

Antecedents of Green Purchase Behavior: Examining Role of Green Awareness, Knowledge, Purchase Attitude and Environmental Consciousness

Khaled Mohammed Ahmed Alqasa

College of Commerce and Business, Lusail University, Qatar.

Jehad Abdallah Atieh Afaneh*

*Department of Management, School of Business, King Faisal
University, Al-Ahsa, Saudi Arabia.*

Over last few decades, unsustainable consumption patterns and environmental challenges have grown significantly. In response, it is important to understand the factors linked to Green Purchase Behavior for promotion of environmentally responsible consumer decision-making. The objective of this research was to explore the effect of Green Knowledge, Green Purchase Attitude, Green awareness, and Environmental Consciousness on Green Purchase Behavior. This research also examined the mediation effect of Green Purchase Attitude. Quantitative research methodology was adopted in the research. Data was collected from consumers through a questionnaire developed on Likert scale. Research used simple random sampling to reach customers. Response rate of study was 58.66%. This study used SEM technique and Smart PLS 4 as tool for analysis. Results demonstrate that customer green attitude has a positive effect on green purchase behavior. Green awareness, green knowledge, and environmental consciousness have a positive influence on green attitude as well. The mediating effect of green purchase attitude is confirmed as well. This study adds to the body of knowledge by linking green knowledge, green awareness, and environmental consciousness with green purchase behavior through mediation via green purchase attitude.

Keywords: Green Purchase Behavior, Purchase Attitude, Knowledge,

* Correspondence concerning this article should be addressed to Jehad Abdallah Atieh Afaneh, Department of Management, College of Business Administration, King Faisal University, Al-Ahsa, Saudi Arabia.
Email: jafaneh@kfu.edu.sa

Environmental Consciousness, and Green awareness.

Introduction

The environment around the globe is degrading, threatening the sustainability of life. One of the ways to solve this problem is through green purchase behavior. Studies mentioned that the set of actions that are directed toward purchasing products that are environmentally friendly with the purpose of minimizing the negative impact of using them are termed as Green purchase behavior. Several factors that hinder the adoption of green purchase behavior (Lopes et al., 2024). These factors include limited education and awareness related to sustainable consumption. In some cases, customers possess basic understanding and knowledge of environmentally friendly products. Moreover, knowledge regarding environmentally friendly products in markets remains very limited making it difficult for customers to make sustainable purchase decisions (Zaman & Kusi-Sarpong, 2024). Some studies have also indicated that limited transparency and trust exists in the market creating exaggerated or false perceptions regarding the environmental benefits of products. This practice leads to consumer distrust and confusion, making it difficult for customers to make timely purchasing decisions (Rana et al., 2024).

Various terms are used in the literature to describe a green environment, such as sustainable and green. These terms refer to products that employ manufacturing practices aimed at ensuring environmental stability for future generations (Kouser et al., 2025). A number of factors, including beliefs, social norms, environmental protection, green lifestyle, and health concerns, play an important role in developing green purchase behavior among customers. Most previous studies have examined it as an outcome of customers' green attitude (Sharma et al., 2023).

Environmental challenges are becoming intense over the passage of time. Therefore, green purchase attitude serves as an important factor that shifts consumers' consumption patterns toward environmentally friendly products. Customers often prefer products that have minimal impact on the environment when green attitude is favorable. It also has impact on sustainable production process and eco-labels (Cooray et al., 2024). Green attitude plays an important role as a variable construct that creates a link between customer values and environmental awareness. Through examining customers' green attitude, it becomes possible for organizations to understand the transition between preference for green products and their actual purchase (Shahid et al., 2024). So, it is important to understand purchase attitude to develop educational initiatives, policy interventions and marketing strategies to promote environmental

protection and sustainable consumption.

Environmental consciousness is a vital concept for understanding the way societies and individuals perceive their responsibility toward sustainable development and environmental protection. It reflects a willingness to integrate environmental factors, ethical concern for the environment, and environmental problems into customer behavior and daily decisions (Agrawal et al., 2023). In the face of resource depletion, pollution, and climate change, environmental consciousness encourages policymakers, organizations, and individuals to move beyond awareness toward sustainable and responsible actions. It influences behavioral intentions, values, and attitudes that shape environmental policies, green consumption, and eco-friendly practices. Theoretically, environmental consciousness provides a key foundation for examining moral obligations and internal values that drive pro-environment behaviors and attitudes. Understanding environmental consciousness helps identify pathways through which a sustainable mindset can play a role in long-term environmental protection (Laheri et al., 2024).

Making timely decisions regarding production and consumption, whether as collectives or individuals, requires knowledge of consequences and the possibility of using more sustainable products. Knowledge regarding the societal and economic aspects of sustainability and its consequences is a vital part in developing preferences that consumers demonstrate while making their consumption choices (Lee & Lee, 2025). Therefore, it is vital to understand how green knowledge influences policymakers and consumer behavioral decisions regarding policies and regulations for goods production. Green knowledge is important for enhancing awareness among consumers and understanding issues related to the environment. Green knowledge also enables consumers to make responsible and timely decisions that support sustainability. Green knowledge also equips customers with ability to convert green awareness into daily actions. (Saleh et al., 2025).

Green awareness is considered as basic factor to address basic environmental challenges and to promote sustainable development (Chang et al., 2025). Pollution, resource depletion, climate change, and growing environmental degradation highlight the need for customers to understand the outcomes of their activities on natural ecosystems. Green awareness plays a very important role in shaping public support for sustainable practices and environmental policies across social sectors and economic sectors (Hussain et al., 2025). Green awareness also lays the foundation to examine perceptions and knowledge influence environmentally responsible behavior, decision making and attitudes. Therefore, it is vital to understand green awareness to develop effective policies, interventions and strategies aiming to achieve sustainable

societal development. The aim of this paper is to examine the effect of green purchase attitude, green knowledge, green awareness, and environmental consciousness on green purchase behavior.

