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Green Marketing and Consumer Purchase Intention: The Role of Environmental Awareness

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ABSTRACT

Green marketing is one way that businesses can communicate about environmental attributes of their products and for consumers to articulate their concerns about sustainability. But exposure doesn't always lead to intent to buy. Consumers need to be aware of how environmentally relevant information is and trust that brand claims are real. The present study explores relationships between green marketing, environmental awareness, green trust and purchase intention of consumer through a 4-construct non-causal or reflective structural model. The quantitative analysis provided consists of 510 observations that have been summarized, using a structured questionnaire with Likert scale indicators. The measurement properties, direct relationships and indirect pathways reported were evaluated using partial least squares structural equation modeling in the accompanying analysis. The reported coefficient values show that there are positive relationships between green marketing and both environmental awareness ($\beta = 0.320$) and green trust ($\beta = 0.370$) as well as between green marketing and purchase intention ($\beta = 0.289$). There are also significant positive relationships between environmental awareness and green trust and purchase intention ($\beta = 0.276$ and $\beta = 0.342$, respectively). Environmental awareness shows positive indirect relationship between green marketing and purchase intention ($\beta = 0.088$). 52.0% of the variance in purchase intention was accounted for by the model. The study reveals that environmental communication, consumers' understanding and perceived credibility are complementary components for green-market engagement. Interpretation is still subject to data provenance verification and is subject to data consistency in each of the provided estimation tables.

INTRODUCTION

As businesses increasingly focus on profitability, the importance of environmental sustainability has been moving into the spotlight of business-consumer ties. Manufacturers and retailers share information regarding resource efficiency, packaging to minimise, recyclable materials, energy use and environmental responsibility. This kind of communication is found in advertising, in product labels, in the content on the internet, and in brand positioning. Can influence consumer's Attitude towards competitive products. However, the exposure to environmental information does not signify that consumers are aware about their implications, whether or not these consumers trust the information, and whether they actually want to buy the products in question. This separation raises an important research issue of green marketing and consumer behavior (Balananthini. B., 2025).

Green marketing can be defined as any claims or suggestions about the environmental attribute or about the practice of a business or any aspects of business that relate to the environment. The focus goes beyond green packaging or eco-labelling. In order to be effective, communication should communicate product features that are easy to understand and communicate the importance of those product features (Akanksha Kathuria, 2024). When consumers appreciate that the disposal of packs has an impact on the environment, a product's reduced waste features, for instance, can be of influence. If the audience is not aware of the information, it might only be of limited value. Therefore, the impact of green marketing can be related to the environmental awareness that a consumer has or is developing.

Environmental awareness is defined as knowledge and recognition of environment problems, its impacts and of the relevance of individual consumption decisions. This involves an awareness of how purchasing practices can be linked to problems related to resource depletion, pollution and waste. There might be more attention given to sustainability information with increased awareness (Fariah, 2025). It can also offer a framework for product claims to be assessed. However, any awareness is not enough to guarantee purchase intention. By the very same time consumers have become aware of the environmental damage, they aren't sure if specific brands are providing any significant alternatives. They also may be limited by price, accessibility, tradition, product effectiveness, and convenience (Shehawy & Ali Khan, 2024).

Green trust concerns another aspect of this process of decision-making. It relates to trust in a brand and their ability to communicate environmental information and to keep their sustainability commitments. Trust is particularly important since environmental characteristics are not always immediately apparent at the time of sale.

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Consumers can have trouble confirming the standards of the production processes or supply chains and the overall environmental impacts. Hence, they are dependent on the communication signals and their perception of brand authenticity. Environmental claims can be seen as superfluous or unverifiable, and result in undesirable scepticism instead of positive intention. The issue of awareness and trust should therefore also be discussed when considering the matter of green purchasing in addition to marketing communication (Destiani & Qadriah, 2025).

The main behavioral dependent variable of the current study is consumer purchase intention. Intention relates to the stated probability of thinking about, preferring and planning to purchase a class of environmentally friendly products. It is an analytical construct distinct from done purchasing behavior. Consumers may be thinking about purchasing products that are more sustainable, yet when faced with the realities of the market, they instead resort to conventional products. A study of intention is still useful because it allows for an examination of the process of attitudes and evaluations that lead to an eventual purchase. The difference also provides a good constraint on the behavioral inferences that can be made about those responding to the survey.

The main constructs of the present investigation are four interrelated concepts: environmental awareness, green trust, consumer purchase intention as well as green marketing. Its focal idea is that green marketing is directly and indirectly linked to purchase intention. Environmental awareness is the main predetermined mediation pathway. Green trust offers an extra (additional) explanation mechanism and is represented as an additional antecedent of purchase intention. Six direct hypotheses and one main indirect hypothesis structure the analysis. A partial least squares structural equation model (PLS-SEM) is used for the evaluation of the proposed associations, using a reflective measurement model (Khan, 2024).

An analytical workbook is provided which summarizes the 510 observations made at the respondent level, in terms of demographic frequencies, descriptive statistics, measurement diagnostics, structural coefficients, and prediction error comparisons. These results offer a quantitative foundation for the study of the proposed framework. This document also contains the research plan with their structured questionnaire, voluntary consent, screening of adult respondents and 5-point agreement scale (Sharma *et al.*, 2021). Meanwhile, there is no documentation of the actual recruitment dates, the implementation of the surveys, the sampling frame and/or independent verification of the origin of the data in the supporting files. Rather than these differences being lost in some way, there are methodological details that hold true.

