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SUSTAINABLE CHOICES, CONSUMER VOICES: A DEEP DIVE INTO GREEN AGRICULTURAL PRODUCTS PURCHASE INTENTIONS

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ABSTRACT

This study explores the relationships among environmental concern (ENVCO), perceived product quality (PPQU), price sensitivity (PRSEN), and consumer green agricultural products purchase intentions (GAPPI). A total of 350 valid responses were collected and analyzed using the Structural Equation Modeling-Partial Least Squares (SEM-PLS) approach. The empirical results reveal that ENVCO, PPQU, and PRSEN each have a significant positive impact on GAPPI. Furthermore, PPQU and PRSEN were found to positively mediate the relationship between ENVCO and GAPPI, underscoring their important bridging roles. By identifying the direct and mediating effects of perceived product quality and price sensitivity, the study deepens the understanding of the mechanisms through which environmental concern translates into sustainable consumer behavior. This research makes a notable contribution to the extant literature by integrating product quality and price sensitivity as mediators in the green consumer behavior framework, areas that have previously received limited attention. Practical implications suggest that marketers and policymakers should focus on enhancing product quality perceptions and offering competitively priced green agricultural products to drive consumer adoption. Future research directions are also proposed, particularly the need to validate the findings across different cultural and economic settings. Overall, the study advances knowledge in green marketing and sustainable consumption behavior.

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INTRODUCTION

The escalating environmental challenges facing the world todayranging from climate change and pollution to deforestation and the degradation of ecosystemshave intensified the urgency for adopting sustainable practices across all sectors (Wiredu, Yang, Inuwa, *et al*., 2023). As global environmental crises continue to worsen, there is a growing emphasis on the role of individual and collective action in reversing these trends. In particular, consumers are now being called upon to play a proactive role in promoting environmental sustainability by making more responsible and informed purchasing decisions (Satrovic *et al*., 2024;Wiredu *et al*., 2025). One critical area where this shift is becoming increasingly visible is in agricultural consumption, specifically through the growing demand for green agricultural products. These products refer to food and agricultural goods that are cultivated, processed, and distributed using environmentally friendly methods that minimize harm to the ecosystem, reduce chemical use, conserve biodiversity, and promote natural resource sustainability (Raihan, 2023). However, despite the growing awareness of environmental issues and the increased availability of eco-friendly alternatives in the marketplace, the adoption rate of green agricultural products remains relatively low (Juárez-Luis *et al*., 2018; Wiredu, Yang, Sampene, & Saljoughipour, 2024). This slow uptake highlights a persistent issue in consumer behavior, commonly referred to as the attitude-behavior gap. This phenomenon describes the inconsistency between what consumers say and what they doparticularly when individuals express strong support for environmental protection but fail to act on those beliefs in their actual purchasing decisions (Muganyi *et al*., 2021). For instance, while many consumers claim to prefer products that are environmentally friendly, their everyday buying habits often prioritize convenience, price, or familiarity over sustainability (Du, 2015). This contradiction reveals the multifaceted nature of consumer behavior and suggests that favorable attitudes toward green products alone are insufficient to guarantee sustainable purchasing actions (Shiu *et al*., 2023). As such, it becomes crucial to investigate the underlying psychological, social, and economic factors that influence or hinder sustainable consumption choices in the agricultural sector. To address this gap, the present study investigates the key determinants influencing green agricultural products purchase intentions (GAPPI). Specifically, it focuses on three influential variables that have been consistently highlighted in previous research: environmental concern (ENVCO), which reflects an individual's awareness and sense of responsibility toward environmental protection; perceived product

quality (PPQU), which influences trust and satisfaction; and price sensitivity (PRSEN), a critical factor affecting purchase decisions in cost-conscious markets. Accordingly, environmental concern represents the degree to which individuals are aware of and motivated by environmental issues. Consumers with higher environmental awareness are often more inclined to support eco-friendly products (Wiredu, 2024). Also, perceived product quality refers to consumers' beliefs about the health benefits, effectiveness, and safety of green agricultural products, which are pivotal in justifying a purchase decision (Madhu *et al*., 2022). Additionally, price sensitivity, on the other hand, captures the consumer's responsiveness to price changes. Since green products often command a price premium, understanding how price influences purchasing behavior is essential for designing accessible and appealing green offerings (Malhotra & Srivastava, 2023). By analyzing these factors, this study aims to provide comprehensive insights into what shapes consumers' green purchasing behaviors in the agricultural sector. The findings will have practical implications for marketers, policymakers, and agricultural producers seeking to expand the adoption of green products and drive sustainability goals. Thus, the objective of the present paper is; to examine the effect of environmental concern, perceived product quality, and price sensitivity on consumers' intention to purchase green agricultural products, and to assess the mediation link of perceived product quality and price sensitivity between environmental concern and green agricultural products purchase intentions. Furthermore, the study seeks to answer the following study questions; how does environmental concern, perceived product quality, and price sensitivity influence consumers' intention to purchase green agricultural products? And does perceive product quality and price sensitivity mediate the link between environmental concern and green agricultural products purchase intentions?