Literature Review

Green Purchase Attitude (GPA) and Green Purchase Behavior (GPB)

GPB in past studies is referred as products that are environmentally friendly, and green products. Studies has defined green purchasing as purchasing of products that are environmentally friendly and avoiding environmental harmful products (Joshi & Rahman, 2015) Additionally, purchasing green products fulfills the needs of the customers without affecting environment in the long run. Environmentally friendly products are good for environment as they have fewer negative effects on climate. Past studies mentioned that material consumed by green products is safe for environment (Susanty et al., 2021). It also needs less packaging and is also recyclable. GPB can be promoted by growing some items at home, using environmental friendly clothes, using proficient lights and using natural items (Soomro et al., 2020).

Customer attitude is evaluated as temperament of the entity or individual towards a certain product or service. Attitude is the judgement of the individual under actions to determine feelings regarding certain situation. Individuals can have positive attitude towards a number of concepts. Individuals having environmental friendly attitude will get involve in practices that are sustainable and will lead to green purchase (Ogiemwonyi et al., 2023). GPA is psychological favorable evaluation, beliefs and tendency towards purchase of environmentally friendly services or products that may have lower effect on the planet. It reflects commitment of the person towards sustainability beyond quality and price (Ofori et al., 2025). This mindset of the individual impacts the intention to select environmental friendly products influenced by social norm, perceived consumer effectiveness, environmental concern and personal values that is later altered into real alteration in behavior individual (Wang et al., 2020).

Studies mentioned significant association between GPA and GPB. It is because attitude play very important role to impact actions and shape attitude towards environmentally friendly products (Sharma et al., 2023). Green product attitude shows the negative or positive evaluation of the individual of buying environmentally friendly products influenced by perceived responsibility, ethical values, and environmental awareness towards sustainability. When customer have favorable attitude regarding green products, it will be most likely translated into real purchase behavior (Cheung & To, 2019).

Studies show that attitude is one of the important predictors of purchase behavior, suggesting that positive attitude towards environment enhances chances to get engaged in green product usage. Customers who are opined that green products contribute for the well-being of environment and they are less harmful often prefer products with sustainable sourcing, recyclable packaging eco-labels (Chhetri & Karki, 2023). Furthermore, GPA improved trust towards green products, justifies premium price and reduces perceived risk that is linked to eco-friendly products. Empirical research has shown that customers having GPA often show high frequency towards environmentally friendly products. They also remain loyal to eco-products to show the responsibility towards environment (Rana et al., 2024). This linkage of attitude and behavior is strengthened when customers perceive their actions as effective and meaningful to address environmental issues (Paciello et al., 2025). Therefore, developing GPA through transparent green marketing and awareness campaign by educating individuals is important to promote sustainable consumption and GPB.

H1. There is significant relationship between GPA and GPB.

Environmental Consciousness (EC) and Green Purchase Attitude

Scholars have defined EC as certain psychological factor linked to propensity of an individual in environmental friendly behavior (Haanpää, 2016). Studies has also referred to EC as psychological factor that shows propensity of consumer for environmentally friendly behavior. It reflects the willingness to understand environmental problems, commit and solve environmental issues and support efforts to solve eco-issues. The aspect of EC have dealt with factors like attitude, interest in, environmental problems, and are explained as improve environmental damage and pollution that is the result of human activities (Kim & Lee, 2023). EC is based on recognizing consequences and causes of climate change. Moreover, actively taking actions to solve these issues. At the basic level, EC' is set of opinions that maintain rights of all living creatures along with nature which must be protected and respected.

To shape green purchasing intention, EC plays very important role. It shows that there is very strong association between these two factors. EC is discussed as sense, concern and awareness of responsibility towards sustainability and environmental protection (Sriramaneni et al., 2025). Customers who are environmentally conscious are likely to understand negative outcome of conventional products and advantages of environmentally friendly products. This product awareness develops positive evaluation leading to favorable green attitude (Huang et al., 2014).

Customers who are environmentally conscious often give value to

ethical sourcing, recyclable packaging, reduced carbon emission and sustainable production. Resultantly, they show preference towards green products and consider them aligned with moral obligations and personal values. Such customers are also conscious regarding green certification, eco-labels and environmental information that also reinforce positive attitude regarding green purchasing (Carter et al., 2025). Additionally, EC enhances customer willingness to support organizations that show responsibility towards environment. Studies exerted that EC has significant effect on personal accountability and moral norms that later influence green consumption positively. When customers feel responsible for preserving the environment, it is high probability that positive attitude towards environmentally friendly products will develop. Thus, high level of EC has positive effect on development of green product attitude (Anggraini et al., 2023). Study by Mishal et al. (2017) revealed that EC has positive effect on GPA

H2. There is significant relationship between EC and GPA.

Green Knowledge (GK) and Green Purchase Attitude

In literature, GK is referred as awareness of customers regarding environmental friendly product produced and storage of important and energy resources (Candrianto et al., 2023). Studies also defined environmental knowledge as knowledge regarding relationships, concepts and facts as regards the ecosystems and environment (Liobikienė & Poškus, 2019). Getting awareness regarding environment means the way human behavior have impact on environment and there is need to take corrective actions. Individuals having GK have ability to understand impact of different products on environment and consumption behavior of customers (Zhang et al., 2024). Such individuals can understand which acts by them are better for the protection of environment. Individuals having GK can behave in a manner that is environment friendly. GK provides an individual to give value to environmental issues.

Understanding of consumers of the eco-friendly products and environmental issues shapes their preferences and evaluations towards green consumptions (Savale et al., 2023). Customer having GK have awareness and ability to understand problems related to environment, adopt sustainable practice and understand environmental advantages of using green products (Issock Issock et al., 2020). Customers who possess higher levels of GK are better equipped to understand impact of environment on decision to purchase products. They show more favorable attitude towards green product (Zhang et al., 2024).

