

Relationship between Green Advertising Receptivity and Consumer Intention to Purchase Eco-Labeled Product: Role of Trust as a Mediator

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Abstract

In the contemporary landscape, consumers are increasingly alarmed about the potential environmental repercussions of their consumption patterns, fostering a growing inclination toward environmentally sustainable choices. This burgeoning awareness has spurred a surge in green purchasing intentions, prompting researchers to investigate the factors influencing customers' decisions to buy eco-labelled products. The study aims to create a thorough theoretical framework to understand customer intentions for buying products with eco-labels. The study posits that the impact of green advertising responsiveness (GAR) on purchase intention is positively significant. However, the journey from GAR to purchase intention is not direct; it is mediated by two crucial factors: system trust and personal trust. These elements function as intermediaries, shaping the relationship between GAR and the ultimate intention to purchase (ITP). The research formulated three hypotheses to test these relationships empirically and executed an online survey, leveraging the Structural Equation Model (SEM) methodology. The data, comprising responses from 255 participants, underwent rigorous analysis using software tools such as SPSS 23 and AMOS 22. The results confirm the model's significance and reveal the complex mediation effects of system and personal trust on purchase intention. In essence, this study contributes valuable insights into the factors driving green purchasing intentions, offering a nuanced understanding of how green advertising responsiveness, system trust, and personal trust collectively influence consumers' willingness to embrace eco-labeled products. As

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environmental awareness shapes consumer behavior, understanding these dynamics is crucial for businesses aligning with evolving consumer values.

Keywords:

1 Introduction

The global population is projected to surpass 9.2 billion by the latter part of the twenty-first century, marking a pivotal moment in demographic trends (UN-iLibrary, [2019](#)). This population surge has been accompanied by a surge in global consumption, contributing significantly to the depletion of natural resources and consequential environmental degradation (Chen, [2010](#)). Analysts warn that if the current trajectory of non-green consumption persists, environmental degradation will only escalate (Frederiks et al., [2015](#); Homar & Cvelbar, [2021](#)). The adverse effects of environmental issues, ranging from pollution and global warming to the loss of natural resources, garbage disposal, and deforestation, have sparked serious concerns on a global scale. Responding to the looming environmental challenges, consumers have embraced green consumption due to this mounting concern (Du et al., [2017](#)).

Amid this backdrop, companies and societies are increasingly prioritizing topics such as "green" or "eco-friendly consumption behaviour" and the emergence of "eco-conscious consumers." This shift is giving rise to a revival in green advertising, with marketers leveraging it to encourage environmentally friendly product usage (Bailey et al., [2018](#)). Green marketing, recognized for its numerous advantages, has become a robust selling point. Consumers are growing eager to purchase green products due to their environmentally beneficial traits, leading to a surge in marketers entering the green industry (Atkinson & Rosenthal, [2014](#); Jager & Weber, [2020](#)).

The ascendancy of green advertising as a compelling selling tool is rising, attracting many people interested in purchasing green products (Melović et al., [2020](#)). However, despite the perceived advantages, consumer skepticism about the credibility of green advertising remains prevalent. Doubts persist regarding whether green products genuinely offer ecological benefits over non-green counterparts (Moussa & Touzani, [2008](#); Peattie, [2010](#)). Trust and credibility issues become focal points in this context (Moussa & Touzani, [2008](#); Nguyen-Viet, [2022](#)). The desire for environmentally conscious purchases faces obstacles due to perceived dishonesty and credibility concerns in advertising and environmental claims (Atkinson & Rosenthal, [2014](#); Jaager & Webber, [2020](#)). Recognizing these challenges, advertisers often turn to eco-labels to provide consumers with relevant, trustworthy, and useful information, facilitating considerations of environmental and human health factors during purchase (Case, [2004](#)). Eco-labels, defined as certificates or approval stamps, play a crucial role in reassuring consumers of the accuracy of green promises and reminding them of the ecological responsibility associated with their goods or services. Additionally, eco-labels assist individuals in recognizing and distinguishing green products.

While green advertising encourages green purchasing, transitioning to green purchases takes time. Individual receptivity to green advertisements varies significantly. Therefore, this study aims to enhance our understanding of how green advertising influences individuals' decisions to purchase products with an eco-label, with a focus on how trust mediates this relationship. The study makes theoretical contributions by advancing our understanding of green advertising's influence on a consumer's receptivity and delving into the concept of trust, differentiating between system trust and personal trust within Pakistan. While various studies have explored customers' purchase intentions for environmentally friendly items, investigating the influence of system and personal trust on purchasing intention sets this study apart. As such, the objectives of this study are as follows:

- Investigate the impact of green advertising on consumers' decisions to purchase products with eco-labels.
- Examine the mediating role of trust in the relationship between green advertising and consumers' purchasing intentions.
- Focus on advancing understanding of how green advertising influences receptivity to environmentally friendly product usage.
- Elaborate on the concept of trust, distinguishing between system and personal trust within the context of Pakistan.

2 Literature Review

2.1 Green Advertising Receptivity

Despite the initial surge in green marketing during the 1970s, scholarly exploration of the topic gained momentum only in the late 1980s (Bailey et al., [2018](#)). Early literature on green marketing observed a rapid increase in green consumerism and a consequential shift in consumer preferences towards environmentally sustainable products (Pothero, [2005](#)). Several prior studies indicated a growing environmental consciousness among consumers, manifesting an increased interest in green products and a willingness to pay a premium for them (Sharma, [2021](#)). In response, businesses have adapted their practices to meet the demands of environmentally conscious consumers, sparking various marketing initiatives, including creating and promoting green products (Peattie & Crane, [2005](#)).

