

# Shifting to green purchases can foster environmental sustainability: an examination of green advocacy and environmental consciousness

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## Abstract

**Purpose** – Organizations are shifting their focus to produce green products to overcome climate impacts and contribute their part in environmental sustainability, but acceptance of the green shift remains challenging. Consumer green behavior and urging organizations to adopt green practices are a spotlight topic in both theory and practice as a strong response to the rising threat of environmental crises and a facilitator of the circular economy. Therefore, this study examines the green shift phenomenon, its role in the circular economy, customer acceptance and its role in organizational transformation.

**Design/methodology/approach** – The study employed purposive sampling to collect customer data through questionnaires distributed to participants via online platforms. The data were analyzed using AMOS, Smart-PLS and Process Macro.

**Findings** – The findings revealed that green self-efficacy has a significant indirect association with green social media marketing activities and consumers' green buying behaviors as well as a significant influence of green advocacy and environmental consciousness.

**Originality/value** – The study makes a significant contribution to pro-environmental behavior, responding to a timely call to shift consumer focus toward green products as a response to the environmental crisis, a strategy to reduce waste and a crucial step toward advancing the circular economy.

**Keywords** Green social media marketing, Green self-efficacy, Environmental consciousness, Green advocacy, Consumers' green buying behaviors, Circular economy

**Paper type** Research article

## 1. Introduction

*“We are the first generation to feel the impact of climate change and the last generation that can do something about it.” Says Barack Obama (Roberts, 2015).*

The risks of food insecurity, biodiversity loss and climate change are significant emerging topics, and they are most frequently discussed among Gen Z. Due to the impact of generative technologies, resource depletion, pollution, economic development and rapid population growth worldwide, sustainability and environmental issues are becoming increasingly pressing. Further, irregular food consumption patterns and the unsustainable production



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process of goods also disrupt the world's ecosystem. Therefore, governments are enacting laws to protect the globe from various types of pollution. Organizations are also developing strategies to meet consumers' demands, addressing their environmental concerns, providing green products and raising awareness among customers about environmentally friendly products (Rahman and Nguyen-Viet, 2023). Such awareness initiatives shift the mindset of consumers from traditional or environmentally harmful product consumption to green or environmentally friendly products, aiming to protect the environment. Nair and Manohar (2024) argues that the green products consumption pattern works in multiple dimensions, such as putting pressure on organizations to disclose information and transform themselves, altering the supply chain from organizations to retail and stressing the need for ethical sourcing, environmental and social stewardship. Testa *et al.* (2021) specifies green consumption, responsible production and waste reduction as significant drivers of the circular economy. The changing consumption patterns and consumers' intentions continue to urge organizations to adopt an environmentally oriented perspective, which provides a competitive advantage and enhances the value of their offerings (Zong *et al.*, 2025).

In this era of digitalization, forming social media campaigns and leveraging technological advancements have become crucial for organizations to retain existing customers, attract potential customers and engage Gen Z customers who are environmentally conscious. Social media offers a distinctive platform for marketing and sharing information about product production and processes with consumers, unlike traditional marketing, which can also contribute to environmental degradation (Park and Chun, 2025). Organizations spread awareness and highlight the benefits of green products on both micro and macro levels through numerous social media platforms, facilitating individuals' decisions to purchase green products (Rabal Conesa *et al.*, 2024).

Although concerns about green issues have been raised recently, numerous studies have discussed their impacts. Lestari *et al.* (2025) systematically noted the green purchase trends and further urged the investigation of its empirical outcomes and a change in customers' perception through social media marketing campaigns, and this study attempts to fill the highlighted gap. The study by Akturan (2020) highlights that although green products cause less harm to the environment, their digital promotion has less impact on the environment and their ultimate increase in cost is shared by organizations and customers. Although customers are keen to exhibit pro-environmental behavior, it is essential to investigate their self-efficacy level in paying a premium and continuing to play their role in environmental sustainability (Shao *et al.*, 2022).

Green goods are more expensive than traditional commodities, making it significantly more challenging for organizations to market them. The study of Sun *et al.* (2022) highlights a social dilemma of green product purchase. Despite a positive attitude and a spirit to save the environment, customers face a conflict between the higher price of green products and their pro-environmental dedication. This social dilemma impacts their purchase decision, as they think either it is important to save the environment at the cost they are paying or such a price might be in the interest of a certain group or a marketing tactic. Therefore, it is essential to investigate the role of green self-efficacy, as it is crucial to pay a premium price and trigger green purchasing behavior (Tawde and RV, 2024).

Green self-efficacy is immensely important, as individuals hesitate to purchase green products because they lack confidence in whether they have achieved their green goals or improved their physical and psychological well-being (Darwish *et al.*, 2025). Green self-efficacy refers to customers' confidence in their ability and capacity to efficiently organize and carry out necessary actions to achieve ecological objectives. It mainly depends on the individual's trust and interest in contributing to ecological responsibilities (Wu and Chiang, 2023). Green self-efficacy enables individuals to take eco-friendly initiatives that preserve the environment and encourages organizations to adopt environmentally responsible practices and implement policies that facilitate the circular economy (Mughal *et al.*, 2022). Furthermore, the literature has highlighted the need to investigate green self-efficacy (Özgül and Demir, 2025).

The green self-efficacy and customers' trust are only maintained if customers believe that organizations are not involved in implementing greenwashing campaigns (Ezeh and Dube, 2025). Therefore, Das *et al.* (2024) encourages the implementation of green advocacy until the individual keeps discussing and highlighting their pressing needs, and the organization will keep implementing to lure them. Cherono *et al.* (2025) argue that the hype of greenwashing can also impact the organizations that are not involved in it. Once customers advocate for a green product or brand, they receive transparent information from their resource, and they advocate for that organization, contributing to their role in the circular economy.

