



How Eco Label Awareness drives Green Purchase Intention : The Dual Role of Concern and Skepticism

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Abstract: This paper tries to explore how eco label awareness affect green purchase intention with the mediating role of environmental concern and moderating role of green skepticism. The study followed a quantitative research approach. Through structured online questionnaires, data was collected from 454 Gen Z Consumers using purposive sampling method. Partial least squares structural equation modeling (PLS SEM) has been used for analysis. The results indicate that eco label awareness significantly contributes to environmental concern, leading to green purchase intention. Moreover, green skepticism moderates the relationship between eco label awareness and environmental concern. Policy makers, businesses and sustainable marketers can improve green purchase intention of consumers through eco label awareness. However, they should work on reducing green skepticism by providing strong proofs to boost the purchase intention of consumers. The research identifies the dual effect of environmental concern and green skepticism showing that both work together in opposite direction. This is an addition to previous literature by providing more realistic way of analysing the behavior of consumers in the area of sustainability.

Keywords - Eco label awareness, Green purchase intention, Environmental concern, Green skepticism, Gen Z Consumer, PLS SEM model

I. Introduction

The importance of sustainability and environmentally friendly practices is increasing day by day. Companies are developing services and products that are green and eco-friendly. Also, consumers are becoming more concerned of their consumption and are choosing products by considering ethical and environmental concerns (De Chiara, 2015). Due to this awareness, consumers are reacting to brands that promote responsibility of the environment (Olsen et al., 2014). This has forced them to adapt to green practices, which can induce the buyer to buy their products.

In order to capture the market and satisfy the needs of the consumers, companies apply green marketing to facilitate differentiation strategies intended to satisfy customers' environmental needs or desires (Chang & Chen, 2014). One of such green marketing tools is the eco label (Rahbar & Wahid, 2011). Eco-labelled products can be defined as products "that help to bridge the buyer-seller knowledge gap by highlighting their environmental friendliness" (Nguyen and Le, 2020). Eco label is an emerging trend in green marketing that is a very effective source for consumer information (Testa, Iraldo, Vaccari, & Ferrari, 2015). Specifically, it provides relevant information about green products to the consumers during purchase decisions (Thøgersen,

Haugaard, & Olesen, 2010). Marketers are promoting and utilizing environmental labels to promote the recognition of green products (D'Souza et al., 2006). Consumers perceive these environmental labels as a standard for recognizing environmentally friendly products. When consumers identify these environmentally friendly products, there is a chance that they get induced to buy such green products due to their environmental concern, thus driving green purchase intention. When consumers become more and more aware of the eco labels, they tend to make green purchases.

While green purchasing gained popularity (Gulzari et al., 2022), an increase in the level of consumer skepticism regarding green claims has been reported (Panda et al., 2020). Marketers are also being blamed for the exaggeration of the environment-friendly claims of their products (Sharma, 2021). This exaggeration has resulted in consumer skepticism toward green products (Andrews & DeVault, 2009; Cheng et al., 2020; Haws et al., 2014). Consumers who are more aware about the safety of the environment are more likely to be skeptical in their actions (Paço & Reis, 2012). Consumers are confused about the credibility of the product because of the false claims and green washing. In this context, researchers (Kim et al., 2022; Nekmahmud et al., 2022) have recommended that marketers are required to frame business strategies to provide authenticity to their environment-friendly claims.

This paper tries to explore how eco label awareness drives green purchase intention with mediating effect of environmental concern among Gen Z consumers. When consumers have an awareness about eco label, they tend to have a concern about the environment thereby driving green purchase intention. Here, green skepticism plays a moderating role especially in case of Gen Z consumers influencing eco label awareness, environmental concern and green purchase intention.

II. LITERATURE REVIEW

2.1 Ecolabel awareness and Environmental Concern

Nowadays, customers are aware of eco-friendly products and this has gained immense recognition (Arshad et al. (2014). Eco label implies the transparent mean of providing information to consumers about the products that are less harmful to the environment. Eco labels increase consumers ability to judge products potential effects on environment at the point of purchase (Thøgersen et al., 2010). Eco labels is the most reliable source of information for the consumers to evaluate products (Hameed & Waris, 2018). When people become concerned about the ecolabels, they automatically develop a concern for their environment. A research conducted by Safitri et al. (2021) investigates the eco-label impacts on environmental awareness and environmental behaviour and found out that that there is a positive linkage of eco-label with environmental awareness and environmental behaviour. Hence, the hypothesis that the ecolabel awareness positively affects environmental concern was included in the study.