Banerjee et al. ([2018](#)) define an advertisement as "green advertising" if it fulfils one or more of the following criteria: Firstly, it addresses the connection between goods and the environment, directly or indirectly. Secondly, it encourages the adoption of sustainable lifestyles, irrespective of whether a specific product is highlighted. Lastly, the advertisement promotes a heightened sense of environmental responsibility within the company. These criteria underscore the multifaceted nature of green advertising, emphasizing the nexus between the product and the environment and a broader commitment to sustainability and corporate environmental stewardship (Banerjee et al., [2018](#)).

According to Nyilasy et al. ([2013](#)), "Green Advertising" highlights the overall environmental advantages of purchasing specific products, such as mitigating global warming, minimizing water, land, and noise pollution, and reducing greenhouse emissions. As highlighted by Ying et al. (2020), green advertising receptivity signifies the level of acceptance and responsiveness among customers towards green advertising initiatives. It encapsulates the extent to which consumers acknowledge and engage positively with environmentally focused promotional messages, indicating their openness and inclination towards eco-friendly products and practices (Jahari et al., [2022](#)).

Consumers' perceptions of green advertisements and their trust in eco-friendly products are influenced by the emotions and judgments cultivated through exposure to green advertising (Bailey et al., [2018](#)). In the decision-making process, consumers assign greater value to green features, particularly when advertisements effectively communicate a product's environmental attributes and benefits (Irwin & Naylor, [2009](#)). Research exploring the impact of green advertising, incorporating the concept of virtual nature experiences, has produced intriguing findings. Hartmann and Apaolaza-Ibáñez ([2013](#)) suggest that consumers may establish an association between virtual nature interactions in advertisements and a brand. Over time, these exposures could condition consumers to develop favourable feelings towards the brand, underscoring the potential of incorporating nature-related elements in green advertising to influence consumer perceptions and attitudes positively (Kunchambo et al., [2021](#)).

2.2 Intention to Purchase Eco-labeled Products

Purchase intention serves as a foundational element that intricately shapes the entire consumer purchasing process, as elucidated by experts such as Prentice et al. (2019). When dissecting a consumer's inclination towards green purchases, various pivotal variables emerge, encompassing opinions, ethics, requirements, knowledge, motivation, demographic profiles, and behaviors (Aina & Jamil, 2020). The prevailing notion is that, amid a purchasing decision-making scenario, individuals are predisposed to assign higher value to green products compared to their non-green counterparts (Newton et al., 2015; Testa et al., 2020). The evaluation process becomes a critical juncture where customers delineate their product needs, significantly influencing their ultimate purchase decisions (Sembiring, 2021).

In forecasting consumer behavior, purchase intention stands out as an indispensable metric (Newbery et al., 2003). Frequently, the measurement of purchase intention serves as a proxy for actual purchasing behavior (Carrington, 2021). Prior studies have underscored the impact of green marketing and advertising on consumer attitudes and intentions (Liao et al., 2020). Nevertheless, conflicting findings have also emerged in this realm. For example, Matthes (2019) explored how various environmental claim types influenced the success of environmental advertising. Their findings backed by Chen et al. (2020) indicated that consumer perceptions of a state's environmental friendliness and the types of claims made could significantly affect attitudes toward advertisements, brand perceptions, and purchase intentions. In contrast, studies like Montoro-Ríos et al. (2008) and Mann and Ghuman, (2018) have found evidence that brand associations with the environment did not necessarily enhance customer attitudes or purchase intentions.

Delving into this subject, Ying et al. (2020) investigated the correlation between green advertising receptivity and Chinese consumers' intentions to purchase eco-labeled products. The overarching goal of green advertising, as established by earlier research, is to persuade consumers to choose products adorned with an eco-label, elucidating the associated environmental and personal benefits (Rahbar & Abdul Wahid, 2011). Consequently, a positive correlation emerges between consumers' intentions to purchase green products and their receptivity to green advertising (Chang et al., 2015; Joyal-Desmarais et al., 2022). Thus, we hypothesize:

H1: *Green advertising receptivity positively affects a consumer's intention to buy eco-labeled products.*

2.3 Trust

As posited by Rouseau et al. (1998), trust is a complex psychological state marked by the decision to accept potential risks based on favorable expectations regarding the intentions or actions of another party. This encompassing definition encapsulates the foundational principles that underlie the multifaceted concept of trust, applied across various fields where uncertainties and probabilities of disappointment play a pivotal role. Trust comprises two distinct yet interconnected facets: (a) the anticipation of responsible, honorable, and consequence-free behavior from the exchange partner; and (b) the willingness to invest faith in the exchange partner despite acknowledging potential vulnerabilities and uncertainties (Sirdeshmukh et al., 2002; Tabrani et al., 2018).

The qualities inherent in green products serve as a catalyst for instilling trust among consumers. Given the technical intricacies or resource limitations preventing a majority of customers from scrutinizing eco-labeled products post-purchase and consumption (Giannakas, 2003; Thøgersen et al., 2015), the bedrock of this burgeoning product market rests on consumer trust. Green advertising emerges as a pivotal tool in bolstering customer confidence in eco-labels, serving as the primary source of information shaping consumers' decisions to opt for eco-labeled goods. Individuals receptive to green advertising exhibit a heightened propensity to trust environmentally

friendly items. Trust, as defined by Garrouch et al. (2023), becomes a psychological disposition characterized by positive assumptions about the motives or behavior of others, especially in the face of potential risks.