Green advocacy involves the extent to which individuals openly discuss ecological responsibility, share diverse perspectives and contribute their expertise to encourage others to adopt environmentally friendly behaviors (Kim *et al.*, 2017). Sharing information and knowledge about the benefits of green products impacts individuals' awareness, shaping their attitudes and behaviors toward green purchases (Lopes *et al.*, 2024). Sharing knowledge by individuals in society with friends, family members and colleagues about environmental problems and proposing specific solutions to overcome these issues also increases ecological sustainability and contributes to the circular economy (Chao and Yu, 2024). When customers receive information through social media marketing activities and advocacy as well as engage in social interactions about purchasing green products, it enhances their self-efficacy in deciding to buy green products. Consumers' environmental awareness triggers their environmental consciousness, which in turn reflects their level of ecological responsibility, contributing to long-term societal transformation (Yong *et al.*, 2023).

Environmental consciousness reflects an individual's awareness and concerns about environmental issues, demonstrating organizational initiatives and a willingness to address these problems. Environmentally conscious individuals choose green products that promote a healthy lifestyle, transform organizations and contribute to environmental protection (Kautish and Sharma, 2021). Studies on the environment suggest that environmental consciousness influences an individual's cognitive ability to exhibit pro-environmental behaviors, particularly when purchasing, and they tend to be biased toward green products (Pham *et al.*, 2024). The study by Salman and Khan (2025) urges us to explore the association between confidence in purchasing green products and pro-environmental behaviors. While environmental literature has demonstrated that environmental awareness and confidence in purchasing green products can foster pro-environmental behaviors, it is worth investigating the cultural differences in how these dynamics are perceived in specific regions (Yang *et al.*, 2024). Therefore, the study examines the proposed claims and associations in the context of Pakistan. This study addresses a research gap by discovering how Pakistan's cultural norms, values, and social pressures impact individuals' confidence in purchasing green products and, in turn, how this influences their environmental actions (Azeem *et al.*, 2020; Fahad *et al.*, 2022). Past studies have discussed how organizational culture in Pakistan influences individuals' environmental awareness and their confidence in eco-friendly purchases (Abbas and Khan, 2023; Qasim *et al.*, 2024). Based on the arguments, the study aims to validate the claim that when individuals feel confident purchasing green products, their environmental awareness triggers their cognitive capacity to exhibit environmentally conscious behaviors.

This study investigates the impacts of green social media marketing activities on green purchase behaviors of consumers through green self-efficacy, following the suggestions of Wu and Chiang (2023). Additionally, it addresses the research gap identified by Sharma (2021), incorporating green advocacy as an emotional tool to influence consumers' green self-efficacy through green social media marketing activities. Further, following the study of Malhotra and Fatehpuria (2024), this study gauges environmental consciousness to ensure its influence on the green purchasing process. Another objective of this study is to investigate emerging countries, following the suggestion of Zeqiri *et al.* (2025) to examine social media marketing activities and their influence on customer purchases.

## 2. Literature review

### 2.1 Theoretical foundation

The present study's theoretical background is grounded in the theory of planned behavior (Ajzen, 1991). The theory of planned behavior has been widely applied to explain consumers' behaviors and purchasing plans for green products (Zhao *et al.*, 2025). This study argues that consumers' green purchasing behavior can be impacted by green social media marketing activities, as social media marketing has distinct characteristics of information sharing and interactivity compared to traditional marketing (Sun and Wang, 2020). Numerous studies also applied the theory of planned behavior to explain the notion of green behaviors, i.e. marketing of green products Gupta and Syed (2022), green purchase intention Sun and Wang (2020), green advocacy and green self-efficacy Wu and Chiang (2023), and Othman *et al.* (2025) environmental consciousness Ghali-Zinoubi (2022), Li and Shan (2025) and green purchase behavior (Kumar, 2021).

The theory of planned behavior posits that customers make purchasing decisions logically and rationally, influenced by their product awareness (Selvamani *et al.*, 2024). Based on this assumption, green social media marketing activities make consumers aware of the benefits of green products, helping them make informed decisions about their purchases. Therefore, this study mentions that green social media marketing activities enhance individuals' green self-efficacy. As individuals gain awareness, their confidence in purchasing specific products increases (Valdemarin and Mayrhofer, 2022). Theoretical notions also discuss customers' difficulty in demonstrating certain behaviors, especially during purchasing processes (Zhao *et al.*, 2025).

This study highlights that green advocacy influences individuals' decision-making cognition regarding the consumption of green products by offering resources (such as benefits and tactics) and raising awareness about how purchasing green products can help protect the ecosystem. This study also argues that individuals' awareness and concerns about the environment, manifested as environmental consciousness, also influence their cognitive levels, which in turn helps them purchase green products. Environmental consciousness refers to the beliefs individuals hold that reflect their psychological influence on the demonstration of pro-environmental behaviors (Laheri *et al.*, 2024). Conscious consumers demonstrate their concern for protecting the natural environment by choosing environmentally friendly products (Armutcu *et al.*, 2024). Additionally, consumers' environmental awareness and concerns make them more discerning in their product choices, leading to a stronger preference for green products (Xie *et al.*, 2024). It further urges organizations to transform and avoid greenwashing initiatives. The transformation of organizations not only satisfies the consumer but also impacts the entire supply chain system, which in turn facilitates the circular economy by reducing environmental degradation, avoiding pollution, and helping the environment revert to its natural condition. The green purchase initiatives not only protect the environment and customers' health but also help shape the behavior of other customers and initiate responsible production and consumption patterns (Bigliardi *et al.*, 2022).

### 2.2 Green social media marketing activities and consumers' green buying behaviors

The phenomenon of "green" reflects the perception of eco-friendly attitudes and behaviors among humans striving to save the planet from harmful actions. Green products are typically recyclable, made from natural resources and use less energy, helping to protect the environment from damage (Chai *et al.*, 2024). Common examples of environmentally friendly products include eco-friendly bags, energy-saving light bulbs, energy-efficient home appliances, recycled paper and green everyday personal care items (Rana *et al.*, 2025). Embracing green purchasing behavior can motivate businesses and individuals to pursue "environmentally friendly manufacturing and utilization" by efficiently managing the economic process while focusing on environmental and socioeconomic well-being. Green buying habits highlight consumers' choices to purchase eco-friendly products deemed safe for

the environment, sustainable and free from excessive packaging and harmful substances that can pose risks to both humans and the planet (Lopes *et al.*, 2024).