The study provides an holistic view of sustainable consumer decision making. Separates exposure to green communication from cognition to understand the environmental consequences. It further separates this knowledge from trust in corporate environmental statements. The resulting model allows evaluation of whether purchase intention is related to marketing information, awareness, trust or to all of these mechanisms at the same time. This difference is helpful to interpret the evidence reported without presuming that all positive marketing associations are causal.

LITERATURE REVIEW

Green Marketing as Environmental Communication

Green marketing has a communication function that links the positioning of a firm about its environment and the consumers' perception of its products. Functionally, it consists of advertisement and promotional wording, product descriptions and environmental symbols (Sapna Biby *et al.*, 2024). These instruments may help to point to environmental qualities which might otherwise not be noticed. Communication can also relate product features with consumption issues. Relevance would be dependent upon the messages expressed and consumers' capability to differentiate between substantive environmental information and symbolic assertions (Dubey, 2025).

Another important role of the green marketing is to act as a signal. It is usually not possible for consumers to check all of the environmental impacts upstream from the product. They can serve to signal otherwise un-observables through environmental labelling, description or through visible brands and promises. If a person does not believe a signal, it is of no value in conveying information (Li *et al.*, 2024). Prominent green labels, which do not specify what they mean, can draw attention but not necessarily confidence. Conversely, a short, clear and measurable message can help identify and measure environmental attributes. Attention and assurance can be distinguished: this is what leads to green trust being present as a construct independent of green marketing (Dubey, 2025).

Environmental promotion carries potential for superficial differentiation where the messages are unclear, misleading and inauthentic in relation to operational actions. In these environment, increased communication doesn't necessarily increase consumer confidence (Putra *et al.*, 2025). Therefore, a positive relationship between green marketing and trust needs to be understood as a model-empirical relationship and not as a matter of principle. Perceived communication of environmental benefits, clarity, labeling, sustainability themes and reduction of environmental impacts are the current measure of green marketing. It will not, on its own, verify that all environmental claims made are based on the facts (Sari & Sari, 2025).

Environmental Awareness and Consumer Understanding

Environmental awareness refers to the understanding that what is used has an impact on the environment. Consumers with the knowledge about the consequences of waste, the use of resources and the choice of products

might be better equipped for assessing claims regarding sustainability (Asif & Parveen, 2025). Awareness facilitates the understanding of the environmental attributes of a product, as well as helping to situate a specific purchase within a larger context of responsible consumption. It can thus be linked to the consumers' attention toward green marketing messages and the importance they perceive in these messages (Lopes *et al.*, 2024).

The construct is bi-dimensional general and product-evaluation. General awareness of environmental issues related to production and consumption. Product-related awareness refers to the knowledge of the characteristics that make the environmentally friendly alternatives different from conventional products (Lee *et al.*, 2023). These dimensions overlap but they do not include the same. A consumer can have an understanding about pollution in general and not be able to compare competing labels. On the other hand, customers can be knowledgeable about a specific product line without obtaining a broad comprehension of the overall environmental issues. A mix of these aspects is reflected in five statements in the questionnaire concerning environmental issues, product buying, packaging and waste, product features that are easy to recognize, and resource conservation (Zakiyah *et al.*, 2026).

The origin of the awareness is a significant matter of theory. Consumers' knowledge can be gained through a variety of means from general environmental education, personal experience, media coverage and social interaction. An association between perceived green marketing and awareness can only be shown in a cross-sectional study, which is unable to show that brand messages led to the awareness (Ouyang & Wang, 2025). The green message exposure already knowledgeable consumers may be more responsive to green ads and thus claim a higher degree of marketing exposure or message recognition. This does not necessitate a different view of the direction and practical meaning of the association, but it means a prudent interpretation (Ammar Alawadh *et al.*, 2025).

Green Trust and Perceived Credibility

Green trust is a sense of trust that a company or brand offers valid environmental data and that it ever acts on its expressed environmental intentions. The construct reflects uncertainty of ordinary consumers to independently evaluate claims of difficulty (Ammar Alawadh *et al.*, 2025). Building confidence can be done via past experiences, repeat communication, how a company treats its own business and how they are regarded as sincere with their business promises. Trust can help to overcome the tendency for hesitancy when evaluating a product as it decreases uncertainty over green positioning legitimacy (Nur Syafiqah Azli *et al.*, 2025).

Green trust and the concern for the environment are two different things. Awareness relates to the recognition or the understanding of consumers about environmental issues. Trust is the basis of their belief regarding a certain brand's environmental claims and actions. If a consumer knows what they're looking for, they might be seriously disheartened by a brand that makes ambiguous claims (Ristanti, 2025). A different consumer might have more of a reputation for a brand while having less environmental knowledge. Separate treatment of the two constructs allows the model to determine which one has an additional association with purchase intention controlling for all other modeled predictors that were examined (Ellyany Sinaga *et al.*, 2024).

Trust could be a very intimate tie with intention as purchase planning suggests a certain brand or product. But when buying a product that is marketed as green, the consumer will have to make the choice as to whether the environment is an important factor and moreover if this specific brand is preferable (Rosyaadah *et al.*, 2025). The shift from generic to brand assessment may bring credibility to the fore. The five trust indicators are: confidence in claims, reliability of environmental information, genuineness of commitment, action to minimise harm, and promises kept.