Research indicates that trust elevates people's expectations of positive outcomes, fostering a more positive intention (Nuttavuthisit & Thøgersen, 2017; Weber, & Bauman, 2019). Multiple dimensions of trust come into play when determining consumer decisions on green product purchases (Maniatis, 2016; Gao et al., 2019). Delineating between "embedded" and "dis-embedded" trust, Gao et al. (2019) describe the former as a customary, individual, and localized form, while the latter represents an institutional and universalistic type. Similarly, Maniatis (2016) categorize trust into "System Trust" and "Personal Trust." For consumers to embrace eco-labeled products, they must trust in the inherent advantages of such products and have confidence in the reliability of their sources (Ying et al., 2020). Trust encompasses a broad spectrum, reaching into various realms such as certification and control procedures, eco-labels, and communication strategies (Khachatryan et al., 2021). These elements collectively function to provide consumers with assurances regarding the genuine environmental friendliness of a product. This is particularly crucial when the product is acquired from a retailer, adding an additional layer of confidence in contrast to direct purchases from the producer. The credibility embedded in certification processes, the presence of eco-labels, and effective communication strategies all contribute to reinforcing consumers' trust that their chosen product aligns with environmentally responsible practices, as highlighted by the findings of Pereira et al. (2019).

System Trust

Pennington et al. (2003) posit the concept of system trust, denoting the establishment of impersonal processes that engender an expectation of successful interactions between parties. System trust manifests in two distinct dimensions: first, situational normalcy imparts a typical appearance to scenarios, thereby minimizing transactional uncertainty; second, structured assurances provide a sense of security to the party relying on the other, achieved through precautionary measures such as policies, regulations, rules, laws, guarantees, and contracts (Bezbaruah et al., 2021). System trust is characterized by institutionalization and objectivity. For instance, the efficacy of "green" product labeling hinges significantly on the confidence in the labeling and control system, constituting a facet of a strategy to foster dis-embedded trust (Gao et al., 2019; Thøgersen et al., 2015).

In alignment with this, studies emphasize the pivotal role of trustee certification, especially when endorsed by authoritative entities like state bodies, in enhancing the credibility of eco-labels (Noblet & Teisl, 2015; Thøgersen et al., 2017). Eco-labels, as the most visible indicators of a product's environmental credentials, serve as a point of consumer trust. It becomes evident that consumers will only embrace and utilize eco-labels if there is a foundational trust in their authenticity (Nguyen & Le, 2020; Ying et al., 2020). Acknowledging this, businesses strategically employ eco-labels to bolster the perceived credibility of their products, thereby anticipating a subsequent surge in consumer demand for these environmentally conscious goods (Kumar et al., 2021).

In essence, literature has found that the establishment of system trust, coupled with the certification and trustworthiness of eco-labels, forms a comprehensive strategy to cultivate a favorable environment for the promotion of environmentally friendly products (Bezbaruah et al., 2021). This interplay between institutionalized trust mechanisms and consumer confidence in eco-labels not only shapes perceptions of green product credibility but also becomes instrumental in steering heightened consumer interest and demand for sustainable goods. Therefore, we hypothesize,

H2: *System trust receptivity positively affects a consumer's intention to buy eco-labeled products.*

H3: *System trust has mediating effect on relationship between green advertising receptivity-and consumer's intention to purchase eco-labeled products.*

Personal Trust

Personal Trust, a crucial facet of interpersonal relationships, particularly with local producers or retailers, is deeply rooted in regional knowledge, as highlighted in studies by Gao et al. (2019). This form of trust finds its foundation in personal connections and a profound understanding of the local context, exemplified by the reliance on marketing claims made by nearby merchants, as demonstrated by Thøgersen et al. (2017). The dynamics of personal trust are significantly influenced by face-to-face interactions, where the observation of another person's actions becomes instrumental in the gradual development of trust (Moon et al., 2019). Within the realm of personal trust, a distinct inclination toward truthfulness prevails, marked by a higher frequency of honesty in interactions as compared to instances of dishonesty. This propensity for honesty is often attributed to the anticipation of recurrent interactions, emphasizing the enduring nature of the relationships (Higgins & Kruglanski, 2019). However, within the intricate tapestry of personal trust, customers exhibit a discerning skepticism, particularly when confronted with retailers making claims about the ecological friendliness and pollution-free nature of their products without the backing of eco-label certification (Maniatis, 2016). This discernment reflects the inherent demand for tangible proof and a formalized assurance of a product's environmental credentials. Consequently, it becomes evident that while customer trust in items adorned with an eco-label acts as a motivating factor for purchases, its impact is more pronounced when anchored in systemic trust rather than relying solely on personal connections (Nuttavuthisit & Thøgersen, 2017). In light of these observations, we posit a hypothesis:

H4: *Personal trust receptivity positively affects a consumer's intention to buy eco-labeled products*

H5: *Personal trust has mediating effect on relationship between green advertising receptivity and consumer's intention to purchase eco-labeled products.*

The hypothesis established in the literature review provide the basis for the theoretical framework exhibited in Figure 1