Moreover, the present study offers the following contributions toextant literature on consumer green agricultural products purchase intentions; *First*, unlike many studies that examine green purchase intentions through either psychological or economic lenses, this study integrates environmental attitudes, product perception, and economic constraints into a unified model. This comprehensive approach provides a more nuanced understanding of consumer decision-making in the context of sustainable agriculture. *Second*, while numerous studies explore green purchasing behavior in general, this research narrows the focus to green agricultural products, a sub-sector where health, environmental, and price considerations converge uniquely. The study thus offers targeted insights relevant for food policy, agribusiness marketing, and green supply chains. *Lastly*, this research contributes by empirically testing the attitude-behavior gap using a structured quantitative approach, potentially uncovering the threshold at which environmental concern and perceived quality can outweigh price sensitivity in driving purchase intentions, thus offering practical thresholds for green product pricing and messaging. After the introduction, the structure of the paper is organized as follows: Chapter 2 provides a review of the relevant literature, Chapter 3 outlines the research methodology, Chapter 4 discusses the findings and analysis, and Chapter 5 concludes by highlighting the study's implications and limitations.

LITERATURE REVIEW

Environmental Concernand Green Agricultural Products Purchase Intentions Link: Consumers who are more concerned about environmental issues tend to align their purchases with their values. When individuals are aware of the negative impacts of conventional agriculture such as pesticide use, water pollution, and carbon emissions they are more likely to prefer green agricultural products that are perceived as eco-friendly and sustainable (Syafri *et al*., 2021). Also, environmentally concerned consumers often feel a personal responsibility to take action. This sense of moral obligation can significantly motivate them to support green products, as they view their purchasing behavior as a form of environmental activism or contribution to sustainability (Wu, 2017). Furthermore, those with high environmental concern are more likely to pay attention to eco-labels and trust them. This trust can act as a cue for quality and sustainability, increasing the likelihood of purchasing green agricultural products over conventional ones (Juárez-Luis *et al*., 2018). Similarly, consumers who support environmental regulations and green policies often transfer this support to their personal consumption habits. They are more willing to invest in products that reflect their stance on sustainability, including environmentally friendly agricultural goods (Fan *et al*., 2020). Okafor & Chioma, (2022) observed that environmentally conscious consumers often have a strong emotional connection to nature. This emotional bond fosters a sense of stewardship and encourages behavior that helps protect the environment, such as choosing green agricultural products. Therefore, this study proposes that;

H1: *Environmental concern has a positive effect on consumers' purchase intention for green agricultural products.*

Perceived Product Quality and Green Agricultural Products Purchase Intentions Link: When consumers perceive green agricultural products as high-quality, they are more likely to trust that these products are safe, chemical-free, and healthier. This trust builds confidence and positively influences their purchase intentions (Wasaya *et al*., 2021). Likewise, consumers who believe green agricultural products are of superior quality are more willing to pay a higher price. The perceived added value (e.g., freshness, taste, nutritional value) makes the cost seem reasonable and boosts buying motivation (Gholamrezai *et al*., 2021). Accordingly, perceived high quality reduces the perceived risk associated with trying green products, especially for first-time buyers. Consumers feel more secure and are thus more inclined to make a purchase (Maitlo *et al*., 2022). Moreover, consumers who associate green products with high quality from past experiences are likely to form strong preferences and repurchase intentions. Satisfactory quality reinforces future purchase behavior (Kim & Lennon, 2010). In addition, if consumers believe that green agricultural products are more effective in delivering health or environmental benefits, they are more likely to commit to buying them regularly (Juárez-Luis *et al*., 2018).Green agricultural products are often perceived to be fresher and more flavorful due to their organic or chemical-free nature. This sensory quality can be a major purchase driver (Jie *et al*., 2022). Therefore, this study proposes that;

H2: *Perceived product quality positively influences consumers' purchase intention for green agricultural products.*

Price Sensitivity and Green Agricultural Products Purchase Intentions Link: Some consumers associate higher prices with superior quality and authenticity, especially for green or organic products. A less price-sensitive consumer may see the higher cost of green agricultural goods as a guarantee of environmental standards, safety, and health benefitsenhancing their purchase intention (Nsefumu *et al*., 2024).Environmentally conscious consumers with moderate price sensitivity may still be willing to pay a premium if they perceive high value in green products such as better health, improved taste, or eco-impact. The value outweighs the cost (Malhotra & Srivastava, 2023). Also, price sensitivity may decrease in higher-income groups or among consumers who budget specifically for health or sustainability. For these individuals, green product purchases are less affected by price considerations, especially when long-term benefits (e.g., health or environmental preservation) are valued (Lavuri, 2022). Furthermore, some consumers, especially health-conscious ones, consider green products a preventive health investment, potentially reducing medical costs in the long term. This perception reduces sensitivity to current price and encourages purchase (Chen & Chai, 2010). Lavuri, (2022)suggest that price-sensitive consumers may be encouraged to buy green products when discounts, subsidies, or loyalty programs are available. When pricing barriers are lowered, intention to purchase rises significantly. Similarly, in communities or social circles where sustainability is valued, consumers may downplay price sensitivity to conform to social norms. The desire for social alignment can override typical price-conscious behavior (Malhotra & Srivastava, 2023).Therefore, this study proposes that;

H3: *Price sensitivity positively affects consumers' purchase intention for green agricultural products.*