H1. Ecolabel awareness positively affects Environmental Concern.

2.2 Ecolabel awareness and Green purchase intention

An eco-label is a tool for consumers to make choices regarding the selection of products which are environmentally friendly and to enlighten them on the production process involved (Rex & Baumann, 2007). In green product purchase decisions and brand search, eco-labels serve as a dependable source of information for the consumers (Minoli et al., 2015). Awareness of eco-labels brings about a change in consumer behaviour towards green products. Studies have shown that these eco-labels can notably influence consumers' purchase intentions in different countries (Waris et al., 2021; Waris and Ahmed, 2020; Lee et al., 2019). Hence, the hypothesis that the ecolabel awareness can positively influence green purchase intention was incorporated in the study.

H2. Ecolabel awareness positively affects Green purchase intention.

2.3 Environmental concern and Green purchase intention

Environmental concerns have grown as production systems started polluting the natural and social environment. Also, products or services are developed without attention to maintaining a green identity. Increased level of environmental concern has lead to the concept of green consumerism (Elkington et al., 1990; Tanner and Kast, 2003; Sønderskov and Daugbjerg, 2011), with consumers becoming concerned about

the sustainability impact of their purchase decisions. This concern for the environment can lead to green purchase intention thereby modifying their purchases in a way that it helps to ensure sustainability. Green purchase intention motivates individuals to contribute to protection of environment (Sun et al., 2020). It is a complex ethical approach for decision-making that is considered as a type of behavior that results in social responsibility (Joshi & Rahman, 2015). Hence, the hypothesis that the environmental concern positively affects green purchase intention was included in the study.

H3. Environmental concern positively affects Green purchase intention.

2.4 Mediating role of Environmental concern

According to the study conducted by Wei et al. (2017), consumers have a deep connection to the safety of the environment that could help in buying of products which are less damaging to the environment. Sheth et al. (2011) argued that human actions have depleted many natural resources leading to the issues of soil erosion, deforestation and biodiversity. Xie, Bagozzi, and Grønhaug (2015) said that consumers who have high view for the sustainability of environment will encourage green initiatives and criticize companies that are involved in environmental degradation. Consumers are consistently evaluating and demanding eco-friendly products. This has motivated companies in maintaining environmental sustainability (Nagaraju & Thejaswini, 2014). The knowledge of ecolabels creates environmental concern among the people and drives their green purchase intention. Hence, the hypothesis environmental concern plays the role of a mediator in the relationship between ecolabel awareness and green purchase intention is included in the study.

H4. Environmental concern plays the role of a mediator in the relationship between Ecolabel awareness and Green purchase intention.

2.5 Moderating role of Green skepticism

According to Rettie et al. (2012), consumer's level of skepticism for green products have increased to a high level because of greenwashing. Consumers believe that green products are less effective in terms of their functional benefits and are expensive which can be consumed only by small segment of consumers. Atkinson and Rosenthal (2014) argued regarding advertisement claims of green products by companies which are deceptive and observed that consumers have less inclination for products which they feel lacking in credibility. Related studies have well-documented consumers' skepticism due to inconsistent CSR claims of companies (Cheah et al., 2022). Calfee and Ringold (1988) observed that consumers are doubtful about environmental claims unless there is some authentic basis.

Eco labels is considered as the most reliable source of information to the consumers for evaluating products (Hameed & Waris, 2018). Through using eco labels, companies could send clear and effective signal to consumers regarding their performance to ensure environmental sustainability (Testa et al., 2015). Hartmann and Apaolaza-Ibáñez (2012) suggested that consumers concern for environment has increased their purchase intention. However, do Paco and Reis (2012) suggested that consumers who are more concerned about the protection of the environment tend to be more doubtful in their actions. This suggests that green skepticism can affect the relationship between ecolabel awareness and environmental concern. Hence, the hypothesis green skepticism moderates the relationship between ecolabel awareness and environmental concern is included in the study.