Human behaviors, particularly during the purchasing process, are influenced by attitudes. However, other factors also affect this process, such as concerns and knowledge about the product, environmental awareness and self-identity (Yang *et al.*, 2020). Social media encompasses Internet applications, devices and channels that enable communication, collaboration and the sharing of information. Various platforms would allow individuals to connect and exchange knowledge with others who share similar interests. The value of social media for organizations is evident through its widespread use and increasing popularity among a global user base of two billion people (Gupta and Syed, 2022).

Consequently, businesses have been compelled to reevaluate their strategic plans by integrating a social media component into their marketing initiatives (Khalid *et al.*, 2025). The efficiency of social media for green marketing and public sentiment has demonstrated a positive concern for environmental protection (Huang *et al.*, 2025). Nevertheless, there is a need to raise awareness to show concern during the decision-making process for purchasing products. Customers' attitudes and behaviors generally depend on their beliefs and knowledge, while social media activities disseminate information and expertise to customers (Zeqiri *et al.*, 2025). From this perspective, this study argues that customers' knowledge and beliefs about green products influence their purchasing behavior. Therefore, the study hypothesizes that:

- H1. Green social media marketing activities positively affect consumers' green buying behaviors.

### 2.3 Green self-efficacy

The individuals' abilities and views in their capacity to implement an organization's strategy to reach personal or professional goals are described as green self-efficacy (Zhao and Zhang, 2024). Literature defines green self-efficacy as a self-awareness that encourages environmentally conscious behaviors (Zreen *et al.*, 2024). Higher levels of self-reliance in engaging in environmentally friendly behaviors, known as green self-efficacy, serve as a strong motivator for individuals to actively pursue ecological goals. Self-efficacy instills confidence in individuals when they demonstrate specific behaviors, such as making decisions about purchasing green products (Faraz *et al.*, 2021). Past studies indicate that enhancing green self-efficacy facilitates the activation of pro-environmental activities in individuals. When people assess their self-worth, they draw on four types of knowledge: vicarious experience, enactive mastery experience, social persuasion and their emotional and psychological state (Capa-Aydin *et al.*, 2018).

In contrast, businesses utilize social media to promote their green products, providing extensive information about them and fostering awareness, particularly regarding environmentally friendly options. Green marketing on social media platforms encompasses businesses' activities to educate consumers about green products by providing information on manufacturing, processing, promotion, advertising and supply to encourage environmental protection (Li, 2025). Consumers' green buying behaviors are measured by their intention or readiness to purchase green or environmentally friendly products. Based on this perception, this study argues that awareness and information regarding green products may help individuals enhance their green self-efficacy. Furthermore, numerous scholars have asserted that green self-efficacy influences customers' emotions, actions and cognitive patterns, leading to green-buying behaviors (Ahmad *et al.*, 2022). It has been observed that humans tend to protect the environment from harmful activities and their attitudes and behaviors toward the environment become more genuine when they feel confident about purchasing green products. Therefore, it is hypothesized that:

- H2. Green self-efficacy mediates the relationship between green social media marketing activities and consumers' green buying behaviors.

#### 2.4 Green advocacy

Green advocacy involves going beyond regular social obligations, emphasizing the importance of addressing environmental issues and showcasing personal commitment to eco-friendly practices. Additionally, green advocacy includes proactive measures to conserve natural resources, minimize environmental harm and take steps to protect and preserve our planet (Liu *et al.*, 2024). Green advocacy also involves various forms of communication among individuals regarding green products, whether with family, colleagues or friends. Multiple scholars have asserted that green advocacy positively impacts the consumption of green products, as people in society or their immediate environment promote the significance of environmentally friendly behaviors (Mansoor and Noor, 2019). It influences consumers' buying behaviors regarding green products. Green advocacy also involves encouraging social actors such as family members, colleagues and friends to promote environmental responsibility and the importance of protecting the planet, which can be achieved by using or purchasing green products. Green advocacy by social members raises awareness and offers recommendations to goods providers who supply environmentally friendly products. This study argues that when individuals feel confident and somewhat aware of green products and receive advocacy from social interactions (i.e. friends, colleagues and family members), it influences their cognitive abilities to make informed decisions about purchasing green products. Therefore, it is hypothesized that:

- H3. Green advocacy moderates the relationship between green social media marketing activities and green self-efficacy, in such a sense that a higher/lower level of green advocacy will strengthen/weaken this relationship.

#### 2.5 Environmental consciousness

Environmental consciousness refers to an individual's concern and awareness about environmental problems as well as their willingness to address them. Several studies investigate the impact of ecological consciousness on developing pro-environmental conduct, i.e. buying intention and green purchasing behaviors (Mishal *et al.*, 2017). It has been observed that environmental knowledge and concerns help consumers become more conscious, which demonstrates their purpose in purchasing green products (Jugert *et al.*, 2016; Selem *et al.*, 2024). Moreover, green self-efficacy helps consumers demonstrate pro-environmental behaviors. By following this, the study proposes that consumers with green self-efficacy demonstrate green buying behaviors to protect the globe and their physical and psychological health. The capacity to persuade individuals is a fundamental aspect of social behavior, and when individuals express their encouragement, it can be viewed as an enduring method to exert persuasion (De Boe *et al.*, 2024). Numerous studies examine the moderating character of environmental consciousness for pro-environmental activities, which include green purchase intentions and green buying behaviors, alongside other factors, i.e. ecological knowledge Sharma and Foropon (2019), perceived value Pham *et al.* (2024), collectivism Kim and Choi (2005) and subjective norms Gupta and Ogden (2009). Moreover, consumers' consciousness of the environment makes them more careful about their actions to save nature and protect the globe from harm. Environmentally conscious purchasers know the importance of consuming green products to protect the natural world and pay higher prices for these products (Adrita and Mohiuddin, 2020). Based on the discussion, the study hypothesizes that higher consumer beliefs about environmental consciousness promote their green buying behavior, which is associated with higher green self-efficacy, as follows.



