between Product Quality and Green Purchase Behavior.

H2: The Influence of Environmental Knowledge on Green Purchase Behavior

Environmental Knowledge demonstrates a path coefficient of 0.168, a t-value of 3.465, and a p-value of 0.001 ($p < 0.05$). Thus, the second hypothesis is also confirmed. Environmental knowledge proves to be a crucial driver in shaping green purchase behavior. Consumers who

comprehend the impacts of conventional agriculture, are familiar with concepts like carbon footprints, and recognize the benefits of environmentally friendly agricultural products tend to be more motivated to select green alternatives. These findings are consistent with the rising public literacy on sustainability issues in Indonesia, as reflected in statements from 46% of consumers demanding improved waste management practices from the food industry. This study is supported by previous research conducted by Akandere & Gümrah (2025) and El Nemar *et al.* (2022) which states that there is a positive and significant relationship between Environmental Knowledge and Green Purchase Behavior.

H3: The Influence of Green Purchase Behavior on Green Consumer Satisfaction

Green Purchase Behavior has a path coefficient of 0.495, a t-value of 12.231, and a p-value of 0.000 ($p < 0.05$), affirming its positive and significant effect on Green Consumer Satisfaction. Consumers who consciously choose green agricultural products not only experience the functional benefits of the products but also derive psychological satisfaction, including feelings of pride, control over consumption choices, and assurance that they are contributing to environmental sustainability. In the context of this study's digital-savvy respondents, who are familiar with sustainability issues, these moral and emotional dimensions emerge as integral components of post-purchase satisfaction. This study is supported by previous research conducted by (Fu *et al.*, 2022, 2023; A. Xu *et al.*, 2022) which states that there is a positive and significant relationship between Green

Purchase Behavior and Green Consumer Satisfaction.

Table 4 presents the results of testing the mediating role of Green Purchase Behavior (GPB) between the independent variables (Product Quality and Environmental Knowledge) and the dependent variable (Green Consumer Satisfaction).

H4: The Mediating Role of Green Purchase Behavior in the Relationship between Product Quality and Green Consumer Satisfaction

The test results indicate that Green Purchase Behavior serves as a significant mediator in the relationship between Product Quality and Green Consumer Satisfaction, with a mediation coefficient of 0.300, a t-value of 9.866, and a p-value of 0.000 ($p < 0.05$). These findings suggest that the influence of product quality on consumer satisfaction occurs not only directly but also indirectly through the formation of green purchase behavior. Urban consumers accustomed to rigorously evaluating food product quality, particularly for green agricultural items, view their perceptions of product quality as an initial trigger for developing more environmentally conscious purchasing habits. When consumers perceive the products they purchase as genuinely fresh, safe, transparently produced, and aligned with environmental claims, they are inclined to reinforce their commitment to green buying. In turn, this behavior yields deeper satisfaction, as consumers gain not only functional benefits but also moral and emotional fulfillment from decisions that align with sustainability values. This study is supported by previous research conducted by Cui *et al.* (2024), Irshad (2025), Kaur *et al.* (2024), and Silintowe & Made Sukresna (2023)

which states the mediating role of Green Purchase Behavior in the relationship between Product Quality and Green Consumer Satisfaction.

H5: The Mediating Role of Green Purchase Behavior in the Relationship between Environmental Knowledge and Green Consumer Satisfaction

The fifth hypothesis is also confirmed, with a mediation coefficient of 0.083, a t-value of 3.228, and a p-value of 0.001 ($p < 0.05$). This demonstrates that Environmental Knowledge influences Green Consumer Satisfaction through enhanced green purchase behavior. Consumers with a better understanding of environmental issues from the impacts of intensive agriculture and chemical residue risks in food products to the importance of sustainable consumption tend to be more

consistent in selecting eco-friendly options. This study is supported by previous research conducted by Cui *et al.* (2024), Irshad (2025), Kaur *et al.* (2024), and Silintowe & Made Sukresna (2023) which states the mediating role of Green Purchase Behavior in the relationship between Environmental Knowledge and Green Consumer Satisfaction.

Among the relatively educated respondent segment that actively accesses digital information, environmental knowledge does more than enrich awareness; it shapes preferences and tangible actions. When they translate this knowledge into greener purchasing behavior, their satisfaction intensifies, driven by both the quality of product interactions and the sense of contributing to improvements in the national food system.