H5. Green skepticism moderates the relationship between eco label awareness and environmental concern.

Consumers can be activated to perform the green products buying activity by creating a feeling of responsibility that carried into their action (Zarei & Maleki, 2018). An effective green marketing tool is the usage of eco-labels for products which are environmentally friendly (Rahbar & Wahid, 2011). In green product purchase decisions and brand search, eco-labels can be considered as a dependable source of information for the consumers (Minoli et al., 2015). But, with the increasing market for green products, the cases of green-washing (false or misleading claims by marketers about the environment- friendliness of the products) are also increasing (Bailey et al., 2016; Delmas & Burbano, 2011). Thus, even if the awareness can lead to purchase intention, the intention for purchase is lowered by green skepticism. This implies that green skepticism affects the relationship between ecolabel awareness and green purchase intention. Hence, the hypothesis green skepticism acting as a moderator in the relationship between ecolabel awareness and green purchase intention is included in the study.

H6. Green skepticism act as a moderator in the relationship between eco label awareness and green purchase intention.

Lakra (2014) identified environmental concern as a strong variable towards conserving the environment. Individuals' environmental concern is reflected in their degree of involvement in relation with the environment. People who are anxious about the environment will show more willingness to buy and pay more for eco-friendly products (Moutinho et al., 2011). But there is a chance that the consumers change their intention to buy when they are skeptical about the authenticity of the products they intend to buy. This suggests that green skepticism can influence the relationship between environmental concern and green purchase intention. Thus, the hypothesis green skepticism act as a moderator in the relationship between environmental concern and green purchase intention is included in the study.

H7. Green skepticism moderates the relationship between environmental concern and green purchase intention.

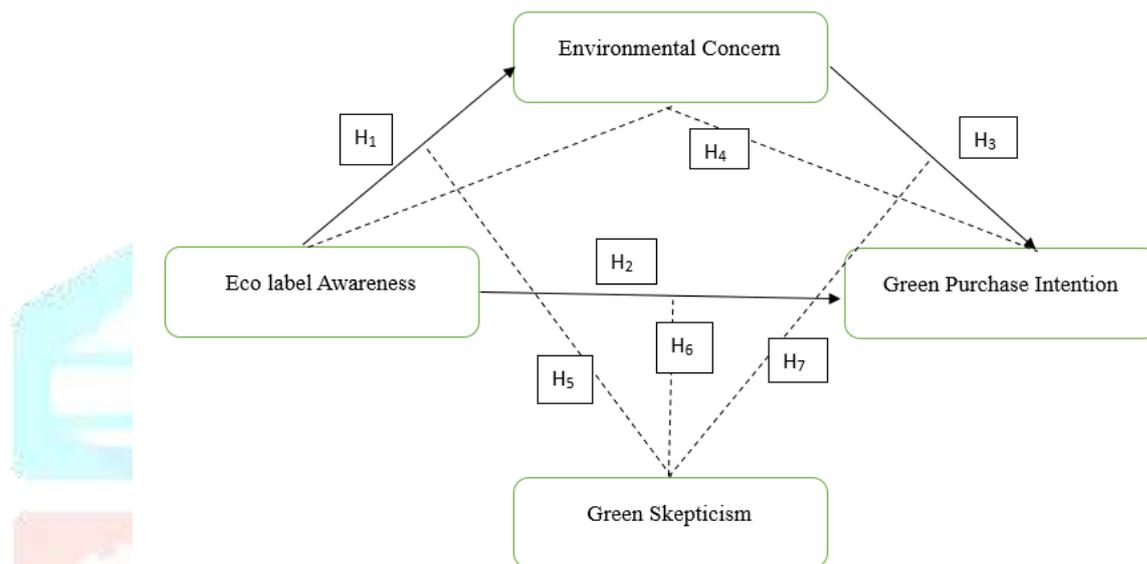


Figure 1. conceptual model : source: authors' own work

III. RESEARCH METHODOLOGY

3.1 Sample and data collection

A sample of 454 Gen Z Consumers were utilized to fulfil the purpose of this study. Individuals born between 1997 and 2012 representing the Gen Z segment, responded to the questionnaires. Structured online questionnaires were used to collect data in order to cover large area and ensure massive participation. Identifying Gen Z consumers were made possible using purposive sampling, a non probability sampling method. The constructed questionnaire was split into two sections; first section consist of demographic information and second section included items related to the constructs which is used in the study. Voluntary participation was ensured and respondents were assured of the anonymity and confidentiality of their responses.