Customers who are knowledgeable have the ability to differentiate between misleading green claims and original green products. It increases

trust of customers towards environmental products and reduces skepticism (Yoon & Chen, 2017). This clarity improves positive perception regarding quality of green products, environmental values and effectiveness. Furthermore, customer belief is strengthened by GK that environment will be protected in case of green purchasing. Customers having understanding of concepts such as eco-labels energy efficiency and recyclability often perceive green products as compulsory factors rather than optional ones. From the perspective of cognition, GK effect formation of attitude by shaping evaluation and beliefs that are very important elements to develop attitude. As knowledge is enhanced, confidence of customers regarding green choice also rises leading to consistent and stronger GPA. So, enhancing GK through awareness, transparent labeling, and education, and awareness campaigns are important to cultivate green attitudes. Studies such as Amoako et al. (2020) revealed positive effect of GK on GPA.

H3. There is significant relationship between GK and GPA.

Green Awareness (GA) and Green Purchase Attitude

GA is also termed as environmental awareness in literature. Studies mentioned GA as customer understanding of connection, conceptual understanding, factual knowledge and environmental issue connected to the product (Mulyanie et al., 2025). GA is important for awareness of customers and concerns regarding environmental issues. It reflects environmental well-being of the customers. Studies mentioned that customers having high level of GA are inclined to request green products as a result of their understanding of environmental advantage linked to such product (Shehawy & Khan, 2024).

The evaluation, feeling and thinking of the customers regarding environment friendly products is strongly influenced by awareness (Sahioun et al., 2023). It determines the level to which customers have understanding about resource depletion, pollution and climate change. They also recognize the role of sustainable products to minimize these issues. When consumers have higher level of GA, it is more likely that they will show social responsibility and behave in environmentally friendly manner.

GPA is shaped because of this heightened awareness as it creates positive beliefs regarding environmentally friendly products (Ssenoga et al., 2025). Customers having knowledge regarding environmental benefits like energy efficient production, biodegradable materials and carbon emissions often view green products as trustworthy, ethical and beneficial. Therefore, they develop favorable attitudes regarding brands that demonstrate responsibility towards environment. Skepticism and uncertainty regarding green claims is also reduced because of GA, enabling

customers to evaluate products in better way, that strengthen positive attitude (Gawshinde et al., 2025). Moreover, GA improves moral and emotional engagement with issues of environment. Consumers who know regarding long term consequences of non-environmentally friendly products, often go through empathy and concern for the environment. It motivates these customers to support usage of green products. This emotional connection is translated into stronger preference regarding environmental friendly products (Mabkhot, 2024).

Additionally, social identity and social norms are influenced by GA. Customers who are environmentally aware often view green purchasing as reflection of their lifestyle and values. Later, it re-enforce positive attitude among customers towards green products (Zameer & Yasmeen, 2022). Thus, GA is the important antecedent of green attitude shaping customer evaluation. The study by Li et al. (2020) revealed GA has positive influence on GPA.

H4. There is significant relationship between GA and GPA.

Mediating Role of Green purchase attitude

Customers having higher consciousness regarding environment understand problems of environment in a better way. They feel it is a moral responsibility to protect the environment. Whereas this awareness regarding awareness does not only lead to purchasing green products. Positive green attitude in the form of perceived personal impact, trust on green labels, and eco-friendly products work as the bridge to fill the gap (Bhavaya et al., 2025). When EC plays its role to shape attitude of customers in favor of environmentally friendly products, it is highly likely that customers will evaluate the products in positive way and develop intention to purchase this product.

As a result, GPB is derived by this attitude that creates an important mechanism linking EC and GPB (Mishal et al., 2017). Therefore, GPA has the potential to act as mediator between EC GPB by converting awareness into action. In past, study by Chen et al. (2022) revealed mediating role of green attitude in their study.

H5. Green purchase attitude is mediator between the relationship of EC and GPB.

The relationship between GK and GPB can be mediated through GPA by creating motivation from information. When strong GK is possessed by the consumers, they get the ability to understand in a better way the environmental benefits, sustainable practices and eco-labels (Nguyễn et al., 2025). This knowledge develops positive attitude regarding green products by enhancing perceived value and trust. Favorable GPA then encourages formation of intention and minimizes resistance towards

higher efforts, and higher prices, leading ultimately towards knowledgeable consumers to get engaged in actual GPB. Several studies discussed mediating role of GPA in their studies. The study by Hoang Yen and Hoang (2023) discussed mediating effect of GPA. Likewise, Moslehpour et al. (2023) also determined mediating effect of green attitude. Therefore, it is hypothesized that

H6. GPA is mediator between the relationship of GK and GPB.

Green purchase intention converts awareness into favorable actions regarding evaluation of environmentally friendly products. Customers get ability to recognize environmental problems with the help of GA (Ansu-Mensah, 2021). They also realize the vitality of sustainable consumption as well. But GA cannot only lead to strong actions by the customers. When purchase attitude regarding green products is developed as GA such as belief regarding personal responsibility, preference regarding green products and environmental impact can increase in intention to purchase. Customers are motivated by these attitudes to select environmentally friendly products. Thus, GA is linked to real GPB. In past, study by Moslehpour et al. (2023) discussed mediating role of GPA in their study. So, we hypothesize that

H7. GPA is mediator between the relationship of GA and GPB.

This discussion in literature review section leads to the development of research frameworks as mentioned in Figure 1

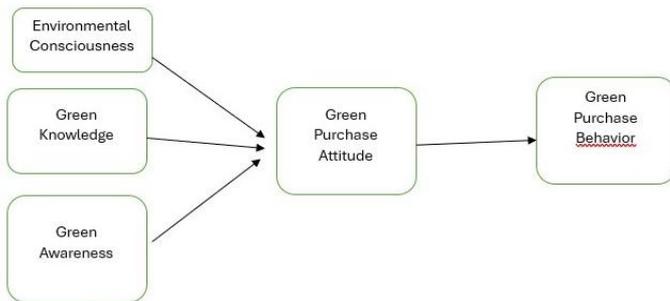


Figure 1: Theoretical Model

Methodology

Present study employed quantitative approach of research focusing on antecedents of green purchase behaviour and GPA. The respondents of the study were customers. This study developed questionnaire to reach the customers that was developed in six-point Likert scale. The items of the questionnaire were adapted from in-depth literature review. This study borrowed items of GPB from Susanty et al. (2021), scale of GPA was adopted from Wang et al. (2020), questionnaire items of GK as

environmental Knowledge were adopted from Issock Issock et al. (2020), scale of GA questionnaire were borrowed from Sahioun et al. (2023), and items of EC were adapted from Huang et al. (2014).