- H4. Environmental consciousness moderates the relationship between green self-efficacy and consumers' green buying behaviors, in such a sense that a higher/lower level of environmental considerations will strengthen/weaken this relationship.

### 3. Methodology

This study employs a quantitative and deductive reasoning approach to test the proposed hypotheses, which are formulated based on theory using different statistical techniques. A survey data collection approach was employed in this study, and the participants were customers with public, private and self-employed business personalities. Data for the study were gathered from Pakistan using a purposive sampling technique and a self-reporting method using a single data source (Chughtai *et al.*, 2024). Figure 1 depicts the proposed conceptual framework. Moreover, survey forms for data collection were distributed by sharing Google Forms links on diverse social media platforms. In the data collection process, 339 participants' responses were found valid, and the response rate was 48.43%. The study was conducted in accordance with the Declaration of Helsinki and has obtained ethical approval from the institutional review board of the Faculty of Management Sciences. Further, from the analytical approach perspective, this study used AMOS and Smart PLS statistical software to perform different statistical analyses, i.e. confirmatory factor analysis, reliability, discriminant and convergent validity and direct, mediation and moderation effects through PROCESS-macro. Table 1 exhibits the demographics of the respondents.

The measurement scales were adapted from the literature, and a five-point Likert scale was used. A scale was utilized to measure individuals' perceptions about green social media marketing activities, which was taken by Xie and Madni (2023) and Sun and Wang (2020). A scale was gauged to measure the green self-efficacy level of the individuals, which was drawn from the study of Guo *et al.* (2019). Another scale was used to measure the environmental consciousness level of the individuals, from the study of Alsmadi (2007). A scale measured the green advocacy level of the individuals borrowed from Wu and Liu (2023). Further, the scale for green buying behaviors is drawn from the study of Do Paço *et al.* (2014).

### 4. Results

This study has employed three different statistical software programs: AMOS v.21, SPSS and SmartPLS. The notion behind using diverse software is to ensure robustness and handle the complexities of the data for the study's momentous conclusions (Sarker *et al.*, 2024). AMOS

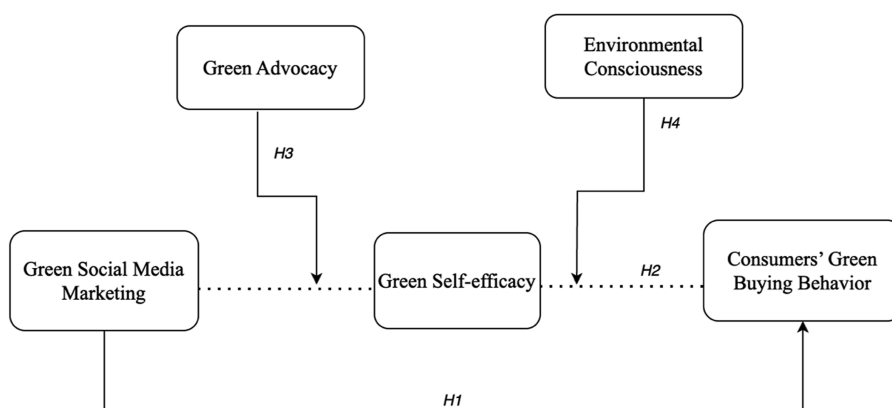


Figure 1. Conceptual framework (Source: Authors' own work)

Table 1. Demographic profile

Gender	Male	197
	Female	142
Age	18–25 years old	47
	26–35 years old	112
	36–45 years old	69
	46–55 years old	59
	More than 56 years old	52
Education	Matriculation	32
	Intermediate	77
	Graduation	96
	Masters/BS	89
	M.Phil/MS	27
Marital status	Ph.D.	18
	Single	202
	Married	137
Monthly income level (PKR)	30,000	71
	40,000	73
	50,000	76
	60,000	65
	70,000	54
Profession	Self-employment/Business	114
	Govt. job	123
	Private job	102