Purchase Intention as a Distinct Outcome

Purchase intention is a measure of an expressed intention to make a purchasing action in the future. It can be measured using the probability of purchasing a product, the probability of considering the product when a need arises, the probability of selecting the product when evaluating purchase options, or the probability of opting for the product rather than a traditional one (Wibowo *et al.*, 2025). Because in many cases advertising and brand positioning work prior to the sale, the construct is suitable for measuring reaction to marketing information. However, its size does not indicate sales, re-purchases or long-term consumer loyalty (Kumari, 2025).

Research Framework and Hypotheses

Green Marketing, Awareness, and Trust

The first suggested organisation is Green marketing and awareness of the environment. Environmental promotional messages are used to introduce or refresh information on the characteristic of the product, waste, resource conservation, and sustainability practices. Providing clear and informative messages can result in higher consumer awareness about environmental issues (Abdullah & Eriklex Donald, 2025). This relationship is illustrated by H1: There is a positive relationship between green marketing and environmental awareness. The conceptual interpretation is informational and not proving an educational intervention.

The second association is related to green marketing and green trust. Communication can give signals on a brand's environmental engagement and the sustainability positioning. When consumers see the environmental label and description as useful, it can make them feel more confident in the product (Aris Mardiyono *et al.*, 2026). Therefore, H2 posits that there is a positive relationship between green marketing and green trust. Noticing does not imply verification, as assumed by the hypothesis.

The dependent construct is still that of perceived trust reported by the respondents.

The third relationship is direct in the sense of green marketing and purchase intention of consumers. A green message may distinguish a product when considered and render its environmental attributes prominent. Despite the presence of awareness and trust in the model, communication can still be found to be directly correlated with expressed purchase intention (Rosyaadah *et al.*, 2025). H3 suggests that, green marketing and purchase intention are positively related. When it is part of the study, it allows examine the hypothesis that the association is exclusively indirect or contains an additional dimension that is not captured by the intermediary constructs.

Environmental Awareness, Trust, and Purchase Intention

The interpretation of credible brand signals could be better with the adoption of environmental awareness. With the issue of environmental attributes being recognized by a consumer, it may be possible to attach more importance to reliable brand commitments in this context (Ristanti, 2025). H4 states that there will be a positive relationship between environmental awareness and green trust. This pathway acknowledges that awareness can be a part of the assessment of environmental information without necessarily being synonymous with certainty for all assertions.

Awareness can also have a more direct influence on the purchasing process. Consumers who know the environmental effects of product selection may be more likely to state greater intentions to choose environmentally preferable options. Based on the perspective of H5, a positive relationship is expected between environmental awareness and consumer purchasing intention. The relationship shows the potential relevance of environmental understanding after having taken green marketing and green trust into account. Does not assume that awareness equates to no economic or real life barriers to buy (Fariah, 2025).

The last pre-specified direct association is between green trust and purchase intention. Claims about the environment can generate consumer confidence by lowering consumer uncertainty and thereby increase the appeal of a product with green marketing. People may be more inclined to take a brand into account when buying if they believe it can meet its environmental claims. H6 suggests that there is a positive relationship between green trust and purchase intention. In the multivariable model, this path indicates the relationship between trust and intention, when adjusting for the other direct relationship pathways (Sapna Biby *et al.*, 2024).

Environmental Awareness as a Mediator

The green marketing-to-awareness path is merged with the awareness-to-intention path in the principal mediation hypothesis. The main idea is that the perceived environmental communication will lead to increased environmental awareness, which will in turn lead to enhanced purchase intention. This indirect relationship would be associated with a positive product of the constituent path estimates. Based on this, H7 is proposed: Environmental awareness has a positive mediating effect on the relationship between green marketing and purchase intention (Akanksha Kathuria, 2024).

There are also other indirect ways which are included within the framework: green trust. Green marketing can relate to intention just with trust. Environmental awareness can be connected to intention via trust. Marketing, awareness, trust and intention can be chained serially as well. The pathways are conceptually relevant but the uploaded plan identifies the awareness pathway as the main mediation hypothesis (Destiani & Qadriah, 2025). Therefore, the extra indirect estimates are viewed as exploratory rather than as post hoc tests on new a priori hypotheses.

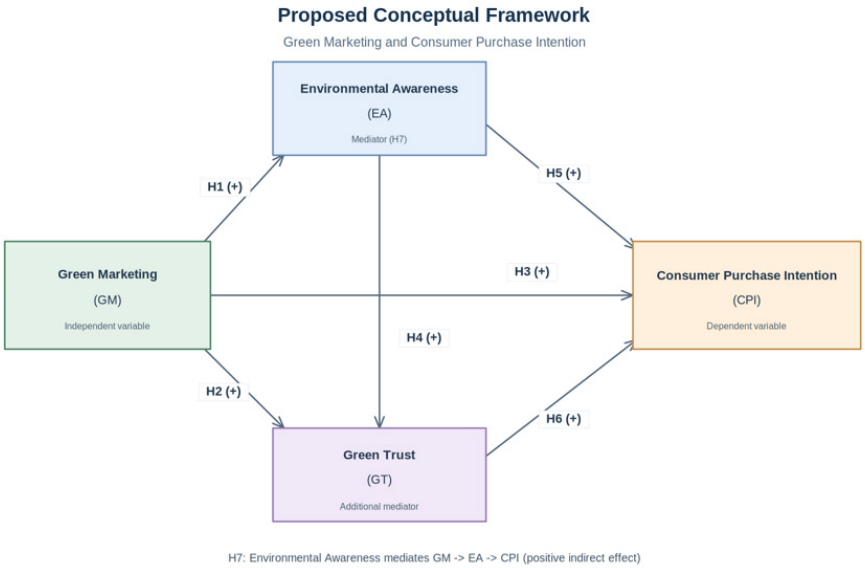


Figure 1: Proposed conceptual framework with six direct hypotheses and the primary awareness-mediated pathway.