Perceived Product Quality Mediates the Link Between Environmental Concern and Green Agricultural Products Purchase Intentions: Environmentally concerned consumers often have high expectations and critical standards. Without perceiving high product quality, their concern alone may not lead to purchase. When quality is perceived as high, it validates their ethical values and encourages action (Karmoker *et al*., 2021). Perceived product quality enhances moral and psychological satisfaction. Environmentally conscious consumers feel good not just about helping the planet but also about consuming a product that meets personal standards, reinforcing the intention to purchase (Kim & Lennon, 2010). Environmentally concerned consumers may be skeptical of "green washing." A high perception of product quality, such as freshness, taste, and eco-certifications, builds trust in the product's integrity, converting concern into commitment(Du, 2015).Consumers driven by environmental concern still perform a cost-benefit analysis. When they perceive green agricultural products as high quality, the purchase seems more rational, not just moralbridging the gap between attitude and behavior (Juárez-Luis *et al*., 2018). When concerned consumers perceive quality, they are more likely to share their experiences with others, reinforcing their decision and further encouraging future purchases. Buying a product that aligns with both environmental and quality standards reduces internal conflict. Consumers feel they are not compromising making them more likely to follow through on green intentions (Ye *et al*., 2020). Environmental concern satisfies an ethical need, while perceived product quality meets personal consumption needs (taste, nutrition, etc.). When both are fulfilled, the likelihood of purchase increases significantly (Wasaya *et al*., 2021). For marketers, understanding this mediation pathway highlights that promoting green values is not enough, they must also emphasize the functional benefits and superior quality of green products to translate concern into purchases (Okumus *et al*., 2019). Therefore, this study proposes that;

H4: *Perceived Product Quality Mediates the Link Between Environmental Concern and Green Agricultural Products Purchase Intentions*

Price Sensitivity Mediates the Link Between Environmental Concern and Green Agricultural Products Purchase Intentions: Price sensitivity (PRSEN) can mediate the relationship between environmental concern (ENVCO) and green agricultural products purchase intentions (GAPPI). This perspective reveals how consumers' sensitivity to price can strengthen or channel the effect of environmental concern toward actual purchase intentions, depending on perception and context. For instance, environmentally concerned consumers often justify higher spending as a way to contribute to sustainability. This shift in mindset lowers their price sensitivity, making them more likely to follow through on their green purchase intentions (Wasaya *et al*., 2021). Consumers may care deeply about the environment, but high price sensitivity can suppress their willingness to act. When their concern leads to more flexible pricing attitudes, they are more likely to purchase green agricultural products (Okafor & Chioma, 2022). Moreso, environmentally conscious consumers may reframe price not as a cost but as a moral or ethical investment. This reinterpretation of price reduces perceived burden, strengthening their purchase intention (Alwakid *et al*., 2020). Environmental concern may lead consumers to recalculate value, prioritizing long-term ecological or health benefits over short-term costs. This mental shift reduces price sensitivity and facilitates green product adoption (Wang *et al*., 2021). Additionally, consumers with high environmental concern are more likely to perceive green product pricing as fair or justified, which reduces their resistance to premium prices and encourages purchasing (Hang *et al*., 2022). High environmental concern can act as a motivator to overcome price barriers, turning PRSEN into a form of value-based test. If the concern is strong enough, price becomes less of an obstacle(Begum *et al*., 2022).

Furthermore, concerned consumers may shift their decision criteria, focusing more on the environmental impact of their choices than on price. As a result, price sensitivity becomes less influential, allowing their concern to manifest in behavior (Malhotra & Srivastava, 2023). Environmentally concerned individuals may experience social or internal pressure to act sustainably, which helps justify higher prices. The social expectation to act green can reduce price sensitivity and support purchase intention(Qalati *et al*., 2021).Therefore, this study proposes that;

H5: *Price sensitivity mediates the link between environmental concern and green agricultural products purchase intentions*