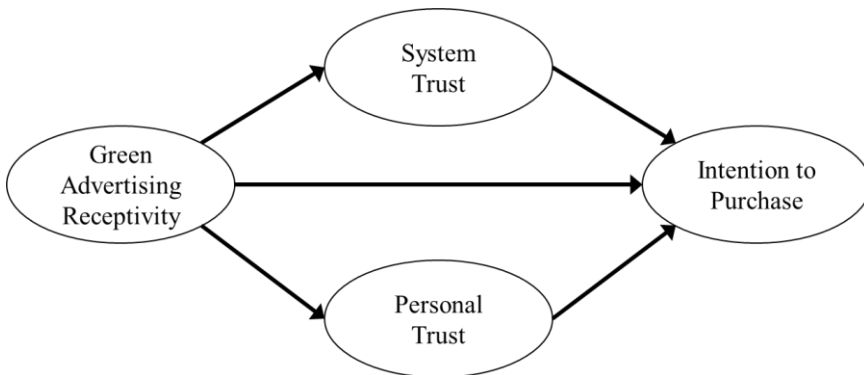


Figure 1: Theoretical Framework

3 Methodology

To test the hypotheses and understand the suggested theoretical framework discussed in the preceding section, an empirical study based on quantitative data was implemented. Zikmund et al. (2012) outline various ways to gather information for such a study, and among these, the survey approach using a questionnaire as a data gathering tool is deemed the most suitable for the current research. This technique allows for collecting data from a sizable population in an economical and

seamless manner (Couper, 2000). Furthermore, it provides a certain level of control over the methods used to select potential respondents, ensuring that they accurately reflect the entire population (Couper, 2000).

3.1 Sampling

Bertram and Christiansen (2014) underscore the importance of an appropriate sample size, one that strikes a balance between manageability and representativeness. In the context of sustainability, young individuals emerge as pivotal stakeholders and influencers, exhibiting a profound regard for the environment and a heightened awareness of eco-friendly alternatives (Johnstone & Lindh, 2017; Monga et al., 2020). Understanding how this demographic responds to eco-labels is paramount, given that they are poised to evolve into primary consumers in the future (Hume, 2010). As defined by the United Nations Envoy on Youth (2019), youth encompasses individuals aged between 15 and 40. Consequently, our sample will include young males and females ranging from 16 to 39 years old.

In essence, the sample size determination and sampling approach will not only adhere to established research norms but will also build upon the foundations laid by prior research, ensuring continuity and relevance in the exploration of young consumers' responses to eco-labels. This approach is expected to yield comprehensive insights that contribute to the ongoing discourse on sustainable consumer behavior among the youth demographic. The sample population for this study will consist of young individuals aged between 16 and 39. Building upon the foundational study conducted by Ying et al. (2020), which serves as both the precursor and inspiration for the current research, an initial sample of 300 respondents was employed. This initial sample size is deemed sufficient and provides valuable insights into the dynamics of the research domain, as recommended by Zikmund et al. (2012). Drawing upon this precedent, we have determined that a sample size of 255 respondents will be apt for the current study. The sampling strategy employed will align with the established approach of purposive sampling, as previously utilized by Shah and Soomro, (2017), ensuring a targeted selection process that aligns with the study's specific objectives.

3.2 Instrument

Table 1: Questionnaire Summary

Instrument	Article	Number of Items
Green Advertising Receptivity	Ying et al. (2020)	4
System Trust		4
Personal Trust		4
Intention to Purchase		4

Table 1 provides a comprehensive overview of the instrument tailored specifically for this research endeavor. The questionnaire employed in this study drew inspiration from prior literature, encompassing key dimensions such as a) Green Advertising Receptivity, b) System Trust, c) Personal Trust, and d) Intention to Purchase (refer to Appendix 1 for the detailed questionnaire). The adaptation of this instrument reflects a meticulous approach to capturing relevant data aligned with the study's objectives. The questionnaire, designed with precision, comprised two distinct sections. The initial section focused on gathering demographic details, providing a contextual understanding of the respondents. The second section delved into inquiries related to the variables under scrutiny in this study, namely, Green Advertising Receptivity, System Trust, Personal Trust, and Intention to Purchase. This strategic division facilitated a systematic exploration of both the background characteristics of the participants and the core constructs driving their responses. Responses from participants were solicited on a structured scale ranging from 1 to 5, where 1 denoted "Strongly Disagree" and 5 signified "Strongly Agree." This scale allowed for nuanced

assessments, enabling participants to express the degree of their agreement or disagreement with the posed statements. The scale's gradient provided a finer resolution in capturing the nuances of participant attitudes and perceptions. In essence, the adapted questionnaire served as a robust tool, methodically constructed to elicit valuable insights into the interconnected dynamics of green advertising receptivity, system trust, personal trust, and the intention to purchase among the study participants. This methodological approach aligns with best practices in survey design, ensuring the collection of rich and meaningful data for subsequent analysis and interpretation.

3.3 Data Collection and Analysis

The research methodology involved the collection of data through an online questionnaire-based survey targeting Pakistani customers, aimed at substantiating the research hypotheses. Leveraging online questionnaires offered distinct advantages such as cost-effectiveness, rapid response times, comprehensiveness, and the elimination of temporal and spatial constraints (Jones et al., 2013). The decision to conduct an online survey was further justified by the pervasive use of the Internet among the youth demographic, known for their heightened interest in and exposure to green advertising (Bezbaruah, 2019; Ying & Wang, 2020). This strategy not only facilitated broader outreach but also streamlined data collection from a demographic pivotal to the study.