Four latent constructs and six directional direct paths make up the framework. The exogenous construct is green marketing. Environmental awareness and green trust are endogenous explanatory constructs, while the consumer purchase intention is the final endogenous outcome. There are 5 reflective indicators for each construct. The decisions are made to help facilitate a parsimonious model which enables the relationships proposed to be examined simultaneously and maintains distinctions among information, awareness, credibility and intention.

MATERIALS AND METHODS

Study Design and Analytical Basis

The research design is quantitative-questionnaire based and is partial least squares structural equation modeling. The analytical materials provided with the plan are an Excel workbook with summarised results and not the original respondent-level data or full analysis script. The workbook shows a total of 510 observations on each of the twenty Likert-type indicators and the four construct level descriptive summaries. All following statistical outputs are derived from and provided with these outputs and do not constitute independently reproduced estimates (Wang *et al.*, 2024).

Interview respondents are adults who have seen marketing that make products sound environmental and who are able to name at least one brand or product that they consider environmental. In the eligibility questions, they have to respond affirmatively to the following questions: have read a green promotional message in the previous 6 months, were at least 18 years old, and identified a green-marketed product or brand. Respondents are instructed to keep a particular product or brand in mind when answering the substantive items. These are identified properties of the research instrument. Materials do not make a determination as to whether such procedures were done for all observations in the workbook.

The research plan suggests about 300-400 adult consumers, according to the statistical power analysis, while the provided results refer to 510 observations. The number of analytical counts reported here is the larger since this number is consistently shown in the descriptive tabulations. It must not be misinterpreted as evidence of a specific sampling technique or the response rate. Sampling information on the recruitment platform, sampling frame, the time period of fieldwork, the geographical sampling coverage, number invited, exclusions, or sampling weights are not provided in the supplied files. The demographic information does not imply that such information exists (Schwalbe & Finzel, 2024).

The demographic questionnaire incorporates household income groups that are denominated in Bangladeshi taka and education and residence groups that are pertinent for a survey context with a focus on Bangladesh. These features suggest the concerted context for the instrument. They alone cannot be used to indicate where the individual participants live, or that the final data represent a nationally representative sample of consumers. The results are thus considered to be associations in the analytical sample provided and not statements of the national prevalence.

Questionnaire and Operationalization

The instrument includes three screening questions, ten demographic and consumer-information questions and twenty construct indicators. The substantive indicators are based on a 5-point agreement scale ranging from strongly disagree to strongly agree. The agreement scale offers a balance of options that permits respondents to express varying degrees of agreement, while at the same time being simple enough for a structured survey. Two score all the items are phrased in positive form. The reflective approach for measurement is taken on the four constructs, with five indicators being allocated to each latent variable.

Green marketing is operationalised in the form of five items (GM1–GM5). They are issues about communication of benefits of environmental products, understanding of green features, application of environmental labels or symbols, efforts to improve sustainability in promotion and communication of activities to lower environmental impacts. These are measures of consumer's perceptions of green marketing communication not of audited environmental performance. This is relevant since there is no way to judge the objective truth of a brand's sustainability claims based on positive scores.

EA1–EA5 translates the concept of environmental awareness. These issues include recognising environmental issues linked to consumption, understanding of sustainable purchasing, knowledge about excess packaging and waste, identification of environmental properties of products and knowing about conserving resources. Green trust (GT1 - GT5) is represented by trust in degree of claiming, trust in information, trust in commitment, trust in environmental action, and trust in meeting commitments. CPI1-CPI5 represent purchase intention; planned purchase, future consideration, likely choice, preference over conventional alternatives, and active consideration when deciding in the future (Sharma *et al.*, 2021).

The demographic component includes demographic elements such as age, gender, education, occupation, monthly family income, place of residence, category of the product, whether they had already bought a green-marketed product, how often they were exposed to the promotion, and the most common source of information. These variables help to describe the properties of the sample provided. They do not emerge explicitly as predictors or moderators in the structural model reported. Therefore, discrepancies across demographic groups should not be considered to be established unless backed up with an additional analysis.

Proposed and Reported Analytical Procedure

For testing relationships among multiple indicators of latent variables with particular interests in the explanation

of the endogenous variables and examination of indirect pathways, partial least squares structural equation modeling is appropriate. The analysis provided includes indicator loadings, internal consistency indices, average variance extracted, discriminant validity indices, collinearity diagnostics, coefficient of determination, effect size, structural paths, bootstrap confidence intervals and comparison of the predictive errors. These are reported as furnished and not described as the results of a new estimation (Wang *et al.*, 2024).

The assessment of the measurement considers reliability of indicators, reliability of construct, convergent and discriminant validity. Outer loadings represent the reported relationship of each item with the construct it is assigned to. Cronbach's alpha and composite reliability are measures of internal consistency. The average variance extracted is a measure of the indicator variance captured by the latent variance for the measurement specification (Schwalbe & Finzel, 2024). Two complementary evidences on construct distinctiveness, the heterotrait–monotrait ratios and the Fornell–Larcker matrix, are available. Indicator and structural variance inflation factors are considered for possible collinearity.