Figure 1. SEM results

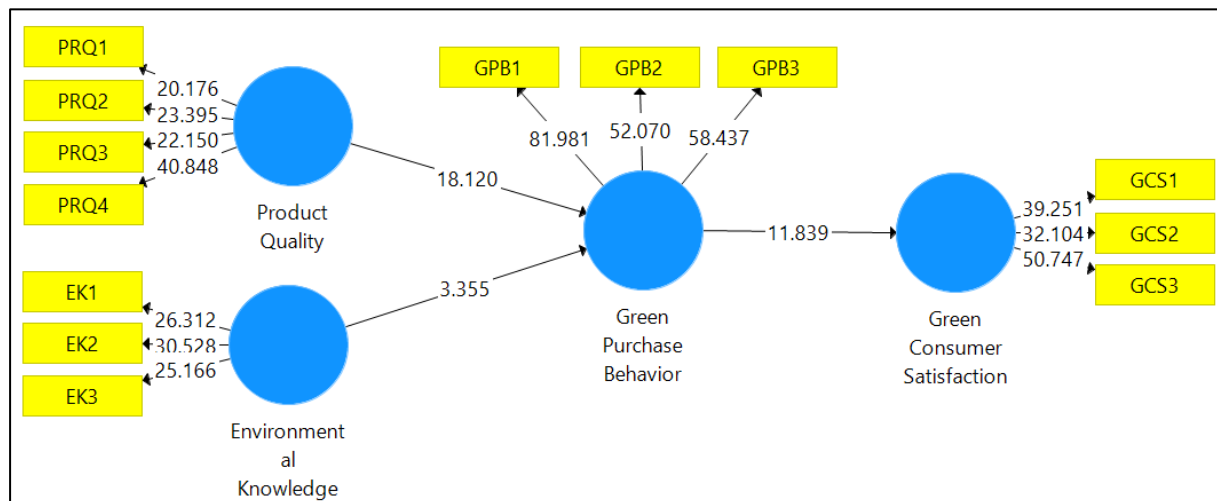


Table 3. SEM results

Hypothesis	Path	SD	T Values	P Values	Remarks
H1: PRQ → GPB	0.606	0.030	20.097	0.000	Confirmed
H2: EK → GPB	0.168	0.049	3.465	0.001	Confirmed
H3: GPB → GCS	0.495	0.040	12.231	0.000	Confirmed

Table 4. Mediation

Hypothesis	Path	SD	T Values	P Values	Remarks
H4: PRQ → GPB → GCS	0.300	0.030	9.866	0.000	Confirmed
H5: EC → GPB → GCS	0.083	0.026	3.228	0.001	Confirmed

5. CONCLUSION AND SUGGESTION

This study involved 350 respondents, predominantly young, highly educated, and digitally active consumers. The findings provide a robust insight into how this critical consumer segment evaluates and responds to food products claimed to be environmentally friendly. Their tendency to prioritize quality, information transparency, and sustainability aspects makes them a key indicator for the development direction of the green agricultural product market in Indonesia.

The hypothesis testing results show that both product quality and environmental knowledge have a positive and significant effect on green purchase behavior. These findings confirm that Indonesian consumers are increasingly adopting sustainable consumption patterns, especially when they are aware of the environmental risks of conventional farming systems and have positive experiences with green product quality. Furthermore, green purchase behavior proves to be a strong predictor of consumer satisfaction, indicating that satisfaction is shaped not only by the functional benefits of the product but also by the consumer's consistency in upholding the sustainability values they embrace. Theoretically, this study enriches the literature by affirming the mediating role of Green Purchase Behavior in bridging consumer predisposition factors with post-purchase satisfaction, a

conceptual gap that has previously received limited attention in emerging market studies.

Empirically, the findings offer important implications for the green agriculture industry, digital platforms, and policymakers. The evidence that green purchase behavior plays a significant mediating role underlines the necessity for communication and marketing strategies that emphasize product quality reliability, supply chain transparency, and the provision of accessible environmental information. Amid rising urban consumer demand for sustainable products, industry players need to strengthen certification, green labeling, and the integrity of environmental claims to maintain consumer trust. Economically, enhanced consumer trust and satisfaction hold potential to expand the green agricultural product market, open opportunities for smallholder farmers, and drive transformation toward a more resilient, low-emission food system.

While contributing valuable insights, this study has limitations that warrant critical acknowledgment. First, the use of a cross-sectional survey design limits the ability to explain changes in consumer behavior dynamics over time. Second, the respondent profile, mainly young, educated, and digitally literate, may restrict the generalizability of findings to the broader Indonesian consumer population, especially rural communities or

consumers with limited digital access. Third, the study did not include structural variables such as risk perception, trust in digital platforms, or socio-cultural factors that could influence sustainable consumption patterns. These limitations arise not from methodological flaws but from the study's scope, which was designed to explore core variable relationships more sharply.

Based on these limitations, future research is recommended to adopt a longitudinal design to understand consumer behavior changes over the long term, especially as sustainability issues gain increasing prominence in public discourse. Subsequent researchers may also expand the unit of analysis by including consumers from diverse regions, age groups, or digital access levels to achieve a more representative picture. Additionally, integrating variables such as trust in green certification, health risk perception, or social norms could provide deeper insights into the complexity of green purchasing behavior. With such approaches, future studies are expected to offer

broader contributions to both theory and practice in efforts to strengthen the green agricultural product market and realize a sustainable food system in Indonesia.

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Declaration of AI and AI-assisted technologies in the writing process

During the preparation of this work, the author(s) used AI-assisted tools to help generate research ideas and assist in translating some difficult words or sentences into more formal English. After using these tools, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

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