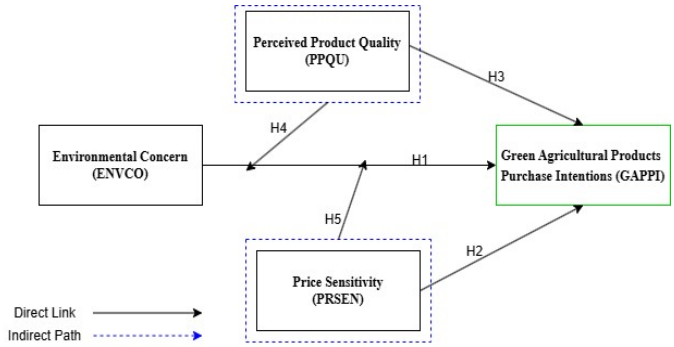

Figure 1. Conceptual framework

RESEARCH METHODOLOGY

Research method and sampling: To collect data for the study, the researcher utilized a questionnaire-based method, distributing printed forms directly to participants. This approach allowed for effective exploration of key variables relevant to the research. The questionnaire included a mix of closed and open-ended questions, which supported both structured analysis and the expression of individual perspectives. Chosen for its efficiency and broad reach, this method facilitated the timely collection of comprehensive data from a large sample group (Wiredu *et al*., 2022). The instrument was divided into three parts: the first section (face sheet) gathered demographic details of respondents, the second assessed their purchase intentions regarding green agricultural products, and the third examined their environmental concerns. A five-point Likert scale (ranging from 1 = Strongly Agree to 5 = Strongly Disagree) was employed due to its established reliability in capturing attitudes. This method balanced the need for quantifiable data with opportunities for open feedback, all while remaining cost-effective. The measurement items were adapted from existing literature, with minor adjustments to fit the context of the current study (Wiredu *et al*., 2021). Participants were selected based on their demonstrated interest in buying green agricultural products. During the survey administration, participants received a consent form along with a clear explanation of the study's purpose. They were assured that their responses would remain confidential and be used exclusively for academic research. Given the diverse nature of the agricultural sector, the researchers adopted a stratified random sampling technique. This approach involved segmenting the population into specific sub-groups (strata) and drawing proportionate random samples from each to ensure balanced and comprehensive representation. Due to the uneven distribution of farmers across the various sub-sectors under study, proportional allocation within the stratified sampling framework was used, guided by predefined inclusion criteria. In the initial stage of data collection, the research team contacted 420 potential respondents via personal communication channels, including WeChat, WhatsApp, Facebook, and face-to-face outreach. By the conclusion of the data collection period, 350 responses were received, resulting in a strong response rate of 83%, highlighting active participant involvement. Since the study did not include clinical or animal-based experimentation, ethical approval was not mandatory. Participation was entirely voluntary, and all data collection procedures were conducted with strict privacy safeguards.

Demographic Profile of Respondents: Participants were requested to provide demographic information, including gender, age, educational level, occupation, and the type of agricultural products they consumed. The data collected were analyzed using frequency counts and percentage distributions, as summarized in Table 1. The analysis revealed that out of the total respondents, 150 (43%) were male and 200 (57%) were female, suggesting a slightly higher female engagement in the consumption of green agricultural products. This gender distribution may imply that women are more inclined toward environmentally conscious purchasing behaviors, possibly due to their greater involvement in household food decisions and health-related choices.In terms of age distribution, the findings showed that 23% of consumers were aged between 15 and 19 years, 34% were within the 20–29 age bracket, and the remaining 43% were aged 30 and above. The growing interest across all age groupsparticularly among those aged 30 and aboveindicates a broadening awareness and acceptance of sustainable consumption practices. The relatively strong participation among younger age groups also signals a promising generational shift toward greener consumer habits, which may influence future market trends and policy direction in the promotion of eco-friendly agricultural products. The analysis of respondents' educational backgrounds showed that individuals with a bachelor's degree constituted the largest proportion of green agricultural product consumers, accounting for 46% of the sample. This was followed by master's degree holders at 34%, while PhD holders made up the remaining 20%. These findings suggest that higher education may play a significant role in shaping consumer attitudes toward environmentally sustainable products. Educated individuals are likely more informed about the health and environmental benefits of green agricultural products, and thus more motivated to support sustainable consumption. In terms of employment, the data revealed that 23% (80) of respondents were students, 29% (100) were security personnel, and the largest group, 37% (130), comprised civil servants. An additional 11% (40) were engaged in other types of work. The dominance of civil servants among green product consumers may reflect greater access to stable income, job security, and potentially higher environmental awareness, possibly influenced by public sector training or exposure to sustainability policies.Concerning the types of agricultural products purchased, Table 1 indicates that cereals were the most commonly bought item, with 120 respondents (34%) favoring them. Animal products were next, purchased by 100 respondents (29%), followed by tubers (80 respondents, (23%), and fruits and vegetables (50 respondents, 14%). This distribution implies a consumption pattern that leans heavily toward staple and protein-rich food sources, possibly due to cultural preferences, affordability, or dietary habits. The relatively low purchase rate of fruits and vegetables highlights a potential gap in green consumption awareness or accessibility, indicating a need for targeted educational campaigns and improved distribution systems to encourage more balanced and sustainable diets.

Table 1. Demographic Profile of Respondent's (N=350)

Characteristics	Category	Frequency	%
Gender	Male	150	43%
	Female	200	57%
Consumer Age	15-19	80	23%
	20–29	120	34%
	30 and above	150	43%
Educational Background	Undergraduate	160	46%
	Master degree	120	34%
	Ph.D. degree	70	20%
Work Type	Student	80	23%
	Civil Servant	130	37%
	Security Service	100	29%
	Others	40	11%
AgriculturalProduce	Fruits & Vegetables	50	14%
	Animal Products	100	29%
	Cereals	120	34%
	Tubers	80	23%

Measurements: The data collection process for this study was carried out in two distinct stages through an online survey. In the initial stage, participants were asked to provide demographic information, including gender, marital status, educational attainment, type of job, and type of farm produce, with a summary of this information presented in Table 1. The second stage centered on the main constructs of the study, utilizing measurement scales adapted from validated instruments in prior research, as detailed in Table 2. The survey instrument featured two higher-order constructs, incorporating four key variables: environmental concern (ENVCO), perceived product quality (PPQU), price sensitivity (PRSEN), and green agricultural products purchase intentions (GAPPI).To enhance the validity and reliability of the instrument, preliminary feedback was obtained from producers of green agricultural products and relevant agricultural experts prior to the final dissemination. All items were measured using a 5-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree").