The structural assessment reviews the magnitude, the direction (sign) and the reported uncertainties of proposed direct and indirect pathways. The attached workbook provides standard deviations, t statistics, confidence intervals and p values. No documentation of the exact number of bootstrap resamplings, random seed, setting of the estimation software and the setting for the construction of the confidence intervals is provided in the supplied plan. Consequently, the report can be used to describe the intervals listed but not certify the details of their computational procedure.

Ethical and Quality Considerations

The introduction to the questionnaire asks for voluntary participation, confidential use of responses for academic purposes, and an opportunity to terminate as well as not being required to provide personally identifying information. The following statements form part of the planned ethical measures. The provided outputs are not independent checks of consent collection or secure storage processes, or of institutional review status or the recruitment process. Questions should not only reflect the use of a safeguard but also document that the safeguard was used in the final journal entry.

Quality of an instrument is not only based on conceptual alignment but also on empirical consistency. The plan suggests that expert review and a pilot assessment be completed prior to the main survey, but does not include any results of the pilot or reviewers' decisions. There are a number of measurement diagnostics on the workbook, although some of them would be recommended for reconciliation. Specifically, at least one indicator is slightly lower than a typical outer-loading indicator, and the focal values for cross loading are not identical to the indicators listed for outer loading for all items. These matters should be verified in comparison to the original estimation run. The present manuscript does not replace corrected figures and shown those discrepancies.

RESULTS AND DISCUSSION

Characteristics of the Analytical Sample

The workbook records 510 total observations from the analytical process. The age group with the greatest number is 18 to 24, and those 25 to 34 are a close second. The male and female gender are fairly evenly represented. Most common qualifications are undergraduate education, and the largest occupational category is private sector employment. A little more than half of the observations are from urban sites, with semi-urban and rural sites making up the rest.

Table 1: Selected demographic and consumer characteristics (N = 510)

Characteristic	Category	n	%
Age	18–24 years	145	28.43
Age	25–34 years	138	27.06
Gender	Male	258	50.59
Gender	Female	248	48.63
Education	Undergraduate degree	218	42.75
Education	Postgraduate degree	105	20.59
Residence	Urban	269	52.75
Residence	Semi-urban	146	28.63
Residence	Rural	95	18.63
Prior green purchase	Yes	267	52.35
Prior green purchase	No	211	41.37
Prior green purchase	Not sure	32	6.27
Product category	Personal care and cosmetics	125	24.51
Product category	Food and beverages	113	22.16
Main information source	Social media	221	43.33
Main information source	Online advertisements/websites	98	19.22

The worksheet contains a diversity of product categories. For personal care and cosmetics, there are 125 observations, 113 observations for clothing and fashion and 96 observations for food and beverages. There are also household cleaning products, and electronics, featured in the sample. Over half of the records note previous purchases of environmentally friendly products, and a large proportion report not having purchased. The distribution is important because the actual intention may be based on experience or the potential interest. Descriptive counts alone do not reveal any causal relationship between purchases and pre-purchases (Fariah, 2025).

The reported info environment is a prominent occurrence in the digital environment. Social media is the most frequently selected information source, representing 221 records, followed by online advertisements or websites and product packaging or labels. The majority of observations suggest that environmental promotional messages are sometimes or often. These frequencies explain what the analytical file is composed of. They don't show that the impact on purchase intention is greater if the communication channel is one versus another, because the structural model reported does not have channel-specific coefficients.

Construct-Level Descriptive Results

The four construct scores fall around the middle of the five-point response scale. The mean values are in the range 3.015 to 3.031 and the standard deviations are near one scale point. These figures reflect moderate average endorsements, but not a large degree of consensus. The similarity of central tendencies also should be a warning against confusing any construct as substantially greater or higher than another single the basis of their unadjusted means. Structural path estimates is a pattern of associations and not differences in mean levels.

Table 2: Construct-level descriptive statistics

Construct	N	Mean	SD
Green marketing (GM)	510	3.025	0.998
Environmental awareness (EA)	510	3.016	1.013
Green trust (GT)	510	3.031	0.986
Purchase intention (CPI)	510	3.015	0.997

Indicator Quality and Construct Reliability

The majority of the reported out of loadings are above the commonly used indicator reliability point of 0.708. The loading range is 0.696 to 0.913. The lowest value belongs to CPI2, the statement concerning consideration of the environmentally friendly product when next needed. It has a loading of 0.696 which is just under benchmark. The suggested analysis doesn't point to its removal, and

Table 3: Reported reflective outer loadings by indicator

Construct	Indicator	Loading	≥ 0.708
GM	GM1	0.777	Yes
GM	GM2	0.825	Yes
GM	GM3	0.829	Yes
GM	GM4	0.786	Yes
GM	GM5	0.813	Yes
EA	EA1	0.913	Yes
EA	EA2	0.769	Yes
EA	EA3	0.807	Yes
EA	EA4	0.772	Yes
EA	EA5	0.759	Yes
GT	GT1	0.806	Yes
GT	GT2	0.799	Yes
GT	GT3	0.823	Yes
GT	GT4	0.781	Yes
GT	GT5	0.827	Yes
CPI	CPI1	0.869	Yes
CPI	CPI2	0.696	No
CPI	CPI3	0.758	Yes
CPI	CPI4	0.793	Yes
CPI	CPI5	0.816	Yes

even if it is a small shortfall, the fact that the item is still there is not enough to justify its removal. The conceptual coverage, consistency with the original estimation, and the material decrease in measurement quality if deletion were to occur are all considerations in deciding whether to have a retention decision (Dubey, 2025).