Present study reached customers by employing simple random sampling. The developed questionnaire was distributed among 300 respondents. We received 176 usable responses from the customers having response rate of 58.66%. The questionnaire was removed as they were not properly filled by the respondents or there were double entries while filling the questionnaire. The collected questionnaire was analysed using SEM technique. For this purpose, present study used Smart PLS 4 as software. Studies have recommended to use Smart PLS 4 when the proposed framework is complex. The framework of this study is complex. Therefore, this study recommends using Smart PLS 4 for the analysis.

Results and Analysis

The analysis through Smart PLS is divided in two sections. First section; Measurement model is tested to assure convergent validity, reliability, discriminant validity and R^2 of the data. Whereas structural model is tested for the evaluation of hypotheses of the study proposed at the stage of literature review.

Table 1
Factor Loading

	GAW	EC	GK	GPA	GPB
GAW1	0.919				
GAW1	0.909				
GAW3	0.929				
GAW4	0.928				
GAW5	0.773				
EC1		0.842			
EC2		0.799			
EC3		0.862			
EC4		0.844			
EC5		0.868			
EC6		0.859			
EC7		0.410			
GK1			0.878		
GK2			0.864		
GK3			0.842		
GK4			0.883		
GPA1				0.868	
GPA2				0.869	
GPA3				0.864	
GPA4				0.874	
GPB1					0.837
GPB2					0.861
GPB3					0.871
GPB4					0.874
GPB5					0.751

The analysis of measurement model begins with analysis of factor loading as part of convergent validity. Researchers proposed minimum acceptable value of Factor loading is 0.40 (Tabachnick et al., 2007). In other words, items having loaded less than 0.40 should be removed. Table 1 of the study shows that loading having less than 0.40 are removed. Whereas remaining are used for further analysis.

Table 2

Reliability

	α	AVE
GAW	0.935	0.798
EC	0.896	0.637
GK	0.890	0.752
GPA	0.892	0.754
GPB	0.895	0.706

This study analyzed AVE as element of convergent validity for which scholars proposed the benchmark value is 0.50 (Hair Jr et al., 2021) Values of AVE as mentioned in Table 2 are more than 0.50, meeting the criteria. This research also examined values of α to determine the reliability of the collected data. Hair Jr et al. (2017) proposed the minimum value of α should be more than 0.70, values in table 2 meeting criteria. This criterion is fulfilled in present study as well.

Later, discriminant validity was assessed through Fornell and Larcker technique to assure the reasonable variance among the variables. According to Fornell and Larcker (1981) and Hair et al. (2021) criteria, values at the diagonal of the matrix must be higher than the remaining values of the matrix. Table 3 reveals that all values meeting required criteria. The benchmark is fulfilled as well.

Table 3

Fornell and Larcker Approach

	GAW	EC	GK	GPA	GPB
GAW	0.893				
GC	0.240	0.798			
GK	0.343	0.658	0.867		
GPA	0.368	0.688	0.720	0.869	
GPB	0.379	0.623	0.688	0.710	0.840

Coefficient of determination was evaluated as the last step of measurement model. This research used the criteria of Chin (1998). Who mentioned that R^2 value of more than 0.33 is considered as moderate. Table 4 and Figure 2 reflect that both R^2 values are moderate in this study.

Table 4

R^2

	R-square
GPA	0.615
GPB	0.504

This study used path coefficient to examine the direction and strength of variables. In PLS, this method is used for the testing of proposed hypotheses. In research, a hypothesis having t value more than 1.645 is considered as significant. Whereas Beta value determines its direction. Table 5 shows the path coefficients of this study.

The results show that GAW has significant effect on GPA ($t=3.499$), accepting hypothesis, EC has positive association with GPA as well ($t=6.249$), GK has significant effect on GPA also ($t=6.871$) and GPA has significant effect on GPB ($t= 16.843$). Therefore, these hypotheses are supported as well.

Table 5
Path Coefficients

	Beta	SD	T value	P values
GAW -> GPA	0.131	0.038	3.499	0.000
EC -> GPA	0.375	0.060	6.249	0.000
GK -> GPA	0.428	0.062	6.871	0.000
GPA -> GPB	0.710	0.042	16.843	0.000

In the end, indirect results were estimated to test the mediating hypothesis of the study. Statistical findings confirm the mediating role of GPA. Tale 6 states that GPA mediates between GAW and GPB ($t=3.405$), between EC and GPB ($t=6.184$), and between GK and GPB ($t=5.936$). so, all mediating results are accepted as well.

Table 6
Mediating Results

	Beta	SD	T	P values
GAW -> GPA -> GPB	0.093	0.027	3.405	0.000
EC -> GPA -> GPB	0.266	0.043	6.184	0.000
GK -> GPA -> GPB	0.304	0.051	5.936	0.000