3.2 Measures

The measurement scales used in the study are based on scales established from previous literature. Eco label awareness was adopted from Chang (2004) and measured with six items. Six items and five items was used to measure environmental concern and green purchase intention respectively and was adopted from Maichum et al. (2017). Measurement scale of green skepticism consisted of four items and was adopted from Mohr et al. (1998).

IV. RESULTS AND DISCUSSION

4.1 Respondent profile

This study received 454 responses. Table 1 shows the participants' demographic characteristics who participated in this research. All respondents are between the age group 13 to 28 years, which represent Gen Z. There were 139 (30.6%) male respondents and 315 (69.4%) female respondents. With respect to the employment status of the respondents, 392 (86.3%) respondents are students and 62 (13.7%) respondents are unemployed. Concerning the family monthly income of respondents, 147 (32.4%) respondents are individuals who has a monthly family income upto 50000, 132 (29.1%) respondents has a monthly family income ranging from 50001 to 100000 and 175 (38.5%) respondents has a monthly family income above 100000.

Table 1 : demographic profile

Profile	Category	Frequency	Percentage
Gender	Male	139	30.6
	Female	315	69.4
Employment status	Student	392	86.3
	Unemployed	62	13.7
	Employed	0	0
Family monthly income	upto 50000	147	32.4
	50001 to 100000	132	29.1
	Above 100000	175	38.5

Source : Author's own work

4.2 Data analysis procedure

The study has used Partial Least Squares Structural Equation Modeling (PLS SEM) for data analysis. PLS-SEM was selected as the most appropriate method because it helps to establish the relationship between the most recent variables (Dash and Paul, 2021).

4.3 Measurement model assessment

As presented in table 2, the study examined cronbach's alpha, composite reliability (CR) and average variance extracted (AVE) for data reliability. The ideal cut off values for Cronbach's alpha and CR (for both rho_a and rho_c) have been considered as 0.70 and for AVE as 0.50 as put forth by Hair et al. (2020). All four constructs within the PLS SEM model are above the minimum cut off values. Cronbach's Alpha and composite reliability values for all four constructs are above the threshold value of 0.7 which indicates the internal validity. Also, each construct's AVE exceeded the minimal requirement of 0.5 thus proving the convergent validity of the variables.

Table 2 : Results of the measurement model

Construct	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Eco Label Awareness	0.844	0.883	0.892	0.597
Environmental Concern	0.805	0.807	0.860	0.507
Green Purchase Intention	0.823	0.843	0.875	0.584
Green Skepticism	0.795	0.812	0.866	0.620

Source : Author’s own work

The model’s discriminant validity was evaluated using Fornal and Lacker criterion. The Fornell–Larcker criterion is shown in Table 3, where the square roots of the AVE of the constructs were Eco Label Awareness (0.772), Environmental concern (0.712), Green Purchase Intention (0.764) and Green skepticism (0.787), which were greater than the correlation values between each construct and all other variables. Thus, all the constructs ensured satisfactory discriminant validity.

Table 3 : Discriminant validity Fornell–Larcker criterion

	Eco Label Awareness	Environmental Concern	Green Purchase Intention	Green Skepticism
Eco Label Awareness	0.772			
Environmental Concern	0.499	0.712		
Green Purchase Intention	0.386	0.577	0.764	
Green Skepticism	0.328	0.525	0.418	0.787