All four constructs have been reported to have high reliability. Cronbach's alpha lies between the range of 0.891 and 0.903, while composite reliability is in between the range of 0.891 and 0.903. The average variance extracted (AVE) varies from 0.622 for purchase intention to 0.652 for green trust. These statistics on their own are compatible with acceptable internal consistency and convergent validity. They help support the description in the provided report that the indicator groups show a lot of common variation. However, reliability coefficients do not provide evidence on their own that the data underlying them are authentic, or that the measurement model was estimated in a similar manner in all output tables.

Table 4: Construct reliability and convergent validity

Construct	Alpha	rho_A	CR	AVE
GM	0.903	0.903	0.903	0.650
EA	0.902	0.906	0.902	0.650
GT	0.903	0.904	0.903	0.652
CPI	0.891	0.895	0.891	0.622

The Fornell–Larcker matrix reports square roots of average variance extracted of 0.806 for green marketing, 0.806 for environmental awareness, 0.807 for green trust, and 0.788 for purchase intention. The interconstruct relationships that are reported are lower than these diagonal relationships. The HTM values vary between 0.318 and 0.621 which are lower than the usual conservative limits. In the HTMT bootstrap worksheet the upper limit of the reported 95% confidence intervals is also less than 1. These entries tend to be fairly positive in highlighting construct distinctiveness in the provided summaries (Ammar Alawadh *et al.*, 2025).

Table 5: Reported HTMT discriminant validity ratios

Construct pair	HTMT	95% CI lower	95% CI upper
GM–EA	0.318	0.224	0.411
GM–GT	0.492	0.411	0.566
GM–CPI	0.544	0.471	0.615
EA–GT	0.498	0.419	0.574
EA–CPI	0.538	0.459	0.613
GT–CPI	0.621	0.553	0.683

A consistency qualification is required. The corresponding entries in the same-indicator line of the cross-loading table are not always the same as the entries in the outer-loading table that had been produced from the same estimated standardized model, which normally should be the case. The workbook also provides a simple-predictor green marketing-to-awareness coefficient, which is not the same number as the construct correlation provided elsewhere. It is possible that differences in estimation or categories of scores may play a role, but these are not reported. Thus the measurement results and the structural ones should be related to a unique repeatable estimation before they are considered as independently validated outputs.

Collinearity and Explained Variance

All of the structural variance inflation factors listed here are below the threshold of 2.5, with the highest number in equations containing multiple predictors being about 1.45, and the lowest being around 1.09. These values are within the non-collinearity range as per common rules. Low collinearity can be helpful, as it keeps the interpretation of the generated partial associations from being overwhelmed by highly redundant predictors. It is not a solution for the limitations of common questionnaire methods, construct measurement and an unknown origin of the data (Kumari, 2025).

Table 6: Explained variance and structural collinearity

Endogenous construct	R^2	Adjusted R^2	Highest VIF
Environmental awareness	0.102	0.100	—
Green trust	0.372	0.369	1.091
Purchase intention	0.520	0.517	1.452

The coefficient of determination for the environmental awareness is 0.102, which means that green marketing explains around 10.2% of the variance in environmental awareness. The value for green trust is 0.372, and that for purchase intention is 0.520. The adjusted values are reasonably close to their respective unadjusted

values. In this model the amount of explained variance is significantly higher for the final purchase intention than for the environmental awareness. The relatively low level of awareness indicates that there is additional environmental knowledge or awareness that is not covered in the four-construct framework (Rosyaadah *et al.*, 2025).

The relative associations are further highlighted by the effect-size values which were reported. Green marketing has an f^2 of 0.114 for environmental awareness, 0.196 for green trust, and 0.130 for purchase intention. The values for the environmental awareness are 0.207 for trust and 0.118 for purchase intention. Green trust has an f^2 of 0.152 for purchase intention. From these results it is indicated that no single relationship completely describes the final result (Wibowo *et al.*, 2025). The explanatory pattern is spread between marketing communication and cognitive awareness and environmental credibility of brands.

Direct Hypothesis Tests

The six prespecified direct paths in the provided structural output are all positive. Green marketing has positive relationship with environmental awareness (0.320), green trust (0.370), and purchase intention (0.289). The relationship between environmental awareness and green trust ($\beta = 0.381$) and environmental purchase intention ($\beta = 0.276$) is positive. There is a positive relationship between green trust and purchase intention ($\beta = 0.342$). All confidence intervals do not contain 0 and numerical formatting is applied to each of the p-value cells to show the actual value of 0. These values are better read as $p < 0.001$ instead of as actual probabilities of zero.

Table 7: Prespecified direct structural relationships

H	Path	β	t	95% CI	Decision
H1	GM → EA	0.320	6.780	[0.226, 0.412]	Supported
H2	GM → GT	0.370	8.639	[0.285, 0.453]	Supported
H3	GM → CPI	0.289	6.622	[0.203, 0.376]	Supported
H4	EA → GT	0.381	9.038	[0.297, 0.462]	Supported
H5	EA → CPI	0.276	6.108	[0.188, 0.365]	Supported
H6	GT → CPI	0.342	6.830	[0.244, 0.440]	Supported

The direct path relationship from environmental awareness to green trust is the strongest one among the six, closely followed by that of green marketing to green trust. As for the three direct predictors of purchase intention that were modeled, the largest value is green trust followed by green marketing, and environmental awareness. This ranking is for standardized conditional associations in the model. Don't take it to mean that you should expect more purchasing to come from a trust intervention. Precision and potential un-modeled confounding is still an issue.