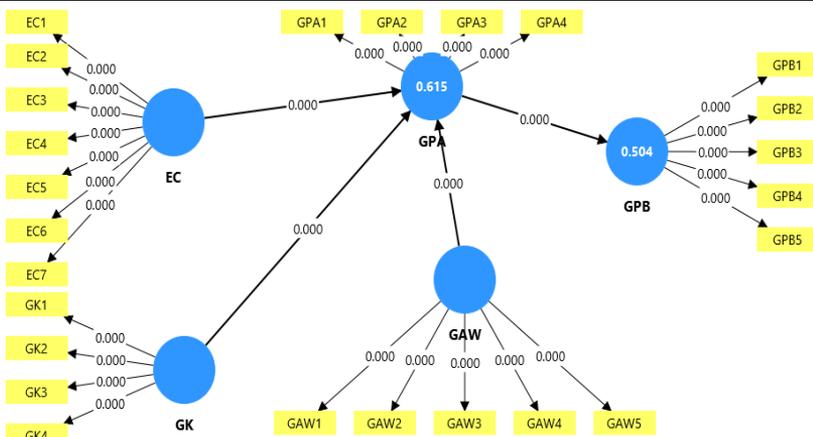


Figure 2: Structural Model

Discussion

This research employed quantitative methodology to assess the antecedents of GPB. The results of the study demonstrated that green purchase attitude exerts positive influence on green purchase behavior. These findings reflect cause and effect association between customer attitude and purchasing behavior. When a favorable green purchase attitude develops within a consumer, environmentally friendly products are perceived as aligned, responsible, and valuable to their beliefs. This positive attitude strengthens their willingness to maintain a supportive mindset toward green products. It directly results in stronger green purchase behavior.

Moreover, green purchase attitude shapes decision making and evaluation of the consumer at the point of purchase. Consumers who assume that green products are important for the protection of environment, they feel ethically responsible to behave in environmentally friendly manner. Therefore, they get motivated because of sense of responsibility to select green products rather than conventional products. Furthermore, positive green purchase attitude minimizes perceived risk and hesitation that is associated with green products making customers confident while they are purchasing any green product. So, the results assures that green purchase attitude creates key changes in green purchase behavior, implying that consumer attitude should be the focus to improve green purchase behaviour. These findings are in line with results of (Paciello et al., 2025).

The statistical results revealed that green knowledge has positive effect on green purchase attitude as discussed in study of Amoako et al. (2020). These findings emphasize the vital role of understanding consumers in shaping environmentally friendly evaluations. When green knowledge is possessed by consumers, they become aware of benefits linked to green products, sustainable concepts, and environmental problems. This enhanced green knowledge helps customers develop clearer and more positive evaluations of environmentally friendly products, which strengthens their green purchase attitude.

Consumers having green knowledge enables them to interpret environmental claims, certifications and eco-labels correctly. So, consumers often perceive themselves as more confident and informed regarding their choices that reduce uncertainty and doubts linked to green products. This confidence plays important role to develop positive green attitude. Additionally, green knowledge heightens the consumers understanding of the impact of their consumption on environment. As a result, customers become more supportive towards products that are environmentally responsible. The results highlight that green knowledge

enhances consumer purchase attitude to become favorable. In other words, green purchase attitude can be improved through transparent communication and education aiming to strengthen consumer green knowledge.

Findings of the study demonstrate that green awareness has significant effect on green purchase attitude, similar to the findings of (Li et al., 2020). Results show that green awareness is a central element in shaping environmentally friendly evaluations within customers. When there is high green awareness among consumers, they become more conscious of sustainability goals and environmental challenges. Consumers are encouraged to perceive green products as meaningful and necessary, which has a positive effect on green purchase attitude.

Consumers can easily recognize environmental and social values to select products that are ecofriendly through greater green awareness. Because of increased green awareness, consumers start to link green purchasing with moral and ethical behavior, and personal responsibility. This linkage positive impact the way consumers feel regarding green products, making their green purchase attitude to be more favorable and supportive. Furthermore, green awareness improves consumer sensitivity towards negative outcomes of using conventional products such as resource depletion and pollution. Stage when consumer get aware of negative consequences to use conventional products, they develop preference to use environmentally friendly alternatives. As a result, elevated green awareness led to improved green purchase attitude. These outcomes show that green awareness can be used effectively to alter customers attitude towards green purchasing.

The results also show that environmental consciousness has significant effect on green purchase attitude (Mishal et al., 2017). The findings indicate that customers' internal concern for the environment strongly affects buying evaluations. When customers have higher environmental consciousness, they naturally think about environmental protection. Customers are encouraged to view green products as aligned with their values due to environmental consciousness, which later leads to a positive green attitude.

Elevated environmental consciousness has influenced the way consumers examine the results of their usage choices. Individuals who are environmentally conscious often consider long-term impact of product usage rather than giving priority to convenience and price. With an increase in environmental consciousness, customers develop a preference for eco-friendly products that can minimize harm to the environment, thereby strengthening green purchase attitude. Additionally, environmental consciousness develops an emotional connection that helps in preservation of the environment. Customers who are conscious

about the environment mostly feel responsible toward the environment for contributing to environmental well-being through their daily choices. This sense of responsibility develops positive intention toward eco-products and improves green purchase attitude. Results suggest that enhancing environmental consciousness among consumers is vital to develop green purchase attitude.

Results also confirm the mediating role of green purchase attitude between environmental consciousness and green purchase behavior. These results indicate that attitude may serve as a key mechanism to convert concern into actions. Whereas environmental consciousness shows concern for environmental issues, consumer awareness does not automatically convert into purchasing decisions. Environmental consciousness initially develops a favorable green purchase attitude, which then leads toward green purchase behavior. Moreover, when customers are conscious about the environment, they show positive feelings and beliefs regarding green products. This green purchase attitude enhances willingness to select environmentally friendly products. Therefore, green purchase attitude plays the role of a bridge between environmental consciousness and green purchase behavior overall consistently.

Findings revealed the mediating effect of green purchase attitude between green knowledge and green purchase behavior. Results suggest that green knowledge cannot influence green purchasing alone. When green knowledge is acquired by customers, they gain understanding regarding environmental issues and advantages of using green products. Favorable beliefs and evaluations are shaped because of green knowledge, which strengthens green purchase attitude. Customers are encouraged through green purchase attitude to convert understanding into real-time green purchase behavior. Therefore, green purchase attitude works as a pathway between green knowledge and purchase decisions.