As observed in previous literature (Alniaçık & Alniaçık, 2012; Babikova & Bucek, 2019), the data analysis for this study will employ Structural Equation Modeling (SEM). The application of SEM allows for a comprehensive examination of complex relationships among multiple variables, making it well-suited for exploring the intricate interplay between green advertising receptivity, system trust, personal trust, and the intention to purchase. Both Exploratory Structural Equation Modeling (ESEM) and Confirmatory Factor Analysis (CFA) were conducted using SPSS 23 and AMOS software. ESEM involved an initial assessment of the proposed SEM model's fit through Exploratory Factor Analysis, validating the alignment of each item with the model's suggested components. CFA and Path Analysis, integral components of SEM, were then employed for variable approval and simultaneous hypothesis evaluation, respectively.

Ensuring the robustness of the research, convergent validity, divergent validity, and construct reliability were calculated. These measures provide a comprehensive assessment of the appropriateness and consistency of the study's findings, aligning with established practices in psychometrics (Messick, 1990). To address concerns related to data normality and potential skewness, the Kolmogorov-Smirnov test and Shapiro-Wilk test were administered. While the results indicated statistical significance, suggesting non-normality, it is noteworthy that for sample sizes exceeding 200 valid responses, data tends to exhibit normal distribution even in the presence of observed skewness (Ghasemi & Zahediasl, 2012). Consequently, the study proceeded with confidence in the validity and reliability of the data, minimizing the impact of potential skewness on the subsequent analyses.

Table 2: Normality Tests

	Kolmogorov-Smirnov			Shapiro-Wilk Test		
	Statistic	df	Sig	Statistic	df	Sig
GAR	0.342	255	0	0.74	255	0
ITP	0.35	255	0	0.696	255	0

4 Results

4.1 Demographic Data

300 forms in total were distributed, and 260 online questionnaires were retained. Due to the purposive nature of sampling, respondents were filtered out based on their ages, retaining only the responses of respondents aged between 15 and 40. Filtering out the respondents resulted in 255

valid surveys for questionnaire analysis. 144 female respondents and 111 male respondents completed the entire questionnaires, indicating that there were more typical female consumers. Table 3 summarizes the respondents' demographic information.

Table 3: Demographic Data.

Demographic	Frequency	Percentage (%)
Gender		
Male	116	44.60%
Female	144	55.40%
Age (In years)		
16 - 20	85	32.70%
21 - 29	140	53.80%
30 – 39	30	11.50%
40 and Above	5	1.90%
Total	260	100%

4.2 Exploratory Factor Analysis

The EFA in this study utilized SPSS 23 to explore the potential statistically significant associations among the measuring scale items corresponding to the latent variables outlined in the theoretical framework. The ensuing correlation matrix (Table 4) illuminates compelling evidence, indicating robust correlations between each item. These correlations extend not only to items measuring the same constructs but also to those designed to capture distinct constructs. Furthermore, the latent variables, representing three distinct elements aimed at assessing different facets of the overarching concept—specifically, the intention to purchase eco-labeled products—emerge prominently in the correlation matrix. This underscores their significance in subsequent analyses. Consequently, the noteworthy associations within the correlation matrix, reflecting the measures gauging various characteristics of purchase intention, align with expectations.

Table 4: Component Correlation Matrix

Component	GAR	ST	PT	ITP
GAR	1			
ST	0.538	1		
PT	0.575	0.366	1	
ITP	0.526	0.395	0.459	1

GAR: Green Advertising Receptivity

ST: System Trust

PT: Personal Trust

ITP: Intention to Purchase

Having laid the groundwork for conducting the Exploratory Factor Analysis (EFA), the next step involves employing the Promax rotation within SPSS's factor analysis tool on the component matrix. The rationale for opting for Promax rotation stems from observed strong correlations between various constructs, and Promax is particularly adept at addressing such correlations (Finch, 2006). In order to ensure an adequate sample size for subsequent analyses, two essential tests, namely the "Kaiser-Meyer-Olkin Measure of Sampling Adequacy Test" and "Bartlett's Test of Sphericity," were executed as outlined by Gaskin (2022) within the factor analysis framework. The results of these tests, as seen in Table 5, confirm the acceptability of the sample size at a statistically significant level, validating the robustness of the findings.

Table 5: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.808
	Approx. Chi-Square	437.192
Bartlett's Test of Sphericity	df	6
	Sig.	0

Based on factor loadings exceeding the 0.5 threshold, a widely accepted criterion in the literature (Hair, 2009), the pattern matrix delineates three distinct components in Table 6. This loading threshold ensures the execution of Confirmatory Factor Analysis (CFA) without the need to exclude any items from the selected measurement scales. The revealed interplay among components corroborates earlier findings, emphasizing the high correlation among latent variables related to buyers' purchase intention regarding eco-labeled products. However, the results suggest a potential overlap between some items measuring each latent variable in the theoretical framework, causing them not to align with their respective factors. Consequently, a further Confirmatory Factor Analysis was deemed necessary. This approach aligns with the recommendations of Gaskin (2022) and Mai et al. (2018), who advocate for maintaining the integrity of the chosen items to enhance the robustness of the model subjected to CFA scrutiny.