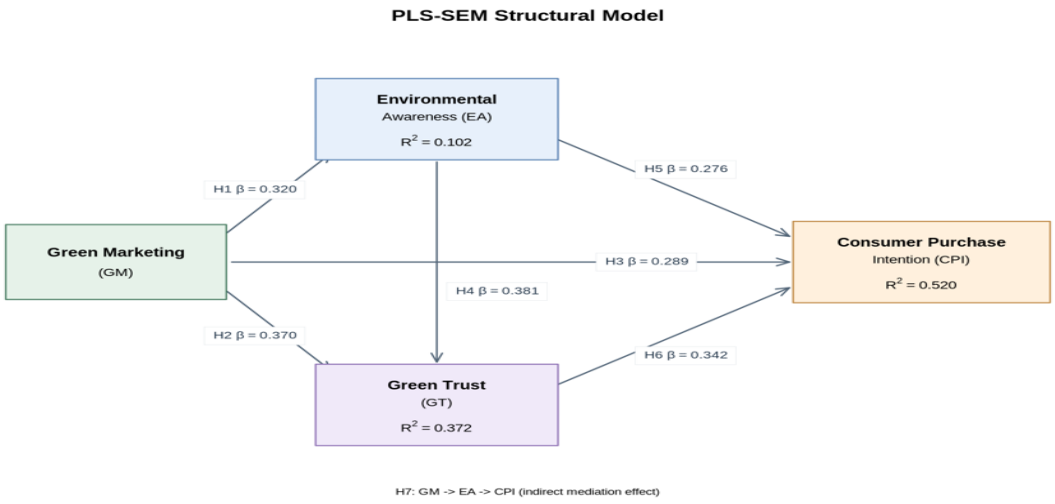


Figure 2: Supplied structural model diagram displaying standardized path coefficients and explained variance.

Main Mediation and Additional Indirect Effects

The mediation hypothesis of this research is prespecified to be concerning the relationship between green marketing and environmental awareness and purchase intention. Spec. Indirect: 0.088, 95% interval (0.053, 0.131) and t statistic 4.424 are reported. As the supplied interval does not include zero, H7 is marked as supported. This direction is in line with the assumption that marketing communication is positively related to purchase intention by means of the consumer environmental awareness. This estimate is not causal, but is an indirect association between the two variables, as assessed by cross-sectional survey data.

Table 8: Prespecified mediation and exploratory indirect pathways

Status	Indirect relationship	β	95% CI
H7	GM → EA → CPI	0.088	[0.053, 0.131]
Exploratory	GM → GT → CPI	0.127	[0.083, 0.176]
Exploratory	EA → GT → CPI	0.130	[0.085, 0.182]
Exploratory	GM → EA → GT → CPI	0.042	[0.025, 0.062]

Even with the inclusion of the two factors, awareness and trust, a positive direct relationship between green marketing and the purchase intention is still present in the model. The indirect awareness pathway is also beneficial. This pattern is more reflective of complementary direct and indirect relationships than of full mediation. Nevertheless, there should be reservations on assertions of a formal mediation classification, dependent on the calculation rules and consistency of the underlying model output. The direct marketing-to-intention coefficient reported is larger than the estimated indirect coefficient, showing the principal pathway of awareness to be one part of the whole connection (Ellyany Sinaga *et al.*, 2024).

Three more indirect routes are provided in the work book. The estimate of the path between green marketing and purchase intention is green trust (0.127). Environmental awareness is related to purchase intention by green trust which is estimated at 0.130. The estimated pathway value of a serial green marketing-to-awareness-to-trust-to-intention pathway is 0.042. All three groups gave 95% confidence intervals that did not contain 0. The associations indicate that brand credibility may play a role as a path from marketing communication to intention and as a path between awareness and intention. They should be interpreted as exploratory as only the awareness mediation was prespecified as H7.

Predictive Assessment

Indicator-level prediction errors for a PLS-based procedure, as well as a linear-model benchmark, are also reported with the accompanying output. For all 15 endogenous indicators mentioned, the PLS root mean squared error is slightly smaller than the corresponding benchmark value. The comparisons are made in a beneficial manner to the reported PLS prediction output. However, the gains seen are modest. The files do not specify the cross-validation folds, repetitions, benchmark construction, or data-partitioning strategy (Ouyang & Wang, 2025). Therefore, claims of demonstrated out of sample predictive performance would go beyond what has been documented.

Table 9: Summary of the reported predictive RMSE comparisons

Target indicators	Mean PLS RMSE	Mean LM RMSE	PLS lower RMSE
EA	1.162	1.168	5/5
GT	1.028	1.037	5/5
CPI	1.000	1.013	5/5

Discussion

Interpretation of the Direct Relationships

The reported model hass a complete and logical system of relationships among variables of environmental promotion, awareness, trust and purchase intention. First, it shows that green communication quality is associated with more than one consumers' response. Marketing perceptions are linked to knowledge-centric assessments, perceptions of green claims and purchase intention (Balananthini. B., 2025). Each relationship is however distinct, for each construct addresses a different aspect of consumer judgement. This differentiation gives the model greater interpretive usefulness than a simple comparison between marketing exposure and purchase intention.