Source : Author’s own work

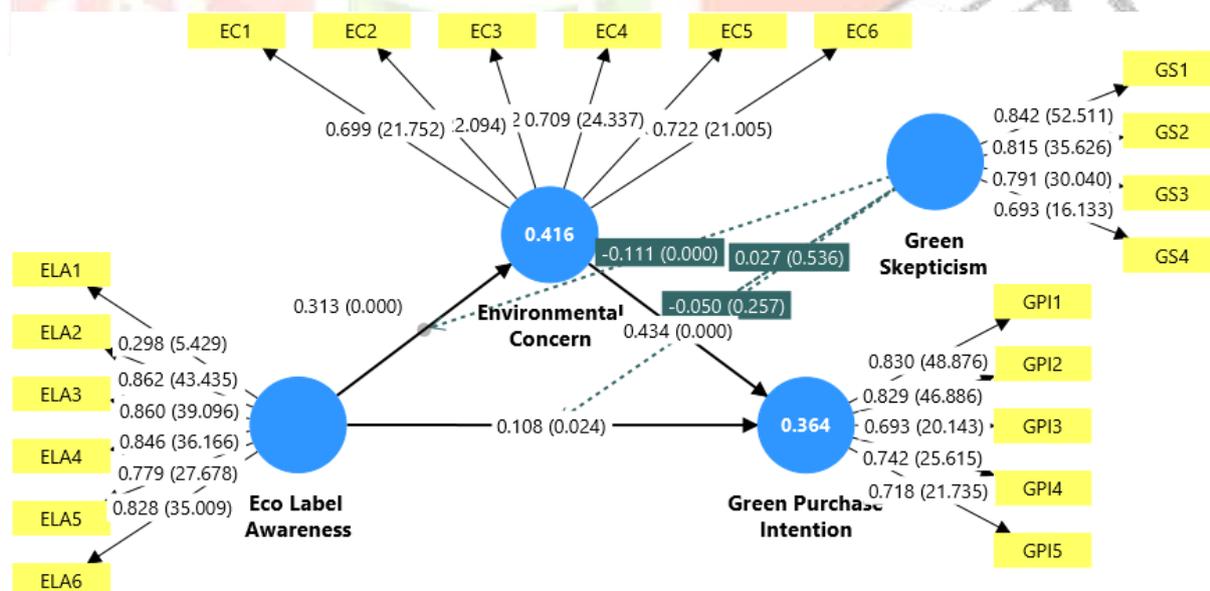


Figure 2 : PLS SEM resulted model

4.4 Structural model assessment

The structural model evaluation starts with an analysis of coefficient of determination (R^2), Adjusted coefficient of determination (Adj. R^2) and predictive relevance (Q^2). According to Chin (1998), acceptable R^2 values must be more than 0.1 or 0. The values of R^2 for Environmental concern and Green purchase intention are 0.416 and 0.364 respectively, which implies that 41.6% changes in Environmental concern and 36.4% variations in Green purchase intention can be defined through trust in Eco label awareness, the independent variable.

Also, Q^2 values are more than zero, which implies that the model has satisfactory predictive relevance.

Table 4 : Structural model results

Construct	R^2	Adj. R^2	Q^2
Environmental concern	0.416	0.412	0.404
Green purchase intention	0.364	0.356	0.240

Source : Author's own work

VIF values were checked to test for multicollinearity between the predictor variables in the structural model. This shows that VIF values for all variables are far below the critical cut-off threshold of 5, indicating that there is no problem of multicollinearity in the proposed study. This is true for direct effects of Eco-Label Awareness on Environmental Concern (VIF = 1.254) and Green Purchase Intention (VIF = 1.429), as well as for Environmental Concern to Green Purchase Intention (VIF = 1.732). In the same way, direct effects of Green Skepticism on Environmental Concern (VIF = 1.122) and Green Purchase Intention (VIF = 1.411) also establish that there is no multicollinearity for these variables.

With regard to the VIF values of the interaction terms used to assess the moderating roles, the VIFs are also considered to be within acceptable ranges. The VIF of 1.143 for Green Skepticism \times Eco Label Awareness on Environmental Concern shows that the levels of multicollinearity are insignificant. Even though, the VIF of 2.435 for Green Skepticism \times Eco Label Awareness on Green Purchase Intention and the VIF of 2.400 for Green Skepticism \times Environmental Concern on Green Purchase Intention appear to be a little higher, they are still not critical, ensuring that there are no multicollinearity issues in the structural model arising from the introduction of moderating variables. Thus, these results shows that the structural models are robust and the structural path coefficients are accurate and valid without any impact of multicollinearity.