Table 6: Pattern Matrix

Component	1	2	3
GAR1	0.522		
GAR2	0.698		
GAR3	0.851		
GAR4	0.803		
ST1	0.874		
ST2	0.871		
ST3	0.775		
ST4	0.842		
PT1		0.857	
PT2		0.884	
PT3		0.929	
ITP1			0.749
ITP2			0.919
ITP3			0.926
ITP4			0.399

4.3 Confirmatory Factor Analysis

Conducting structural equation modeling which provides the maximum likelihood estimation, the two-step modeling approach outlined by Anderson and Gerbing (1989) was employed to assess the proposed research model. In the initial step, AMOS 23 was used to configure latent variables, observed measurement items, and their associated error terms. Confirmatory factor analysis (CFA) was then performed to evaluate the model fit, as well as the validity and reliability of the study constructs. The results of the CFA indicated an acceptable model fit, with a chi-square (χ^2) value of 338.611 and 85 degrees of freedom (CMIN/df = 3.98; p = 0.000). Despite the significant χ^2 -value, which was expected given the substantial sample size (Anderson & Gerbing, 1988), the

analysis was reiterated. Covariances among the latent variables within the framework—namely, green advertising receptivity, system trust, personal trust, and purchase intention—were incorporated. Construct validity, reliability, and factor loadings are presented in Table 7, with a predefined cutoff value of 0.5. Notably, none of the elements from the relevant variables were excluded to strengthen the CFA model, aligning with the recommendation of Hu and Bentler, (2009). All variables demonstrated factor loadings exceeding 0.5, indicating their suitability for further analysis.

Table 7: Confirmatory Factor Analysis

Construct Items	Loadings
Green Advertising Receptivity (CR = 0.854, AVE = 0.595)	
I tend to focus on advertising messages that relate to the environment	0.813
For those brands that use green messages in their advertisements, I think they are good	0.723
I take attention to eco - labeled products through green advertising	0.717
Green advertising is valuable in my opinion	0.827
System Trust (CR = 0.909, AVE = 0.715)	
I trust eco - labeled products because I have confidence in Pakistani government controlled eco - labeled products	0.832
I think Pakistani government is qualified to certify eco - labeled products	0.881
I trust Pakistani eco - labeled products because I believe the Pakistani government control is in charge	0.812
I feel that Pakistani eco - labeled products are generally reliable	0.855
Personal Trust (CR = 0.848, AVE = 0.651)	
I trust more green products bought directly from the producer without certification	0.829
When I purchase green products, I rely on the producers ' words rather than certification	0.779
When I purchase green products, I rely on the sellers ' words rather than certification	0.812
Intention to Purchase (CR = 0.909, AVE = 0.715)	
I plan to purchase eco - labeled products in the future.	0.848
I am willing to purchase more eco - labeled products while shopping.	0.865
From now on, I plan to purchase eco - labeled products	0.867
I intend to pay more for eco - labeled products	0.839

Construct reliability scores for each variable surpassed 0.7 (Fornell & Larcker, 1982), affirming the reliability of the variables' structures and suggesting consistent findings upon potential future use. Average Variance Extracted (AVE) values for each variable exceeded 0.5 (Fornell & Larcker, 1981), signifying the validity of the variables' constructions and their alignment with the intended theoretical latent constructs. As suggested by Hair et al. (2014), the Fornell-Larcker criterion was used to determine the discriminant validity of the constructs. The Fornell-Larcker measure states that the AVE of each latent variable should be more than the concept's highest squared correlation with any other latent variable. As table 8 shows, all of the components in this study showed strong discriminatory validity because the squared correlation between the associations of each pair of items was smaller than the AVE value of these two constructs. (Fornel & Larker, 1982; Wang et al., 2018).

Table 8: Intercorrelation Matrix

Intercorrelation Matrix		1	2	3	4
1	Green Advertising Receptivity	0.878 ^a			
2	System Trust	0.333	0.865 ^a		
3	Personal Trust	0.344	0.747	0.864 ^a	
4	Intention to Purchase	0.349	0.539	0.551	0.880 ^a

^aSquare Root of AVE

The model fit indices presented in Table 9, including Comparative Fit Index (CFI), Incremental Fit Index (IFI), Relative Fit Index (RFI), Normed Fit Index (NFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA), all surpassed the recommended thresholds. Notably, CFI and IFI were 0.925 and 0.926, respectively, while RMSEA stood at 0.092. These results collectively indicate that the model exhibits a satisfactory fit according to established standards, with all indices meeting or exceeding the stipulated criteria.

Table 9: Model Fit Indices

CMIN/df	NFI	RFI	IFI	TLI	CFI	RMSEA
338.611	0.904	0.864	0.926	0.895	0.925	0.092

4.4 Multicollinearity Analysis

To rule out multicollinearity, an investigation into the variance inflation factor (VIF) among constructs was conducted. Outer VIF values indicate collinearity between construct components, while inner VIF illustrates collinearity between latent constructs. Following Hair et al. (2014), recommendation, the VIF value should be lower than five. Table 10 displays all of the constructs' inner VIF statistics, and all VIF values are less than five. For outer VIF, Table 11 should be referred to. These findings suggest the absence of issues with collinearity between the constructs.