Results show green purchase attitude mediated between green awareness and green purchase behavior. Results highlight the vitality of formation of attitude in the process of green consumption. Though customer understanding regarding sustainable practices and environmental issues is enhanced through green awareness, but only factor of awareness cannot lead to actual purchase. Whereas green awareness helps customers to develop positive green purchase attitude that is converted into environmentally friendly products. As a result of green purchase attitude, customers are motivated to behave in line with the awareness through selection of green alternatives. So, green purchase attitude act as important link between that link green awareness into green purchase behavior. These mediating results are in line with results of (Moslehpour et al., 2023).

Limitations and Directions

Despite a number of contributions, there are a few limitations in this study. Present study focused on only relationship of attitude and behavior. Whereas intention of the customer is missing in the link. It is proposed that future studies may add purchase intention as variable. Moreover, this research lack moderating variable. Motivation of the customer can be a good moderator and is proposed to add in future studies.

Also, R square value of the study suggests there should be other variables to enhance effect of IVs. Variable like eco-labels can be significant addition in future studies. Also, the data was collected using simple random sampling. Future studies may use stratified sampling for this purpose. Furthermore, collected data was analysed using Smart PLS 4. Studies in future should test similar data on AMOS or process Macros.

Theoretical and Managerial Contribution

This section will highlight managerial and theoretical contribution of the study. From the perspective of theoretical contribution, results extend present models of green customer behavior by identifying main role of green purchase attitude as mediator. By showing the way environmental consciousness, green awareness and green knowledge shape green purchase behavior, this research enhance behavior and attitude linkage in context of environment. The findings of the study also provide empirical support to integrate affective and cognitive factors into frameworks of green behavior.

In terms of managerial contribution, the findings highlight customer awareness regarding environmental issues is not enough for improvement in green purchase behavior. It is vital that managers invest strategically in sustainability messaging, green communication and educational campaign to strengthen environmental consciousness, and green knowledge and to shape green purchase attitude. Managers should also focus on factors to alter customers attitude so the behavior of customers can be changed. These findings can be used by managers to develop environmental policies and academicians for their future studies.

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References

Agrawal, M., Kalia, P., Nema, P., Zia, A., Kaur, K., & John, H. B. (2023). Evaluating the influence of government initiatives and social platforms on green practices of Gen Z: The mediating

- role of environmental awareness and consciousness. *Cleaner and Responsible Consumption*, 8, 100109. <https://doi.org/10.1016/j.clrc.2023.100109>
- Amoako, G. K., Dzogbenuku, R. K., & Abubakari, A. (2020). Do green knowledge and attitude influence the youth's green purchasing? Theory of planned behavior. *International Journal of Productivity and Performance Management*, 69(8), 1609-1626. <https://doi.org/10.1108/IJPPM-12-2019-0595>
- Anggraini, I., Imaningsih, E. S., & Wibowo, M. W. (2023). The Influence Of Environmental Consciousness, Environmental Concern, And Environmental Knowledge On Attitudes And Their Implications On Green Purchase Intention Of Eco-Friendly Homes. *International Journal of Social and Management Studies*, 4(2), 46-64. <https://doi.org/10.5555/ijosmas.v4i2.276>
- Ansu-Mensah, P. (2021). Green product awareness effect on green purchase intentions of university students': an emerging market's perspective. *Future Business Journal*, 7(1), 48. <https://doi.org/10.1186/s43093-021-00094-5>
- Bhavya, B., Shamina, H., Pandit, J., Devi, P., & Verma, R. (2025). Role of Environmental Consciousness in Influencing Consumer Purchase Decisions towards Green Packaging: An Empirical and Theoretical Exploration. *Revista Latinoamericana de la Papa*, 29(1), 398-408. <https://doi.org/10.64252/q3ycf455>
- Candrianto, C., Aimon, H., & Sentosa, S. (2023). The role of knowledge, awareness and environmental attitudes in green product management. *Global Journal of Environmental Science and Management* 9(1). <https://dx.doi.org/10.22034/gjesm.2023.01.08>
- Carter, V., Richardson, G., Turner, B., Hughes, A., Scott, E., & Isreal, O. (2025). The Role of Eco-Labels and Certifications in Influencing Green Consumer Choices. <https://www.researchgate.net/publication/395926786>
- Chang, H.-T., Tu, J.-C., Jiang, K.-C., & Kao, T.-F. (2025). Influence of green information on environmental awareness: a case study of clothing tags. *Discover Sustainability*, 6(1), 1-20. <https://doi.org/10.1007/s43621-025-01057-4>
- Chen, X., Rahman, M. K., Rana, M. S., Gazi, M. A. I., Rahaman, M. A., & Nawi, N. C. (2022). Predicting consumer green product purchase attitudes and behavioral intention during COVID-19 pandemic. *Frontiers in Psychology*, 12, 760051. <https://doi.org/10.3389/fpsyg.2021.760051>
- Cheung, M. F., & To, W. M. (2019). An extended model of value-attitude-behavior to explain Chinese consumers' green purchase behavior. *Journal of Retailing and Consumer Services*, 50, 145-153. <https://doi.org/10.1016/j.jretconser.2019.04.006>
- Chhetri, A. D., & Karki, D. (2023). Consumers' attitude on purchase behavior of green products. *Pravaha*, 29(1), 111-122. <https://doi.org/10.3126/pravaha.v29i1.71411>
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In *Modern methods for business research* (pp. 295-336). Psychology Press. <https://www.researchgate.net/publication/311766005>
- Cooray, W., Patabendige, S., & Miranda, U. (2024). Impact of Environmental Knowledge on Green Purchase Intention: Examining the Mediating Effect of Young Business Executives' Attitudes Towards Green Products in Developing Country Context. *Sri Lanka Journal of Marketing*, 9(3). <https://doi.org/10.4038/sljmuok.v9i3.159>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50. <https://doi.org/10.2307/3151312>
- Gawshinde, S., Al-Aflak, A., Khurana, A., Bisht, V., & Lawande, N. (2025). Linking green orientation and environmental concern in shaping purchasing behaviour among different generations. *Discover Sustainability*, 6(1), 1178. <https://doi.org/10.1007/s43621-025-02023-w>
- Haanpää, L. (2016). Youth environmental consciousness in Europe: The influence of psychosocial factors on pro-environmental behaviour. In *Green European* (pp. 205-220). Routledge. <https://doi.org/10.4324/9781315648491>
- Hair, J. F., Astrachan, C. B., Moisesescu, O. I., Radomir, L., Sarstedt, M., Vaithilingam, S., & Ringle,