Table 5 : VIF - Variance Inflation Factor

	Original sample (O)
Eco Label _Awareness -> Environmental_Concern	1.254
Eco Label _Awareness -> Green Purchase_Intention	1.429
Environmental_Concern -> Green Purchase_Intention	1.732
Green_Skepticism -> Environmental_Concern	1.122
Green_Skepticism -> Green Purchase_Intention	1.411
Green_Skepticism x Eco Label _Awareness -> Environmental_Concern	1.143
Green_Skepticism x Eco Label _Awareness -> Green Purchase_Intention	2.435
Green_Skepticism x Environmental_Concern -> Green Purchase_Intention	2.400

Source : Author's own work

The results of the HTMT (Heterotrait-Monotrait ratio) test reveal that discriminant validity is adequately established for all constructs in the structural model. All the values of the HTMT are below the suggested threshold of 0.85 (and even lower than the more stringent threshold of 0.90), implying that it is safe to assume that each construct is distinct from the other constructs. In particular, the value of the HTMT between Eco-Label Awareness and Environmental Concern (0.600), between Environmental Concern and Green Purchase Intention (0.685), or the value of the HTMT between Eco-Label Awareness and Green Purchase Intention (0.455) indicate a moderate degree of association that is theoretically expected, yet within acceptable limits.

Additionally, the HTMT scores of the construct Green Skepticism with the key constructs like Eco Label Awareness (0.401), Environmental Concern (0.640), and Green Purchase Intention (0.506) are still below the threshold, ensuring that Green Skepticism is measuring a unique psychological construct. Notably, the discriminant validity of the constructs represented by the interaction terms, Green Skepticism \times Eco Label Awareness and Green Skepticism \times Environmental Concern, is adequate. Though the correlation between the latter two constructs, represented by the HTMT of the two interaction terms, is slightly higher (HTMT: 0.757), it is still acceptable, ensuring that the constructs are measuring similar but not identical things. Overall, it is safe to state that the discriminant validity of the measurement model is adequate and that the structural analysis results are sound.

Table 6 : HTMT (Heterotrait–Monotrait ratio)

	Eco Label_Awareness	Environmental_Concern	Green_Purchase_Intention	Green_Skepticism	Green_Skepticism x Eco Label_Awareness	Green_Skepticism x Environmental_Concern
Eco Label_Awareness						
Environmental_Concern	0.600					
Green_Purchase_Intention	0.455	0.685				
Green_Skepticism	0.401	0.640	0.506			
Green_Skepticism x Eco Label_Awareness	0.383	0.355	0.255	0.158		
Green_Skepticism x Environmental_Concern	0.344	0.334	0.202	0.098	0.757	

Source : Author's own work

The structural model results show that eco-label awareness has a significant positive influence on environmental concern ($\beta = 0.313$, $t = 6.887$, $p < 0.001$), which implies that consumers with high awareness of eco-labels tend to be more worried about the environment. Awareness of eco-labels has a significant direct influence positively on green purchase intention ($\beta = 0.244$, $t = 4.764$, $p < 0.001$), affirming it as a vital driver in motivating consumers to buy environmentally friendly products. Lastly, perceived consumer effectiveness had a significant positive relation with the tendency to act with regard to 'green' purchase intention. Also, there is an increased level and significant impact of environmental concern on green purchase intention ($\beta = 0.434$, $t = 8.370$, $p < 0.001$), showing its pivotal role in mediating the translation of awareness into actual buying behavior.

Additionally, green skepticism has a significantly positive impact on both environmental concern and green purchase intention: $\beta = 0.399$, $t = 10.101$, $p < 0.001$ and $\beta = 0.321$, $t = 6.591$, $p < 0.001$ respectively, indicating that skeptical consumers are still highly active in evaluating the environmental claims, which, in turn, influences their concern and purchasing decisions. Turning to moderating effects, green skepticism negatively and significantly moderates the relationship between eco-label awareness and environmental concern: $\beta = -0.111$, $t = 3.527$, $p < 0.001$, suggesting that skeptical consumers weaken the degree to which eco-label awareness is transformed into environmental concern. The hypothesized moderating role of green skepticism between eco-label awareness and green purchase intention is, however, not supported: $\beta = -0.098$, $t = 1.902$, $p = 0.057$. Also, green skepticism does not significantly moderate the relationship between environmental concern and green purchase intention: $\beta = 0.027$, $t = 0.619$, $p = 0.536$. Overall, these results support the model proposed and indicate the dual effect of environmental concern as a mediator and green skepticism as both a direct predictor and a conditional moderator in explaining green purchase intention.