The association between green marketing and awareness is positive, but accounts for relatively small variance in awareness. This finding is consistent with the perspective that the marketing is one of several sources of environmental knowledge (Akanksha Kathuria, 2024). In addition, other means of raising environmental awareness including formal learning, public discussion, community practices and formal observation, as well as contrastive media exposure can play a role in shaping environmental awareness. A company can provide valuable product information, but it is not necessarily the consumer's key ecological information source. The low value of the coefficient of determination underlines the need to undertake awareness as a more general cognitive operation and not as an immediate reaction to advertising (Fariah, 2025).

The green marketing-to-trust coefficient is higher than the marketing-to-awareness coefficient. This difference indicates that marketing perceptions mentioned are closely linked with the consumers' perception of credibility and sincerity of the brand's environmental claims. This is logical as the construct of green marketing includes brand-referent evaluations as well as the construct of green trust. Trust is assessing if a brand's communication and commitment is believed, while promotional messages tell what a brand says or highlights. Even though the two measures are conceptually distinct, they share conceptual similarity which suggests a careful analysis of discriminant validity and common method

effects (Destiani & Qadriah, 2025).

Even with the awareness and trust added, the direct links between green marketing and purchase intention are still positive. This means that the reported relationship is not mediated by the intervening variables specified. Various mechanisms not measured in the study may apply, such as brand exposure, perceived product differentiation, social acceptance, product preferences or simply knowing about sustainable product categories. The present analysis does not distinguish these possible pathways (Asif & Parveen, 2025). Rather, the remaining direct coefficient suggests that the four-construct approach is somewhat parochial and opens up further avenues for research.

Awareness, Credibility, and Intention

There is a positive correlation between the constructs of environmental awareness and green trust and purchase intention. The latter one is especially noteworthy as it connects a general awareness of environmental impact and trust in a green-marketed brand. One view is that informed consumers will be better able to find environmental cues meaningful to them. However, the direction cannot be generalized for all situations. Awareness can increase trust if there is valid evidence and can lead to suspicion if the claims are unclear. It hence does not confirm an unconditional determinate rule that the more one knows the more one trusts, but rather a positive model association (Aris Mardiyono *et al.*, 2026).

The direct path coefficient of green trust on the purchase intention is reported as the highest coefficient. This indicates that the 'perceived credibility' plays a significant role in consumer consideration of purchasing a named, green-marketed product. Awareness can create understanding of the importance of environmental qualities; trust can be a determining factor in whether or not a specific brand is an acceptable way of expressing this concern. This is especially true for environmental attributes that are not easily seen at the time of sale. When people feel credible, there is less noise about the match between promises made and the product's characteristics.

Mediation and the Intention–Behavior Distinction

Evidence from the principal indirect estimate supports an association with green marketing and purchase intention mediated by awareness in the model. Highlighting environmental characteristics might be linked with more consumption problem recognition, while problem recognition might be linked to more buying intentions. The estimate is positive and the interval supplied has presented a statistically significant difference from zero. However, because all constructs are measured simultaneously this means that the temporal sequence suggested by the arrows in the framework cannot be tested directly.

An alternative interpretation is provided by the exploratory trust-related paths. There are two linkage paths between marketing perceptions and purchase intention: both through trust and directly. The four-construct structure allows an indirect association (measured serial estimate) of greater length through both the intervening variables. This makes the model conceptually richer but should not be said that a particular psychologised sequence has been witnessed through time. Either longitudinal or experimental studies would be required to determine if one state does regularly lead to another.

Another distinction has to do with intention and actual purchases. The questionnaire reflects the prospective consideration, preference, and likelihood. It does not include follow-up behavior, purchasing decisions observed, or transaction information. At the purchasing stage, consumers have expressed positive intentions but have been faced with price differences, product availability, poor product labeling or preference for other functional products. These reported associations can consequently guide the understanding of pre-purchase perceptions, but will not measure an increase or decrease in purchasing volume or realized environmental benefits (Ammar Alawadh *et al.*, 2025).

CONCLUSION

This paper focuses on a four-construct model of consumer reactions to eco-related marketing communication. Analytical outputs of the supplied articles show positive relationships between green marketing, environmental awareness, green trust and purchase intention. Trust is also positively related to environmental awareness and purchase intention, and environmental awareness is positively related to intention. It is positive with the prespecified indirect pathway being mediated through environmental awareness and explained variance of about 52% is reported in consumer purchase intention. These results support a model in which there is a linkage among marketing information, environmental knowledge and brand credibility as three distinct but interrelated components of consumer assessment.

The results reported have implications for the designed communication for the environment. When the consumer does not have the awareness to interpret messages, those messages that refer to identifiable product characteristics may be more meaningful. The belief in the authenticity of commitments to the environment on the part of brands may also be relevant in the future when consumers take action. The results thus suggest a focus on the quality of information and perceived credibility of green marketing as well as on the environment images. These implications are only associationistic and do not prove that a particular communication intervention would lead to increased purchasing.

There is an intermediary in the reported structural model: environmental awareness, and an additional pathway, which shall be investigated: green trust. The analysis also reveals that there is not a one-to-one correlation between intention and purchase and, ultimately, environmental impact. Observed behavior, competing product attributes and conditions for environmental understanding to result in credible brand preference and action are important

areas for future research.

These results need to be clearly acknowledged and interpreted with respect to the available evidence. In the analytical workbook, all positive relationships between the structures are recorded but there is no independent fieldwork provenance or the ability to reconcile all estimation tables. The original data source, ethical implementation and model reproducibility should be confirmed prior to an empirical journal submission. However, within those constraints, the study offers a well-defined framework for the investigation of the interdependencies between environmental communication, environmental awareness and green trust in relation to consumer purchase intention.

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