Table 10: Inner VIF Values

VIF Matrix				
Inner VIF	GAR	ST	PT	ITP
GAR	1			
ST		3.936		3.652
PT		0.547		
ITP		3.706		3.652

Table 11: Outer VIF Values

Items	VIF
GAR1	2.984
GAR2	3.249
GAR3	2.691
GAR4	2.683
ST1	3.526
ST2	2.589
ST3	2.808
ST4	3.874
PT1	4.771

PT2	4.264
PT3	4.406
ITP1	3.723
ITP2	3.045
ITP3	3.315
ITP4	3.021

4.5 Path Analysis

In order to analyze the data and test the hypotheses, Amos 23.0 software packages were used after a suitable measurement model and structural model had been obtained. The following model will serve as the foundation for drawing conclusions regarding the proposed hypothesis from the data gathered. The accuracy of each hypothesis will be tested to a 90% confidence level. The choice to utilize a 90 percent confidence interval is based on claims made by Dahiru (2011) that the usage of a 95 percent confidence interval for research purposes is arbitrary in nature and thus ignores the research's context and sample size. Any p value that exceeds 0.1 will be led to the rejection of that estimate and be considered statistically insignificant.

Table 12: Path Analysis

Structural Path	Path Coefficient	t value	Significance
GAR→ITP	0.64	9.6*	Significant
ST→ITP	0.22	6.18*	Significant
PT→ITP	0.21	3.84*	Significant

* $p < 0.1$

Table 12 shows the path analysis gauged from the results. Intention to purchase products with an eco-label is positively impacted by receptivity to green advertising ($= 0.64$, $t = 9.60$, $p = 0.001$), Personal trust ($= 0.21$, $t = 3.84$, $p = 0.001$) and system trust ($= 0.22$, $t = 6.18$, $p = 0.001$) significantly and favorably influence a consumer's intention to purchase products with an eco-label, with participants expressing more system trust than personal trust. This suggests that customer trust in the system, rather than personal trust, has a greater impact on consumer intention to make green purchases.

The mediating effect was test in three steps, drawing on Barron and Keny's (1987) research. The dependent variables should, first and foremost, be considerably influenced by the independent factors. The mediator should then be considerably impacted by the independent variables. Finally, if both the independent variable and the mediator have a considerable impact on the dependent variable, we can conclude that the mediator has a partial mediating effect.

Employing decomposition tests with a bootstrapping approach, we explored the indirect effects of green advertising receptivity on green purchase intention, considering the mediating influences of system trust and personal trust. The results demonstrated significant indirect effects, with system trust ($= 0.13$, $p = 0.001$) and personal trust ($= 0.07$, $p = 0.001$) playing substantial roles. This indicates that the relationship between green advertising receptivity and the intention to purchase green products is shaped by the mediating effects of both system trust and personal trust. The summarized outcomes of the mediating effect analysis in Table 13 underscore that the influence of green advertising receptivity on the intention to engage in green purchases undergoes modification through the mediating pathways of system trust and personal trust.

Table 13: Mediation Analysis

Independent Variable (I.V.)	Mediator (M)	Dependent Variable (D.V.)	I.V.+ M→D.V.			Mediating Effect
			I.V.→D.V.	I.V.→M	M→D.V.	
GAR	ST	ITP	0.57*	0.47*	0.29*	Partial
GAR	PT	ITP	0.57*	0.49*	0.24*	Partial

*p<0.1

Based on the aforementioned results, it was determined that all hypotheses proposed by the study were determined to lie within the range of acceptability. Table 14 highlights the results of the hypotheses testing which form the basis of the conclusions drawn and discussion going forwards.

Table 14: Hypothesis Testing

	Hypothesis	Decision
H1	Green advertising receptivity positively affects a consumer's intention to buy eco-labeled products.	Accept
H2	System trust receptivity positively affects a consumer's intention to buy eco-labeled products.	Accept
H3	System trust has mediating effect on relationship between green advertising receptivity-and consumer's intention to purchase eco-labeled products.	Accept
H4	Personal trust positively affects a consumer's intention to buy eco-labeled products.	Accept
H5	Personal trust has mediating effect on relationship between green advertising receptivity-and consumer's intention to purchase eco-labeled products.	Accept

5 Discussion

In the contemporary global landscape, with an increasing emphasis on sustainable practices, developing nations are progressively embracing environmentally friendly policies. This shift in focus underscores the importance of measuring green consumption. Notably, in growing economies like Pakistan, consumer intentions to purchase eco-friendly goods have witnessed a discernible rise over time. The present study is dedicated to comprehending consumers' purchasing patterns for green products, particularly exploring the intricate relationship between consumer purchase intent and receptivity to green advertising.

Conducting an extensive literature review, three hypotheses were formulated to scrutinize the intention to purchase eco-labeled products. Employing survey methodologies, a theoretical model was constructed, featuring Green Advertising Receptivity (GAR), System Trust (ST), Personal Trust (PT), and Intention to Purchase (ITP) as key variables. System Trust and Personal Trust were identified as mediating variables in this context. An online survey, employing a modified Ying et al., (2019) approach, was conducted in the Pakistani setting, garnering responses from 255 participants.

The conceptual model was tested using Structural Equation Modeling (SEM). The results revealed a positive and significant mediation effect of personal and system trust in environmentally friendly products on the relationship between purchase intention and green advertising receptivity. This underscores that consumers' receptivity to green advertising substantially and positively influences their system and personal trust (Kumar et al., 2021; Gruber, 2020). This study contributes to existing research by establishing a legal precedent regarding the cognitive effects of eco-labeled products and elucidating the mediating role of system and personal trust in the relationship between receptivity to green advertising and intention, drawing on Higgins and Kruglanski (2019).

The findings align with Ying et al. (2020). Despite existing skepticism towards green advertising, this research highlights the substantial positive impact of consumers' responsiveness to green advertising on both system trust and personal trust, in accordance with Nuttavuthisit and Thøgersen, (2017).