Table 2. Measurement Details

Construct	No of Items	Source
Environmental Concern	4	(Ye *et al*., 2020)
Perceived Product Quality	4	(Lavuri, 2022)
Price Sensitivity	4	(Malhotra & Srivastava, 2023)
Green Agricultural Products Purchase Intentions	4	(Wasaya *et al*., 2021)

Method of Data Analysis: The study utilized Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the proposed theoretical framework, given its numerous advantages in handling complex research models. A major strength of PLS-SEM lies in its capacity to simultaneously evaluate both measurement and structural models, enabling precise estimation of variable relationships and offering a holistic understanding of the research constructs (Rehman Khan & Yu, 2021). Unlike traditional covariance-based SEM, PLS-SEM is especially well-suited for exploratory studies, as it can effectively manage intricate models that include moderating and mediating variables, even when sample sizes are relatively small (Hussain *et al*., 2018).Furthermore, PLS-SEM's flexibility in handling non-normal data distributions and its compatibility with both formative and reflective constructs enhance its methodological robustness. Its widespread adoption across academic domainsparticularly in research focused on consumer green agricultural products purchase intentionsattests to its credibility and reliability (Sampene & Wiredu, 2024). In the context of this study, which emphasizes consumer green agricultural products purchase intentions, PLS-SEM emerges as an ideal analytical tool. Its ability to optimize predictive power, accommodate various model complexities, and deliver insightful results makes it the most appropriate choice. Taken together, these featuresprecision, adaptability, and methodological rigor solidify PLS-SEM as the preferred approach for this investigation.

RESULTS AND DISCUSSION

Measurement reliability and validity: To verify the internal reliability of the constructs employed in this research, several statistical techniques were utilized, including composite reliability, Cronbach's alpha, factor loadings, and average variance extracted (AVE). These metrics are essential in structural equation modeling for evaluating the consistency and validity of latent variables. Composite reliability and Cronbach's alpha test the internal consistency of items within each construct, while factor loadings examine how well each observed variable represents its underlying factor. AVE, on the other hand, assesses the proportion of variance explained by the construct in relation to measurement error. According to Feng *et al*., (2023), values of 0.70 or higher for these indices indicate strong reliability. As detailed in Table 3, all constructs in this study surpassed the recommended thresholds, confirming the robustness of the measurement scales. This demonstrates that the instruments used are both reliable and consistent, providing a solid basis for further analysis and supporting the credibility of the study's conclusions.

Common method bias (CMB): Common method bias (CMB) poses a risk to the validity of statistical results by inflating standard errors and obscuring the individual impact of predictor variables on the dependent variable. This distortion can lead to inaccurate conclusions and misinterpretation of research findings. To address this potential issue, the study evaluated multicollinearity using the variance inflation factor (VIF), a standard diagnostic measure used to identify intercorrelations among independent variables. Based on the guideline established byAhmad *et al*., (2021), VIF values below 5.00 are considered acceptable, indicating minimal collinearity. As shown in Table 3, all computed VIF scores in this study remained well within this acceptable range, demonstrating that multicollinearity is not a concern. These results also suggest that common method bias does not significantly influence the data, thereby reinforcing the validity of the findings and supporting the integrity of the statistical estimates used in the analysis.

Combined loadings and Cross loadings: Table 5 displays the outcomes of both cross-loadings and combined loadings for the constructs, offering a detailed evaluation of the measurement model's reliability and validity. The results reveal that each item loads more strongly on its designated construct than on any other, thereby confirming the presence of convergent validity. This indicates that the measurement tool accurately captures the theoretical concepts it was designed to assess, with minimal interference from unrelated variables. Additionally, the absence of significant cross-loading suggests that measurement bias is minimal, consistent with prior findings by (Wiredu, Yang, Sampene, Gyamfi, *et al*., 2024). These results underscore the robustness and precision of the model, affirming its reliability for capturing distinct constructs. The strong evidence of convergent validity further reinforces the trustworthiness of the instrument, validating its effectiveness for analyzing the relationships among constructs and supporting the integrity of the study's empirical outline.

Table 3. Summary of validity results

Indicators	Items	Factor Loadings	Cronbach's alpha (α>0.7)	Composite reliability (rho_c)	AVE (>0.5)	VIF
	ENVCO 1	0.790	0.715	0.722	0.506	1.162
ENVCO	ENVCO 2	0.776				1.325
	ENVCO 3	0.853				1.689
	ENVCO 4	0.769				1.715
	GAPPI 1	0.809	0.849	0.773	0.683	1.592
GAPPI	GAPPI 2	0.791				1.108
	GAPPI 3	0.805				1.569
	GAPPI 4	0.752				1.150
	PPQU 1	0.832	0.879	0.702	0.530	1.720
PPQU	PPQU 2	0.871				1.870
	PPQU 3	0.705				1.058
	PPQU 4	0.809				1.121
	PRSEN 1	0.732	0.817	0.863	0.611	2.093
PRSEN	PRSEN 2	0.788				1.893
	PRSEN 3	0.770				2.589
	PRSEN 4	0.834				1.340

Table 4. Results of Discriminant Validity

Fornell & Larcker, (1981) Criteria					
	ENVCO	GAPPI	PPQU	PRSEN	
ENVCO	0.637				
GAPPI	0.438	0.695			
PPQU	0.578	0.357	0.656		
PRSEN	0.483	0.740	0.593	0.782	
HTMT Criteria					
	ENVCO	GAPPI	PPQU	PRSEN	
ENVCO					
GAPPI	0.597				
PPQU	0.515	0.622			
PRSEN	0.640	0.712	0.867		

Assessing reflective measurement model

Discriminate validity (Fornell-Larcker Criterial): Discriminant validity is a critical aspect of construct validity, ensuring that each construct in a model represents a unique concept and is not significantly correlated with unrelated constructs. It confirms that the variables intended to measure different theoretical concepts remain sufficiently distinct from one another. According toFornell & Larcker, (1981), discriminant validity is established when inter-construct correlations, particularly the Heterotrait-Monotrait (HTMT) ratios, fall below the recommended threshold of 0.90. In this study, discriminant validity was assessed using both the HTMT ratio and the Fornell & Larcker, (1981a) criterion, two widely accepted methods in structural equation modeling. The results, displayed in Table 4, indicate that all values meet the required thresholds, confirming that each construct is empirically distinct. These findings support the robustness of the measurement model, reinforcing the clarity and reliability of the conceptual boundaries between constructs and enhancing the overall validity of the research framework.