- C. M. (2021). Executing and interpreting applications of PLS-SEM: Updates for family business researchers. *Journal of Family Business Strategy*, 12(3), 100392. <https://doi.org/10.1016/j.jfbs.2020.100392>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). Partial least squares structural equation modeling (PLS-SEM) using R: A workbook. In: Springer. <https://library.oapen.org/handle/20.500.12657/51463>
- Hair, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107-123. <https://doi.org/10.1504/IJMDA.2017.087624>
- Hoang Yen, N. T., & Hoang, D. P. (2023). The formation of attitudes and intention towards green purchase: An analysis of internal and external mechanisms. *Cogent Business & Management*, 10(1), 2192844. <https://doi.org/10.1080/23311975.2023.2192844>
- Huang, H.-C., Lin, T.-H., Lai, M.-C., & Lin, T.-L. (2014). Environmental consciousness and green customer behavior: An examination of motivation crowding effect. *International journal of hospitality management*, 40, 139-149. <https://doi.org/10.1016/j.ijhm.2014.04.006>
- Hussain, A., Kanwel, S., Erum, N., Pasha, U., Asad, M., Khan, S. N., Zakaria, N. B., & Sanusi, Z. M. (2025). The role of environmental awareness, renewable energy, and green innovation in shaping climate change perceptions. *Scientific Reports*, 15(1), 40933. <https://doi.org/10.1038/s41598-025-24815-w>
- Issock Issock, P. B., Mpinganjira, M., & Roberts-Lombard, M. (2020). Modelling green customer loyalty and positive word of mouth: can environmental knowledge make the difference in an emerging market? *International Journal of Emerging Markets*, 15(3), 405-426. <https://doi.org/10.1108/IJOEM-09-2018-0489>
- Joshi, Y., & Rahman, Z. (2015). Factors affecting green purchase behaviour and future research directions. *International Strategic management review*, 3(1-2), 128-143. <https://doi.org/10.1016/j.ism.2015.04.001>
- Kim, N., & Lee, K. (2023). Environmental consciousness, purchase intention, and actual purchase behavior of eco-friendly products: The moderating impact of situational context. *International Journal of Environmental Research and Public Health*, 20(7), 5312. <https://doi.org/10.3390/ijerph20075312>
- Kouser, R., Mahmood, G., Watto, W. A., Fahlevi, M., & Aziz, A. L. (2025). Assessing the impact of green manufacturing and green technology innovation on sustainable green practices: unveiling the mediating role of eco-design. *International Journal of Sustainable Engineering*, 18(1), 2538868. <https://doi.org/10.1080/19397038.2025.2538868>
- Laheri, V. K., Lim, W. M., Arya, P. K., & Kumar, S. (2024). A multidimensional lens of environmental consciousness: towards an environmentally conscious theory of planned behavior. *Journal of Consumer Marketing*, 41(3), 281-297. <https://doi.org/10.1108/JCM-03-2023-5875>
- Lee, J., & Lee, L. (2025). The impact of consumer knowledge on socially responsible spending on products from underdeveloped countries. *Journal of Innovation & Knowledge*, 10(4), 100725. <https://doi.org/10.1016/j.jik.2025.100725>
- Li, H., Haq, I. U., Nadeem, H., Albasher, G., Alqatani, W., Nawaz, A., & Hameed, J. (2020). How environmental awareness relates to green purchase intentions can affect brand evangelism? Altruism and environmental consciousness as mediators. *Revista Argentina de clinica psicologica*, 29(5), 811-825. <https://doi.org/10.24205/03276716.2020.1079>
- Liobikiėnė, G., & Poškus, M. S. (2019). The importance of environmental knowledge for private and public sphere pro-environmental behavior: modifying the value-belief-norm theory. *Sustainability*, 11(12), 3324. <https://doi.org/10.3390/su11123324>
- Lopes, J. 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. <https://doi.org/10.1108/SAMPJ-07-2023-0492>
- Mabkhot, H. (2024). Factors affecting millennials' green purchase behavior: Evidence from Saudi Arabia. *Heliyon*, 10(4). <https://doi.org/10.1016/j.heliyon.2024.e25639>