Source(s): Prepared by authors

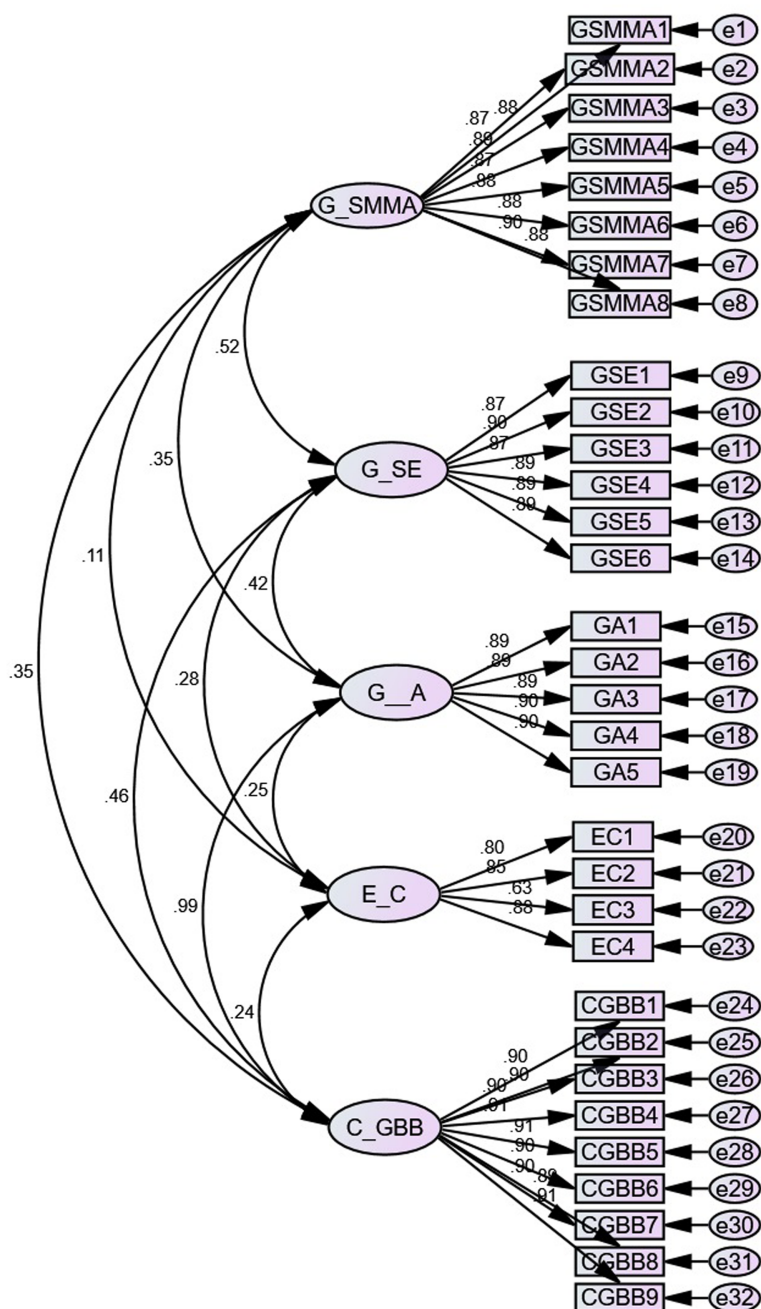
v.21 statistical software was employed to test the model’s fit. To test the reliability and validity (discriminant and convergent) and confirmatory factor analysis of the data, Smart-PLS v.4 was employed (Raza *et al.*, 2024). The study employed the process-macro approach to examine the direct, indirect and moderating effects. The common method bias was ensured through Harman’s one-factor test (Harman, 1976). The goodness of fit is depicted in Figure 2.

The indication values of CFA for the good fitness of the full model meet the approximately minimum threshold limits (Chisq/degrees of freedom (df) = 1.11, “threshold 1–3”, goodness-of-fit index (GFI) = 0.872 “threshold >0.90”, adjusted goodness-of-fit (AGFI) = 0.851 “threshold >0.80”, comparative fit index (CFI) = 0.993 “threshold >0.90”, Tucker–Lewis index (TLI) = 0.992 “threshold >0.90”, normed fit index (NFI) = 0.937 “threshold >0.90”, root mean square residual (RMR) = 0.051 “threshold <0.9” and root mean square error of approximation (RMSEA) = 0.024 “threshold <0.08”) (Brown and Moore, 2012; Hair *et al.*, 2016; Hu and Bentler, 1999). Table 2 indicates the heterotrait-monotrait ratio (HTMT) of correlations of the study.

Table 3 ensures the validity and reliability of data by ensuring that HTMT, Cronbach’s alpha, composite reliability (CR) and average variance are extracted and meet the threshold (Hair *et al.*, 2019).

Table 3 shows the values of factor loadings (also see Figure 3), where factor loadings of all items except one item of environmental consciousness meet the threshold limit of 0.7, CR values meet the minimum threshold limit, which is to be higher than 0.7, values of average variance extracted are also in line with the threshold criteria, which is greater than 0.5 and the values of Cronbach’s alpha also meet the minimum threshold of higher than 0.6 (Hair *et al.*, 2025). These values show that the obtained data is reliable for further statistical tests and that there is no issue of convergent validity in the data (Qasim *et al.*, 2025). The value of standardized root mean square residual (SRMR) for the model in this study is 0.046, which meets the threshold limit (0.08) as suggested by Hu and Bentler (1999). Further, the study analyzes data to check the blindfolding values and found predictive relevance through Q<sup>2</sup> values for study variables, i.e. green social media marketing activities = 0.000, green self-





**Figure 2.** Goodness of model fit (Source: Prepared by authors)

Table 2. HTMT

	Variables	GSMMA	GSE	EC	GA	CGBB
1	GSMMA					
2	GSE	0.236				
3	EC	0.592	0.249			
4	GA	0.458	0.294	0.423		
5	CGBB	0.345	0.121	0.350	0.518	

**Note(s):** GSMMA; green social media marketing activities, GSE; green self-efficacy, EC; environmental consciousness, GA; green advocacy and CGBB; consumers’ green buying behaviors

**Source(s):** Prepared by authors

Table 3. Confirmatory factor analysis

Items	Factor loadings	Alpha	CR	AVE
<i>Green social media marketing activities</i>		0.965	0.970	0.804
GSMMA1	0.893			
GSMMA2	0.891			
GSMMA3	0.902			
GSMMA4	0.886			
GSMMA5	0.900			
GSMMA6	0.897			
GSMMA7	0.912			
GSMMA8	0.892			
<i>Green self-efficacy</i>		0.956	0.965	0.820
GSE1	0.896			
GSE2	0.915			
GSE3	0.891			
GSE4	0.907			
GSE5	0.913			
GSE6	0.910			
<i>Green advocacy</i>		0.953	0.963	0.840
GA1	0.922			
GA2	0.911			
GA3	0.910			
GA4	0.918			
GA5	0.923			
<i>Environmental consciousness</i>		0.867	0.896	0.687
EC1	0.930			
EC2	0.856			
EC3	0.614			
EC4	0.880			
<i>Consumers’ green buying behaviors</i>		0.975	0.978	0.833
CGBB1	0.908			
CGBB2	0.914			
CGBB3	0.910			
CGBB4	0.918			
CGBB5	0.916			
CGBB6	0.909			
CGBB7	0.913			
CGBB8	0.902			
CGBB9	0.922			

**Note(s):** GSMMA; green social media marketing activities, GSE; green self-efficacy, EC; environmental consciousness, GA; green advocacy and CGBB; consumers’ green buying behaviors