Model Performance and Goodness of Fit: Evaluating effect size is a crucial complement to significance testing (p-value) as it offers a clearer understanding of the practical relevance of relationships between variables (Wiredu, Yang, Saljoughipour, *et al*., 2023). While p-values determine whether relationships are statistically significant, effect size reveals the magnitude of these effects, indicating how influential a predictor is within the model. In this study, the effect sizes were measured using F^2 and R^2 statisticsstandard indicators for assessing the predictive power and contribution of each variable. As shown in Table 6, the results demonstrate a range of effect sizes from small to large, reflecting the varying impact levels of the predictors on the outcome variables. Additionally, the model's overall fit was examined using root mean square error (RMSE), RMS_theta, and the normed fit index (NFI),all of which confirmed the model's strength and reliability. These comprehensive evaluations strengthen the validity of the results and offer policymakers valuable, actionable insights (Lin & Chen, 2017).

Hypotheses testing

Direct and Indirect Path Analysis: The research introduced three direct and two indirect relationships within the study model.

Table 5. Item cross-loading matrix of the constructs

Items	ENVCO	GAPPI	PPQU	PRSEN
ENVCO1	0.790	0.314	0.101	0.172
ENVCO2	0.676	0.228	0.475	0.416
ENVCO3	0.853	0.343	0.460	0.379
ENVCO4	0.769	0.128	0.615	0.275
GAPPI1	0.357	0.909	0.347	0.819
GAPPI2	0.260	0.791	0.282	0.148
GAPPI3	0.388	0.805	0.150	0.443
GAPPI4	0.252	0.652	0.294	0.331
PPQU1	0.536	0.298	0.832	0.472
PPQU2	0.449	0.267	0.871	0.395
PPQU3	0.064	0.070	0.705	0.038
PPQU4	0.288	0.200	0.609	0.486
PRSEN1	0.478	0.346	0.580	0.732
PRSEN2	0.350	0.393	0.516	0.788
PRSEN3	0.376	0.371	0.561	0.770
PRSEN4	0.364	0.867	0.369	0.834

Table 6. Structural Model Fit Summary

Variables	R^2	F^2
ENVCO		
GAPPI	0.556	0.550
PPQU	0.452	0.320
PRSEN	0.539	0.616
Model Fitness Indicators	Saturated Model	Estimated Model
RMSE	0.148	0.149
NFI	0.378	0.377
(RMS_theta)	0.235	0.238

Table 7. Results of Hypothesis Analysis

Hypothesis	Relationship	β	T-stats	P-value	Hypothesis Supported
Direct Relationship					
H1	ENVCO ->GAPPI	0.724***	11.135	0.000	Supported
H2	PRSEN ->GAPPI	0.537***	21.316	0.000	Supported
H3	PPQU->GAPPI	0.473***	10.524	0.000	Supported
Mediation Relationship					
H4	ENVCO->PPQU->GAPPI	0.738***	20.143	0.000	Supported
H5	ENVCO->PRSEN ->GAPPI	0.647***	8.372	0.000	Supported