Table 7 : Direct effect

	β	Std. error	T values	P values	Remarks
Eco Label _Awareness - > Environmental_Concern	0.313	0.045	6.887	0.000	Supported
Eco Label _Awareness - > Green Purchase_Intention	0.244	0.051	4.764	0.000	Supported
Environmental_Concern -> Green Purchase_Intention	0.434	0.052	8.370	0.000	Supported
Green_Skepticism -> Environmental_Concern	0.399	0.040	10.101	0.000	Supported
Green_Skepticism -> Green Purchase_Intention	0.321	0.049	6.591	0.000	Supported
Green_Skepticism x Eco Label _Awareness - > Environmental_Concern	-0.111	0.032	3.527	0.000	Supported
Green_Skepticism x Eco Label _Awareness - > Green Purchase_Intention	-0.098	0.052	1.902	0.057	Not supported
Green_Skepticism x Environmental_Concern -> Green Purchase_Intention	0.027	0.043	0.619	0.536	Not supported

Source : Author's own work

Analysis of the indirect effect reveals that environmental concern is a significant mediator between eco-label awareness and green purchase intention. A significant positive indirect effect of eco-label awareness on green purchase intention with environmental concern is observed with a value of $\beta = 0.136$, $t = 5.228$, $p < 0.001$. It implies that by improving eco-label awareness, consumers' concern for the environment is boosted, which helps improve their intentions to make purchases that support green practices. This finding verifies that environmental concern is identified as one of the crucial psychological antecedents of eco-label influence on purchase decisions.

Equally, environmental concerns strongly mediate the relationship between green skepticism and green purchase intention ($\beta = 0.173$, $t = 6.418$, $p < 0.001$). This finding states that while green skepticism does not only hinder green consumerism, it actually enhances cognitive processing of environmental concerns, which in turn influences green purchase intention. Moreover, the finding that eco-label awareness influences green purchase intention through environmental concerns, with the latter being conditioned by green skepticism, is clearly evident from the moderated mediation Analysis. That is, the analysis suggests that green skepticism does significantly condition the relationship between eco-label awareness and green purchase intention through environmental concerns ($\beta = -0.048$, $t = 3.134$, $p = 0.002$). The negative sign of the test statistics suggests that the higher the levels of green skepticism, the weaker the relationship between eco-label awareness and purchase through environmental concerns. Overall, it is submitted that the current study has provided a strong evidence for the role of environmental concern as a mediator and green skepticism as a boundary condition, consistent with the proposed framework of research.

Table 8 : Indirect effect

	β	Std. error	T values	P values	Remarks
Eco Label_Awareness -> Environmental_Concern -> Green Purchase_Intention	0.136	0.026	5.228	0.000	Supported
Green_Skepticism -> Environmental_Concern -> Green Purchase_Intention	0.173	0.027	6.418	0.000	Supported
Green_Skepticism x Eco Label_Awareness -> Environmental_Concern -> Green Purchase_Intention	-0.048	0.015	3.134	0.002	Supported

Source : Author's own work

4.5 Discussion

The findings of this study has provided a strong evidence that eco label awareness plays an important role in shaping the environmental concern and green purchase intention of Gen Z consumers. As suggested by earlier literature, eco labels act like credible information that help the consumers in assessing the environmental impact of products, increasing their concern for environmental issues. The findings of the study bring out the dual role of green skepticism, highlighting a very interesting and complex pattern in consumer behavior. Even though, skepticism is perceived as a barrier to green behavior, it has been found to impact environmental concern positively and, through this, it improves green purchase intention. This is because skeptical consumers, despite questioning environmental claims, may be very vigilant and conscious about environmental issues. Skepticism tends to stir more reflection and scrutiny, increasing their responsibility towards the environment. However, when combined with eco label awareness, it weakens the skepticism's potential to enhance environmental concern, may be due to the reason that skeptical consumers distrust eco labels themselves or doubt the authenticity of the green claims. Last, the strong indirect effects that is showcased in the model emphasize how critical the mediating role of environmental concern is in transforming both eco label awareness and green skepticism into green purchase intention.