**Source(s):** Prepared by authors

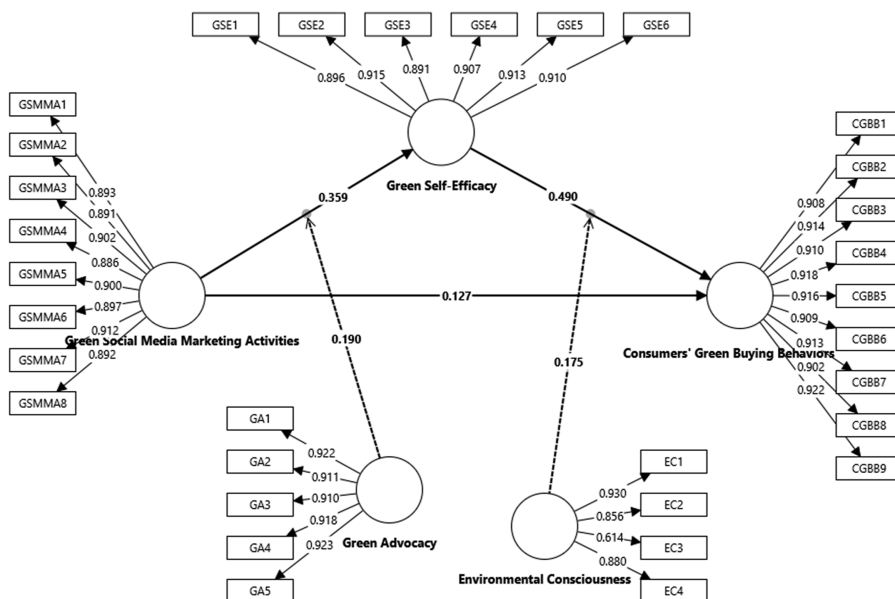


Figure 3. Confirmatory factor analysis (Source: Prepared by authors)

efficacy = 0.280, environmental consciousness = 0.000, green advocacy = 0.000 and consumer green buying behavior = 0.337.

The study used a 5,000 bootstrapping sample size to test the direct and indirect effects (Hayes, 2017). The first section of Table 4 and Figure 4 shows direct effect results, where green social media marketing activities positively and significantly impact the consumers'

Table 4. Direct, indirect and moderation effects analysis

Relationships	Coeff	SE	t-value	p-value	LL/UL-CI
<i>Direct effects</i>					
GSMMA → CGBB	0.167*	0.084	1.981	0.048	0.002/0.330
GSMMA → GSE	0.502***	0.063	7.960	0.000	0.377/0.625
GSE → CGBB	0.396***	0.082	4.822	0.000	0.232/0.555
<i>Mediation effects</i>					
GSMMA → GSE → CGBB	0.199***	0.050	3.937	0.000	0.109/0.307
GSMMA → GSE → CGBB (Sobel Test)	0.199***	0.049	4.063 (z-value)	0.000	—
<i>Moderation effects</i>					
GSMMA → GSE	0.978***	0.171	5.721	0.000	0.632/1.301
GA → GSE	0.913***	0.193	4.738	0.000	0.496/1.261
Interaction (GSMMA x GA) → GSE	0.187***	0.054	3.448	0.001	0.074/0.288
GSE → CGBB	0.240	0.191	1.254	0.210	0.050/0.687
EC → CGBB	0.449*	0.209	2.150	0.032	0.154/0.961
Interaction (GSE x EC) → CGBB	0.232***	0.052	4.439	0.000	0.153/0.356

**Note(s):** GSMMA; green social media marketing activities, GSE; green self-efficacy, EC; environmental consciousness, GA; green advocacy, CGBB; consumer green buying behavior and UL/LL-CI; upper and lower-level class intervals

**Source(s):** Prepared by authors

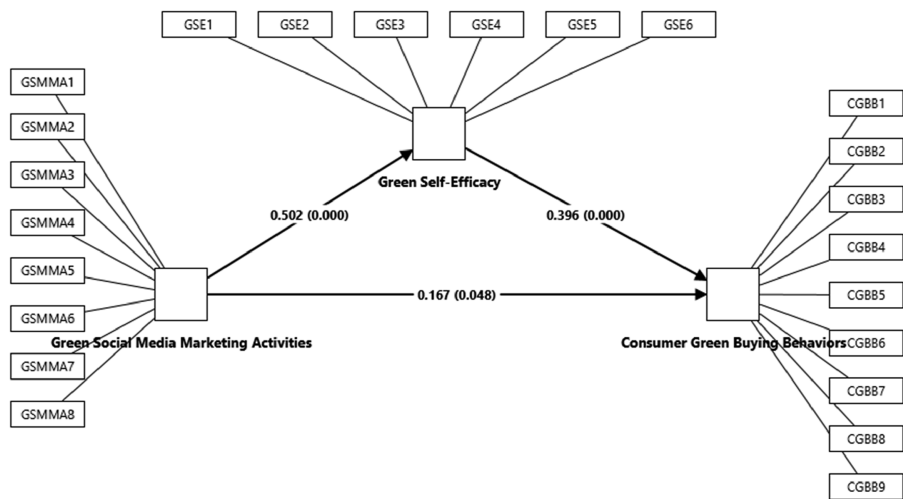


Figure 4. Path analysis (Source: Prepared by authors)