Recognizing the limited and shallow knowledge of environmentally friendly items among consumers, the study emphasizes the crucial role of green marketing, especially in promoting goods with eco-labels. The results indicate that consumer trust is positively correlated with the acceptance of green advertising, with participants exhibiting greater trust in the system than in themselves concerning the presented green advertisement (Ru et al., 2018; Ru et al., 2019). Moreover, the study reveals a positive relationship between purchase intention and system trust and personal trust, corroborating findings from Nuttavuthisit and Thøgersen, (2017). It highlights the potential impact of consumer confidence and knowledge in driving purchase intentions for eco-labeled products, particularly in terms of environmental benefits (White et al., 2019). In the broader context of scholarly efforts to contribute to the understanding of this core concept, diverse studies have explored various contexts and variables (Alnaç & Alnaç, 2012; Babikova & Bucek, 2019). Thøgersen et al. (2017) has been a seminal work in this regard. Building on this foundation, the theoretical framework outlined in this paper has been replicated and tested through various methodological approaches in subsequent studies (Ying et al., 2019). The present study aims not only to reproduce the suggested model but also to compare its impact with similar studies and the original research, offering insights into the robustness and generalizability of the proposed framework.

6 Managerial Implications

Understanding green purchase intentions in developing economies, such as Pakistan, is crucial given the diverse cultural landscape. This study provides valuable insights into consumers' perceptions of green products and how trust and receptivity to green advertising influence their purchase intentions. The implications of these findings extend to scholars, non-profit organizations, marketing companies, and advertising agencies (Ahmad & Zhang, 2020). The study's applicability spans emerging economies, assuming a general willingness to adopt green products, thereby guiding marketers in comprehending the diverse mindsets of customers across various ethnic backgrounds. This understanding, in turn, enables the creation of innovative marketing strategies and promotional campaigns tailored for emerging markets like Pakistan.

The results suggest that personal and system trust in environmentally friendly items positively mediate the relationship between purchase intention and green advertising. Consumers' system and personal trust are significantly and positively influenced by their responsiveness to green advertising. This underscores the importance for businesses to invest efforts in educating the public about eco-labels and certifications, enabling them to differentiate between regular products and those labeled as sustainable and eco-friendly through green advertising. Specific and detailed information in green advertising is essential to enhance consumer knowledge and skills in making informed choices when purchasing eco-labeled products. Businesses should recognize the value consumers place on authentic business conduct. To establish the authenticity of their sustainability initiatives, companies need effective communication strategies. Encouraging consumers to view eco-labeled items favorably, going beyond industry standards in environmental practices, and gradually building a consistent green history are recommended strategies (Emekçi, 2019; Joshi & Rahman, 2015). Providing comprehensive information about the environmental benefits and performance of green products through various channels, including social media platforms supporting environmental causes, is crucial for the success of genuinely green products.

Obtaining relevant certifications and labels is imperative for sustainable businesses, as consumers rely on these marks to make purchasing decisions. Authentic eco-labels enhance the attractiveness

of products to consumers. However, the study reveals relatively modest system and personal trust scores, indicating a weak and limited market base for the development of eco-labeled products. These findings align with prior research (Nuttavuthisit & Thøgersen, 2017). Government involvement is vital in promoting eco-labeled goods by establishing policies that support their development. This includes streamlining the certification process for businesses and offering subsidies to incentivize the creation of eco-labeled items. Additionally, the government can play a role in promoting the positive reputation of certified items to consumers, emphasizing the personal and environmental benefits of eco-labeled products. Implementing clear, authentic eco-labels can serve as a reference point for consumers to understand the environmental attributes of each product. Lastly, adhering to strong and uniform standards and regulations is essential to build public trust in the system and ensure the continued growth of the eco-labeled product market in Pakistan and globally. Advocating for standards and controls in these industries is a critical policy recommendation to increase consumer confidence in eco-labeled products and related sectors. This approach can dispel consumer skepticism and foster trust in products carrying an eco-label.

7 Limitation and Future Directions

Firstly, this study's scope was confined to developing markets, specifically Pakistan. Future researchers now have the opportunity to extend this approach to other emerging economies. Exploring a sample from a nascent, untapped market holds the promise of comprehensive research and the inclusion of early adopters. Nonetheless, to bridge the gap between early and late adopters of green purchasing, leveraging data from established marketplaces is recommended.

Secondly, the primary limitation of this study lies in its cross-sectional design, capturing only a fraction of the complete picture. A longitudinal study is proposed to monitor changes in buyer's intention to purchase dimensions over a predetermined time period. This approach aims to enhance our understanding of how buyer's intention to purchase eco-labeled products can be influenced, particularly in response to green advertising receptivity. Furthermore, the study's reliance on self-administered online surveys may have impacted data quality and represents another constraint. To address this, alternative research techniques, such as respondent interviews and quasi-natural experiments, can be employed to gather data more comprehensively. Additionally, to enhance the model's generalizability and applicability to diverse markets or countries, external factors like economic, market, and cultural variables should be thoroughly examined. While the current study predominantly focuses on consumer purchase intention rather than actual behavior, future research could delve into the intricacies of actual consumer behavior.

Finally, there exists an opportunity to explore this topic using a different set of scales that align more closely with the settings in which future research may take place. The study faced constraints in its attempts to build upon the initial work of Ying et al. (2020). An adjustment in the scale used to measure social media use is one avenue for improvement. The original scale, a modified version for general marketing objectives, may be replaced with a scale specifically designed to measure social media use, providing a better alignment for future investigations.

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