The moderated mediation results highlights that when there is increase in the levels of skepticism, it weakens the efficiency of eco labels in fostering environmental concern which in turn decrease the indirect path to green purchase intention. Thus, the marketers, policymakers, and businesses need to enhance the credibility and transparency of eco labels and take adequate measures to reduce skepticism among consumers. Third-party certifications, verification processes and environmental awareness campaigns can help to regain the lost confidence of young consumers. This shows the purchasing behaviour of consumers of generation Z in sustainability context.

4.5.1 Limitations of the study

Though the contribution of this study for understanding the role of eco-label awareness in green purchase intention through the mediation of environmental concern and moderation of green skepticism is important, the current study has some limitations that should be noted. Firstly, the study is cross-sectional. As a result, it is very difficult to establish causality among the variables under study. Even though the relationships in this study are modeled well, it could be studied in longitudinal nature so that it helps to understand the cause and effect of the variables in the long run. Secondly, the study collects data using self-reporting surveys. So, there is a chance that the respondents manipulate their responses and tend to overemphasize their environmental concern or purchase intention in order to show that they promote sustainability even if they are not. More objective data or multiple data collection methods can be used in future research. Thirdly, the study focuses only on Gen Z consumers which cannot be generalised to other categories. Future research can focus on how these variables influence a different category of population in Indian context. Fourth, the study directly focuses on consumers in the context of eco-labeling, where it is lacking in its external validity. Even though it is true that the study is about the perceptions of eco-labels among current consumers, it is also very important that more research should investigate these issues in other cross-cultural or cross-national settings to better ensure better external validity for their study results. Finally, by investigating both direct prediction as well as moderation roles of green skepticism for the current study, other boundary conditions of such relationships that could be explored by including other additional moderators or covariates for more comprehensive investigation could not be explored by the current study.

4.5.2 Suggestions for future research

Future research could extend the findings of the study in a number of meaningful directions. Firstly, researchers can opt to use longitudinal research designs or experimental research designs to enable them to establish better links between awareness of green labels, green concerns, green skepticism, and green purchase intention. These would increase valuable insight into the actual transforming process of the consumers' perceptions over time or by means of experimental manipulation of eco-label information to glean more knowledge on how awareness leads to continued green consumption behavior. Second, future research can explore beyond purchase intention and can evaluate actual purchasing behavior or post-purchase outcomes such as trust, satisfaction and loyalty toward green products. Third, the proposed model can be tested across various categories like Gen X, millennials etc. Also, the study can be evaluated across various geographical and cultural settings. Since the consumers react differently across various settings, these comparisons can enhance the generalisability of the study. Fourth, the present study has taken only one mediating and moderating variable, that is, environmental concern and green skepticism respectively. Future research can include more mediating and moderating variables in order to increase the effectiveness of the study. Finally, consumers react differently to different product categories which is not explored in the study. The present study has taken the products generally. Future research can focus on specific product categories which helps in more accurate results.

4.5.3 Conclusion

The study examined the effect of eco-label awareness on green purchase intention, with the mediating influence of environmental concern, and the moderating influence of green skepticism among Gen-Z consumers. The results clearly indicate that environmental concern is enhanced by eco-label awareness, which in turn influence green purchase intention significantly. It was found that concern for the environment was the most significant factor for making green purchase intention highlighting its influence on the process concerning sustainable decisions.

Moreover, the data shows the complex and dual character of green skepticism. Here, green skepticism not only influence environmental concern positively which in turn indirectly enhances green purchase intention, but it also decreases the importance of awareness about eco-labels. This result indicates that green skepticism does not obviously hamper green behavior, rather it encourages the consumer to think in a vigilant and wise manner. On the other hand, as green skepticism increases, the credibility of eco-labels gets automatically diminished and it decreases the capacity to generate concern about the environment. Thus, young consumers are not only sensitive about environmental issues, but they are also quite skeptical about the environmental claims they get exposed to.

In summary, this study has shed light on green consumer behavior of gen z consumers by illustrating the combined effect of awareness of eco-labels and green skepticism on green purchase intention. In today's world, it has become important for both companies and government to realise that credibility level of eco labels should be enhanced for the young consumers to get attracted by being open and consistent in communication.

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