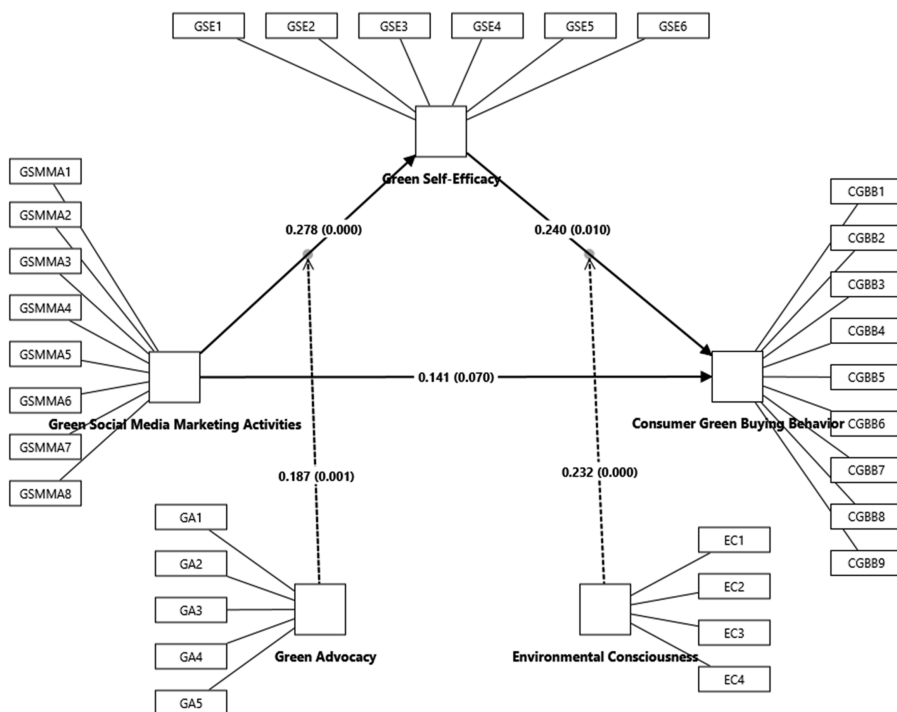
green buying behaviors ( $b = 0.167^*$ ,  $t\text{-value} = 1.981$ ), green social media marketing activities positively and significantly affect the green self-efficacy ( $b = 0.502^{***}$ ,  $t\text{-value} = 7.960$ ) and green self-efficacy also significantly and positively impact the consumers' green buying behaviors ( $b = 0.396^{***}$ ,  $t\text{-value} = 4.822$ ); thus, results support H1.

Further, Table 4 illustrates the results of indirect effects, where green self-efficacy significantly and positively mediates the relationship between green social media marketing activities and consumers' green buying behaviors ( $b = 0.199^{***}$ ,  $t\text{-value} = 3.937$ ). For the robustness of these results, the study employed Sobel (1982), and results also supported the bootstrapping results ( $b = 0.199^{***}$ ,  $z\text{-value} = 4.063$ ,  $p < 0.001$ ); thus, these results show the mediation of green self-efficacy and support H2.

The third section of Table 4 and Figure 5 demonstrates the moderation results from the first moderator (green advocacy), where green social media marketing activities positively and significantly influence the green self-efficacy ( $b = 0.978^{***}$ ,  $t\text{-value} = 5.721$ ), green advocacy positively and significantly impact the GSE ( $b = 0.913^{***}$ ,  $t\text{-value} = 4.738$ ) and interaction terms (green social media marketing activities  $\times$  green advocacy) also positively and significantly affect the green self-efficacy ( $b = 0.187^{***}$ ,  $t\text{-value} = 3.448$ ), these results show the moderation of green advocacy between the relationship of green social media marketing activities and green self-efficacy and support H3. The third portion of Figure 5 presents the moderation results of the second moderator (environmental consciousness), where green self-efficacy non-significantly and positively influence the consumers' green buying behaviors ( $b = 0.240$ ,  $t\text{-value} = 1.254$ ), environmental consciousness significantly and positively impact the consumers' green buying behaviors ( $b = 0.449^*$ ,  $t\text{-value} = 2.150$ ) and interaction terms (green self-efficacy  $\times$  environmental consciousness) also significantly and positively affect the consumers' green buying behaviors ( $b = 0.232^{***}$ ,  $t\text{-value} = 4.439$ ), thus these results show the moderation of environmental consciousness between the relationship of green self-efficacy and consumers' green buying behaviors and support H4.

## 5. Discussion and concluding thoughts

The study examines the indirect consequence of green self-efficacy on the liaison between social media marketing activities and consumers' green buying behaviors. Furthermore, the



**Figure 5.** Moderation analysis (Source: Prepared by authors)

study examined the moderating effect of green advocacy and environmental consciousness on the relationship between green social media marketing activities, green self-efficacy and consumers' green buying behaviors. This study's findings support the hypotheses, which explain that consumers' green buying behaviors can indirectly influence their green self-efficacy, green social media marketing activities, green advocacy, and environmental consciousness.

The first hypothesis highlighted the influence of green social media marketing activities on consumers' green buying behaviors, and the findings supported this hypothesis. The literature findings also support this study's results, which explain that social media marketing activities influence consumers' buying intentions (Alalwan, 2018; Prasath and Yoganathan, 2018). The significance of this relationship reveals that as customers rely on social media for feedback and information, the green marketing initiatives can shape their purchasing behavior. Furthermore, organizations must transparently discuss their processes so that those engaging in greenwashing do not take advantage of or mislead customers. The second hypothesis exhibits the mediation of green self-efficacy between green social media marketing activities and consumers' green buying, and it was supported, which is aligned with the earlier studies and explains that the usage of social media as a marketing tool for green products enhances the self-confidence level of consumers for the selection of green products (Sh. Ahmad *et al.*, 2022; Wu and Chiang, 2023). The level of customers' confidence and resilience enhances their self-efficacy, and the customer agrees to pay a premium to save natural ecosystems and contribute their share to a circular economy (Khan and Soomro, 2025). The third hypothesis was supported and explained the moderating role of green advocacy, which further explains that higher green advocacy with higher green social media marketing activities boost the green self-efficacy level of the consumers, and the findings are aligned with Wu and Chiang (2023),

which reveal that higher environmental awareness to the society for the protection of nature leads to ecological sustainability and boosts the self-confidence of customers regarding decision-making for the purchase of green products. The fourth hypothesis proposed the moderating impact of environmental consciousness, and the results of this study supported this hypothesis and aligned with [Lin and Niu \(2018\)](#); [Mishal et al. \(2017\)](#), which explains that when consumers were at the higher beliefs about their green self-efficacy and environmental consciousness, it boosts their intentions about buying green products. Conscious consumers feel more responsible for protecting the environment due to their knowledge and awareness of the negative consequences of global harm; ultimately, this awareness among consumers encourages organizations to produce green products. Following the study of [Rahimah et al. \(2024\)](#), explained through terror management theory, which suggests one's understanding of their own survival is based on the natural ecosystem, and the extinction of the ecosystem can put their own lives at risk. It compels their cognitive and behavioral actions in protecting themselves. And while protecting themselves, their actions go toward protecting the environment and facilitating a circular economy ([Musova et al., 2025](#)).