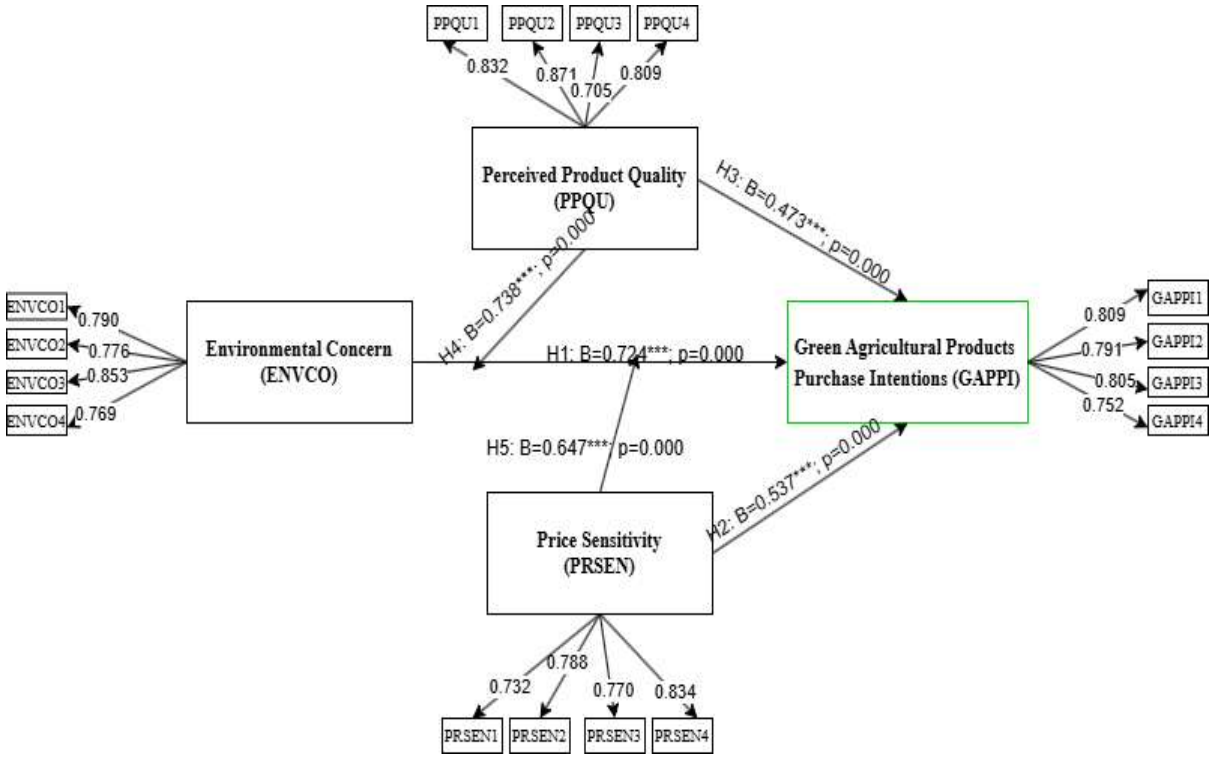

Figure 2. Final Model with Estimated Parameters

The empirical outcomes confirmed that ENVCO has a strong and significant direct link with GAPPI, as demonstrated by H1 (β = 0.724, t = 11.135, p = 0.000). Moreover, PRSEN significantly relates to GAPPI, as supported by H2 (β = 0.537, t = 21.316, p = 0.000). Also, the analysis further verified that PPQU has a positive link with GAPPI, as showed by H3 (β = 0.473, t = 10.524, p = 0.000). Regarding the indirect relationship, the study revealed that PPQU has a positive indirect effect on the link between ENVCO and GAPPI H4 (β = 0.738, t = 20.143, p = 0.000). Lastly, the outcome indicated that PRSEN has a positive indirect impact on the relationship between ENVCO and GAPPI H5 (β = 0.647, t = 8.372, p = 0.000). The outcome of the path assessment and structural model have been displayed in Figure 2 and Table 7.

DISCUSSION

While scholars have shown strong interest in environmental concern (ENVCO) when assessing consumers' intentions to purchase green agricultural products (GAPPI), research on the specific pathways linking ENVCO, PPQU, and PRSEN to GAPPI remains limited. To address this gap, the current study examines the direct relationships among these variables. The findings demonstrate that ENVCO, PPQU, and PRSEN each have a significant and positive effect on GAPPI, thus confirming hypotheses H1 through H3. Furthermore, PPQU and PRSEN were found to positively mediate the relationship between ENVCO and GAPPI, providing support for hypotheses H4 and H5. The result discovered that ENVCO has a positive link with consumer GAPPI, supporting the H1 of the study. A possible elucidation to this outcome might be that consumers who are more concerned about environmental issues are likely more conscious of the environmental impact of their purchasing decisions. As awareness of climate change, pollution, and sustainability grows, these consumers intentionally choose green agricultural products as a way to align their behavior with their values and contribute positively to environmental protection (Fan *et al*., 2020). Also, for environmentally concerned individuals, buying green agricultural products serves as a tangible way to express personal responsibility and ethical commitment. Choosing eco-friendly options is not just about the product itself but also about reinforcing a self-image of being a responsible, environmentally conscious citizen, which strengthens the intention to purchase these products (Okafor & Chioma, 2022).

Similarly, the results of this study support H2 that PRSEN has a significant relationship with GAPPI. The result suggests that when consumers perceive green agricultural products as high-quality, it reduces uncertainty and the perceived risk associated with trying eco-friendly alternatives. Confidence in product quality such as taste, freshness, safety, and durability strengthen their willingness to buy, as they do not feel they are sacrificing performance or value for environmental benefits (Gholamrezai *et al*., 2021). Additionally, green agricultural products that are seen as high-quality create a sense of greater overall value for consumers. They are not only environmentally friendly but also meet or exceed standards for taste, nutrition, or appearance. This enhanced value proposition makes consumers more motivated to choose green products over conventional alternatives (Juárez-Luis *et al*., 2018). Also, when consumers associate green agricultural products with superior quality, it can foster greater trust and loyalty toward green brands or labels. Trusting that these products consistently deliver on quality expectations encourages repeat purchases and strengthens long-term consumer commitment to eco-friendly choices (Jie *et al*., 2022). Furthermore, the H3 of this study established that PPQU positively links to GAPPI. A possible explanation to this exciting result may be that consumers with higher price sensitivity may still intend to purchase green agricultural products if they perceive that the price fairly reflects the added environmental and health benefits. When green products are seen as reasonably priced relative to their eco-friendly value, even price-conscious consumers are motivated to buy them (Malhotra & Srivastava, 2023). Moreover, as green agricultural products become more common and competition grows, prices may decrease, making them more accessible to price-sensitive consumers. Lower price differences between green and conventional products reduce cost concerns, allowing even budget-conscious buyers to prioritize green options without feeling financially strained (Lavuri, 2022). In addition, some consumers may redefine their price sensitivity by factoring sustainability into their value calculations. In this case, price-sensitive consumers may be willing to accept slightly higher prices if they view green products as offering long-term personal or societal benefits (e.g., better health, environmental protection), thereby maintaining strong purchase intentions despite cost considerations (Chen & Chai, 2010). Accordingly, the H4 of this research established that PPQU positively mediates the link between ENVCO and GAPPI. Thus, the study results infer that environmentally concerned consumers may expect green products to be not only eco-friendly but also superior in quality (e.g., fresher, safer, healthier). When these quality expectations are met or exceeded, their concern for the environment translates more strongly into actual purchase intentions through the belief that green products deliver better overall value (Wasaya *et al*., 2021). Similarly, even if consumers care about the environment, they still want reassurance that green products meet high standards (Karmoker *et al*., 2021). High perceived product quality acts as a trust bridge, helping environmentally concerned consumers feel confident that their eco-friendly choices do not involve compromises on performance, taste, or reliability, thereby strengthening their intention to buy. More so, consumers often associate green products with higher prices (the "green premium"). If environmentally concerned individuals perceive that green agricultural products offer superior quality, this perception justifies any additional cost, making them more willing to purchase. Thus, perceived quality channels environmental concern into stronger, actionable purchase decisions(Ye *et al*., 2020).