- Mishal, A., Dubey, R., Gupta, O. K., & Luo, Z. (2017). Dynamics of environmental consciousness and green purchase behaviour: an empirical study. *International Journal of Climate Change Strategies and Management*, 9(5), 682-706. <https://doi.org/10.1108/IJCCSM-11-2016-0168>
- Moslehpour, M., Yin Chau, K., Du, L., Qiu, R., Lin, C.-Y., & Batbayar, B. (2023). Predictors of green purchase intention toward eco-innovation and green products: Evidence from Taiwan. *Economic research-Ekonomska istraživanja*, 36(2). <https://doi.org/10.1080/1331677X.2022.2121934>
- Mulyanie, S. D., Widodo, A., & Rubiyanti, N. (2025). The Effect of Environmental Concern and Green Product on Green Purchase Intention with Environmental Knowledge as a Moderating: Conceptual Study on IKEA Indonesia. *International Journal of Scientific Multidisciplinary Research*, 3(5), 723-738. <https://doi.org/10.55927/ijsmr.v3i5.251>
- Nguyễn, T. N., Phan, M. D. T., & Nguyet, P. T. A. (2025). The impact of environmental factors on green purchase intention and green purchase behavior: The moderating role of price sensitivity. *Management*, 2025(1), 597-624. <https://doi.org/10.58691/man/205146>
- Ofori, D., Nsiah-Sarfo, D. J., Frimpong, S. E., & Buer, S. B. (2025). Determinants of green purchase and conservation behaviour among young consumers: emerging economy perspective. *Cleaner Logistics and Supply Chain*, 100234. <https://doi.org/10.1016/j.clscn.2025.100234>
- Ogiemwonyi, O., Alam, M. N., Alshareef, R., Alsolamy, M., Azizan, N. A., & Mat, N. (2023). Environmental factors affecting green purchase behaviors of the consumers: Mediating role of environmental attitude. *Cleaner Environmental Systems*, 10, 100130. <https://doi.org/10.1016/j.cesys.2023.100130>
- Paciello, M., Barresi, R., Corbelli, G., Pollini, A., & Caforio, A. (2025). Exploring How Implicit and Explicit Attitudes Relate to Pro-Environmental Behaviors: The Mediating Role of Environmental Moral Disengagement. *Sustainability*, 17(22), 10011. <https://doi.org/10.3390/su172210011>
- Rana, S., Shafi, F., Rasheed, A., & Malik, M. I. (2024). Online environmental platforms service and green consumer behavior nexus: a multi-mediator study. *Future Business Journal*, 10(1), 3. <https://doi.org/10.1186/s43093-023-00283-4>
- Sahioun, A., Bataineh, A. Q., Abu-Alsouds, I. A., & Haddad, H. (2023). The impact of green marketing on consumers' attitudes: A moderating role of green product awareness. *Innovative Marketing*, 19(3), 237. [https://doi.org/10.21511/im.19\(3\).2023.20](https://doi.org/10.21511/im.19(3).2023.20)
- Saleh, M. S. M., Fathi, R. H., Aly, S. M. M., Zoromba, M., Abdel-Sattar, S. A.-L., Dailah, H. G., Nashwan, A. J., & Elsabahy, H. E. (2025). On the way to sustainability: the role of green marketing strategies and best practices of TQM on green performance among nurse managers. *BMC nursing*, 24(1), 1169. <https://doi.org/10.1186/s12912-025-03714-5>
- Savale, T. K., Byram Anand, P., Perumalla Varalaxmi, A. B., & Quaye, J. A. (2023). Green Marketing Strategies: Assessing Consumer Perception and Adoption of Eco-friendly Products. *Remittances Review*, 8(4). <https://doi.org/10.33182/rr.v8i4.171>
- Shahid, S., Nauman, Z., Jawad, L., & Ayyaz, I. (2024). Relationship between Green Advertising Receptivity and Consumer Intention to Purchase Eco-labeled Product: Role of Trust as a Mediator. *The Business & Management Review*, 15(2), 112-130. <https://doi.org/10.24052/bmr%2Fv15nu02%2Fart-11>
- Sharma, K., Aswal, C., & Paul, J. (2023). Factors affecting green purchase behavior: A systematic literature review. *Business Strategy and the Environment*, 32(4), 2078-2092. <https://doi.org/10.1002/bse.3237>
- Shehawy, Y. M., & Khan, S. M. F. A. (2024). Consumer readiness for green consumption: The role of green awareness as a moderator of the relationship between green attitudes and purchase intentions. *Journal of Retailing and Consumer Services*, 78, 103739. <https://doi.org/10.1016/j.jretconser.2024.103739>
- Soomro, R. B., Mirani, I. A., Sajid Ali, M., & Marvi, S. (2020). Exploring the green purchasing behavior of young generation in Pakistan: Opportunities for green entrepreneurship. *Asia Pacific Journal of Innovation and Entrepreneurship*, 14(3), 289-302.

- <https://doi.org/10.1108/APJIE-12-2019-0093>
- Sriramaneni, S. D., Kotni, V. V. D. P., Babu, G. N. P. V., & Sriramaneni, C. (2025). Green Purchase Intention: Understanding the Role of Environmental Beliefs, Health Consciousness and Perceived Behavioural Control. *Revista Galega de Economía*, 34(2). <https://doi.org/10.15304/rge.34.2.10587>
- Ssenoga, D., Walugembe, A., Alinda, K., & Nkurunziza, G. (2025). Environmental beliefs and personal norms on green purchase behavior among academic staff in Ugandan universities. *Management & Sustainability: An Arab Review*. <https://doi.org/10.1108/MSAR-01-2025-0014>
- Susanty, A., Puspitasari, N. B., Prastawa, H., Listyawardhani, P., & Tjahjono, B. (2021). Antecedent factors of green purchasing behavior: learning experiences, social cognitive factors, and green marketing. *Frontiers in Psychology*, 12, 777531. <https://doi.org/10.3389/fpsyg.2021.777531>
- Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). Using multivariate statistics (Vol. 5): pearson Boston. In: MA. <https://psycnet.apa.org/record/2006-03883-000>
- Wang, L., Wong, P. P. W., & Narayanan Alagas, E. (2020). Antecedents of green purchase behaviour: an examination of altruism and environmental knowledge. *International Journal of Culture, Tourism and Hospitality Research*, 14(1), 63-82. <https://doi.org/10.1108/IJCTHR-02-2019-0034>
- Yoon, D., & Chen, R. J. (2017). A green shadow: the influence of hotel customers' environmental knowledge and concern on green marketing skepticism and behavioral intentions. *Tourism Analysis*, 22(3), 281-293. <https://doi.org/10.3727/108354217X14955605216032>
- Zaman, S. I., & Kusi-Sarpong, S. (2024). Identifying and exploring the relationship among the critical success factors of sustainability toward consumer behavior. *Journal of modelling in management*, 19(2), 492-522. <https://doi.org/10.1108/JM2-06-2022-0153>
- Zameer, H., & Yasmeen, H. (2022). Green innovation and environmental awareness driven green purchase intentions. *Marketing Intelligence & Planning*, 40(5), 624-638. <https://doi.org/10.1108/MIP-12-2021-0457>
- Zhang, M., Zhang, R., Li, Y., & Zhou, Y. (2024). Knowing green, buying green: University students green knowledge and green purchase behavior. *Humanities and Social Sciences Communications*, 11(1), 1-7. <https://doi.org/10.1057/s41599-024-03243-7>