### 5.1 Implications of the study

**5.1.1 Theoretical implications.** This study contributes to environmental and green marketing, as well as consumer behavior, from various aspects. Although multiple studies have developed insights into the factors influencing consumers' buying behaviors. [Li \(2025\)](#) argues that most studies have neglected the role of social media in fostering pro-environmental behavior. The study explains that green social media marketing activities create a positive psychological impact on consumers' green buying behaviors through green self-efficacy. The actions of individuals are often triggered by social pressure, and they exhibit specific behaviors in response to the persuasion of others who are important to them, influencing their decisions regarding the purchase of products. The study's findings suggest that individuals are influenced by organizations' social media marketing activities promoting green products, leading to changes in their cognition that encourage them to engage in green buying behaviors. Likewise, the knowledge and information consumers get from social media marketing activities also enhances their self-efficacy level about green products, leading to green buying behaviors ([Sawangchai et al., 2025](#); [Sh. Ahmad et al., 2022](#)). The study further argues that, as peer pressure or pro-environmental consciousness influences fellow customers, it also puts pressure on organizations ([Yao et al., 2025](#)). Once customers become inclined or biased towards green purchases, it encourages organizations to produce environmentally friendly products ([Testa et al., 2025](#)). Such a pro-environmental approach prevails, promoting a sense of circular economy and encouraging consumers and organizations to adopt sustainable ways.

Moreover, this study examines the moderating role of green advocacy, and the findings suggest that higher customer perceptions of green advocacy, accompanied by increased information and knowledge from organizations through green social media marketing activities, enhance their green self-efficacy. Consumers demonstrate green buying behaviors based on their favorable experiences with green products, particularly when considering the protection of the environment ([Chang et al., 2021](#)). Likewise, awareness among society members and consumers about green products as well as their environmental concerns, also helps them enhance their green self-efficacy. Additionally, this study examines the moderation of environmental consciousness, and its findings support this notion, as a higher level of green self-efficacy, combined with higher customer beliefs about environmental consciousness, leads to a higher demonstration of green buying behaviors. These findings further suggest that environmental consciousness serves as a perceived behavioral control, facilitating the demonstration of specific behaviors, such as green buying behaviors, with higher levels of green self-efficacy.

**5.1.2 Practical implications.** The present study has implications for practitioners, policymakers, organizations and individuals, as these stakeholders are the primary agents of

any society. The present study highlights the importance of purchasing green products, which not only helps protect humans from the impacts of climate change but also benefits the preservation of natural ecosystems. The study mentions the role of green marketing and advocates the notion that customers should be aware of the organizational process from production to consumption, which can restrict organizations from greenwashing and actively play their role in the circular economy. The circular economy is based on responsible production, nearly zero consumption of energy and resources and final disposal. Following the notion of [Chao and Yu \(2024\)](#), the study provides insights for organizations to follow the circular economy model, which can be depicted as produce-utilize-reuse-reproduce-recycle rather than following the linear economy equation of take, make and dispose, which further turns to waste and pollution.

Further, the consumers are assured of the benefits of green products in the form of physical and psychological health and reduced waste and air pollution. In developing societies such as Pakistan, consumers show their concern about the environment, but they are found to be reluctant to change their buying behaviors. Therefore, organizations must focus on their marketing strategies to compare green products with traditional processed products and make consumers aware of their benefits. Organizations can benefit from this study by implementing diverse advertising strategies to disseminate knowledge about green products and their impact on consumer lifestyle. Further, ecosystem- and nature-related slogans can be created, influencing the cognition level that leads to enforcement for the purchase of green products. As the world faces the challenges of warming, it would be beneficial for organizations to transform their production processes from traditional to eco-friendly, producing environment-oriented products that also support the implementation of circular economy strategies. In the current era, consumers often use social media platforms to obtain information about products. By providing information about the benefits of green products on these platforms, organizations can also positively impact the quality of life by enhancing individuals' green self-efficacy. Additionally, awareness campaigns by organizations using social media platforms not only enable consumers to engage in green advocacy but also impact the strategies and policies of competitors in adopting green production methods for goods and services.

### *5.2 Limitations and future research*

Although the study comprehensively discusses the implementation of pro-environmental consciousness and green purchasing. However, a few avenues remain unexplored, and the study invites future researchers to investigate further. From a generalizability perspective, the first limitation of this study is contextual and a cultural comparison or investigation of emerging and developed economies could be worthwhile. Further, this study primarily focused on the social factors influencing green buying behaviors, including social media marketing activities and advocacy. The study invites future studies to examine the Big Five personality traits as predictors or moderating factors for green purchasing and pro-environmental consciousness. Moreover, this study gauged green self-efficacy as an intervening construct and future studies are encouraged to include moral self-identity, environmental well-being and prosocial motivation. The model of this study is based on the theory of planned behavior, and further studies can assess the SOR model or the BCG (bio, circular and green) model. Pro-environmental behavior can also be viewed through the lens of terror management theory, as environmental threats impact the cognitive capacity of buyers. Furthermore, the framework can be evaluated through the lens of paradoxical theory, and further factors affecting green purchases can be explored.

### **Data availability statement**

The data supporting this study's findings are available from the corresponding author upon reasonable request.



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