Lastly, the outcomes of this investigation support H5 that PRSEN serves as a significantmediating link between ENVCO and GAPPI.A probable explanation to this interesting outcome may be that consumers with high environmental concern may become more flexible or tolerant toward price differences when evaluating green agricultural products. Their concern for the environment makes them more willing to accept slightly higher prices, meaning that even if they are price-sensitive, their environmental values motivate them to prioritize green purchases (Qalati *et al*., 2021). Further, environmental concern may lead consumers to perceive green agricultural products as offering greater long-term value (e.g., personal health, environmental sustainability). This enhanced value perception can reduce the negative impact of price sensitivity, allowing environmentally motivated consumers to maintain strong purchase intentions despite being cost-conscious(Begum *et al*., 2022). Also,as the market for green agricultural products becomes more competitive and efficient, prices tend to become more affordable. Thus, even price-sensitive, environmentally concerned consumers find green products financially accessible, strengthening the link between their environmental concern and their intention to purchase (Okafor & Chioma, 2022).

CONCLUSION

This study provides valuable insights into the complex relationship between environmental concern (ENVCO), perceived product quality (PPQU), price sensitivity (PRSEN), and consumer green agricultural products purchase intentions (GAPPI). Using the Structural Equation Modeling (SEM-PLS) approach, the research tested the proposed hypotheses, revealing that both ENVCO, PPQU, and PRSEN positively influence GAPPI. Additionally, the findings highlight that PPQU and PRSEN serve as significant mediators in the relationship between ENVCO and GAPPI, strengthening the link between environmental concern and purchase intentions. These results significantly contribute to the understanding of how consumer attitudes and perceptions drive the intention to purchase green agricultural products, providing a foundation for future studies to explore the underlying mechanisms in different contexts or regions.

Practical Implications: This study offers several practical contributions. Since the findings highlight the significant impact of

ENVCO, PPQU, and PRSEN on enhancing GAPPI, it suggests the following recommendations: First, companies and marketers should clearly communicate the environmental advantages of green agricultural products. Highlighting eco-friendly practices, sustainability certifications, and positive environmental impact can tap into consumers' environmental concern and strengthen their intention to purchase.

Second, producers and retailers must prioritize maintaining high quality in green agricultural products in terms of taste, freshness, safety, and appearance. Marketing efforts should actively showcase these quality attributes to reassure consumers that they are not compromising on quality when choosing green products.

Third, to attract and retain price-sensitive but environmentally concerned consumers, companies should offer competitively priced green agricultural products. This could involve offering a range of products at different price points, value packs, or promotions that highlight the long-term value of sustainable consumption.

Finally, businesses should invest in transparent labeling, certifications, and storytelling about sourcing and production processes. By strengthening consumer trust in both the environmental and quality aspects of their products, companies can encourage stronger purchase intentions, especially among skeptical or price-sensitive buyers.

Limitations and Future Research

Whereas the study offers valuable intuitions, some limitations must be recognized. First, the study may have focused on a specific geographic region, demographic group, or market segment, which could limit the generalizability of the findings. Thus, future studies could examine diverse cultural, regional, or economic contexts to explore whether the relationships among ENVCO, PPQU, PRSEN, and GAPPI hold across different populations. Second, the study relies on self-reported consumer intentions rather than actual purchasing behavior, which may be influenced by social desirability bias or intention-behavior gaps. Hence, future research could incorporate experimental designs, observational methods, or real purchase data to validate whether environmental concern and product quality perceptions translate into actual buying behavior. Lastly, the study examined only perceived product quality (PPQU) and price sensitivity (PRSEN) as mediators, potentially overlooking other influential factors. Therefore, future studies could explore additional mediators or moderators, such as consumer trust, green brand image, environmental knowledge, or perceived behavioral control, to gain a deeper understanding of the mechanisms driving green product purchase intentions.

Declarations Statement

Conflict of Interest: The authors declare no competing or conflict of interest.

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