

Theorizing Brand Loyalty Under Sustainability by Integrating Green Perception, Attitude Towards Sustainability, And Perceived Risks

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ABSTRACT

This study aims to investigate the structural relationship between consumers' perception, attitude, perceived-risk, and brand loyalty in the area of greenness and sustainability. With the experimental research design, a structured questionnaire is used to collect data from 450 shoppers through online mode and is analyzed using co-variance-based structural equation modelling. Results show that consumers' green perception positively & significantly influences brand loyalty and their attitude towards sustainability, which in turn put a significant positive effect on their brand loyalty, where the attitude towards sustainability becomes a significant mediator. Moderating role of consumers' perceived risk is also revealed. The above facts as the novelty of this study can be strategized by organized retailers to accelerate their shoppers' loyalty towards their green products/brands. Sustainable development of mankind that is possible primarily through green consumption or use, can be obtained by adopting the findings of this study referring the implications of this study.

Keywords: Green Perception, Consumer Attitude, Perceived Risk, Brand Loyalty, Sustainability, Green products, Innovative, theory, SEM, Retail Sector

1. INTRODUCTION

In recent years, the Indian economy has expressed strong concern about environmental issues. The country's policymakers have set directives for making India's development efforts more environmentally friendly, and for many years now, India has been on the way towards green project finance, with significant changes made to the country's financial industry to embrace eco-friendly practices, such as government programs turning eco-friendly by offering green funds, and Indian companies are tapping on this opportunity by implementing sustainable entrepreneurship (Bhatnagar et al., 2022). Alongside these policy efforts, the concept of green marketing has also gained popularity in India (Siddaiah et al., 2016). Businesses are increasingly realizing the significance of incorporating ecological considerations into their marketing strategies, as studies have shown that environmental awareness, environmentally friendly product features, environmentally conscious promotion, and pricing improve, so does green buying behaviour among Indian consumers and it also demonstrates that consumers are now keen to pay more for eco-friendly goods to battle the ecological pollution that is harming

our planet as technology and industrialization advance (Boztepe, 2012). Therefore, the initiatives that are typically considered to be decreasing profit for less environmentally friendly businesses can benefit all businesses under certain situations, such as raising awareness of consumers of sustainability differences whether by the business or another entity, enhancing the percentage of consumers that care about sustainability at all, or cutting the expense to produce more sustainable goods (Galbreth and Ghosh, 2013). Through the above discussion, following research gap and problem statement can be logically derived.

Despite growing interest in sustainability and greenness, many consumers' show a attitude-behaviour gap, where they express concern for the environment but during actual purchase they fail to demonstrate loyalty towards green brands. Many consumers appreciate the value of eco-conscious market offerings, yet this doesn't consistently translate into buying loyalty. Therefore, a key challenge lies in understanding whether consumers' brand loyalty depends upon their green perception and attitude towards sustainability, and if perceived risk influences these relationships. Addressing this problem is

crucial for both theory and practice. In light of the above, the research problem centers on:

“Whether the brand loyalty of consumers depend on their perception towards green products and attitude towards sustainability with the moderating role of perceived risk?”

1.1 Objectives

- (1) To identify and conform major dimensions of consumers' perception and attitude in the context of greenness and sustainability.
- (2) To examine the relationship of consumers' green perception, attitude towards sustainability with their brand loyalty.
- (3) To study the role of consumers' perceived risk within the relationship of consumers' green perception, attitude towards sustainability, and their brand loyalty.
- (4) To develop some innovative marketing strategies to build and strengthen the consumers' loyalty towards green and sustainable products.

2. LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

2.1 Perception towards green products leads to brand loyalty

Consumers' perceptions of value are improved when they perceive a higher level of product quality, which strengthens their desire to make a purchase, and increases their tendency to consume sustainably as their perception of the value of green items enhances (Wu and Chen, 2014). Therefore, quality & trust have a substantial impact on consumer attitude & loyalty. Further, buyers' perceptions concerning the quality of eco-friendly goods are significantly influenced by age & education (Baktash and Talib, 2019). In addition to this, brand attributes are comparatively more significant in their effects on a consumer's level of trust in brands which further reveals that trust in a brand is positively associated with brand loyalty (Lau and Lee, 1999). Furthermore, even in the lodging industry, their green reputation has a significant impact on its brand image that further, has a significant impact on whether or not visitors intend to return, which shows that eco-friendly practices create a positive perception, which enhances the hotels' reputation & image in the eyes of the customers (Yadav, Dokania and Pathak, 2016). Additionally, for consumers of natural or organic goods, the quality of eco-friendly information significantly predicts green brand love & brand trust, and the information's persuasiveness, completeness, & credibility were found to have the biggest direct & indirect influence on brand love via the underlying mechanism of green brand trust (Taufik, 2023). Moreover, social influence, which acts as a substitute for consumers' environmental consciousness, positively impacts brand preference. Thus, this implies that an individual whose social circle is aware of environmental problems and goods would favour environmentally friendly brands (Hasan, Subhani and Osman, 2012). Hence, it is important to test the following hypothesis.

H1: There is a significant positive effect of consumers' green perception on their brand loyalty.

2.2 Perception towards green products builds attitude towards sustainability

Consumers have a high level of awareness of ecologically conscious marketing & goods, and environmentally conscious views were also shown to be prominent among participants. As a whole green principle, awareness of environmentally friendly goods & practices, and consumer perceptions of marketing firms' commitment to eco-friendly marketing all have a substantial effect on persuading consumers to buy & opt for ecological goods over traditional ones (Bhatia and Jain, 2013). Additionally, consumers' perceptions of green practices influence their perceived green image of an eatery, which in turn changes their attitudes toward a restaurant (Jeong et al., 2014). Also, sociodemographic characteristics influenced consumers' awareness of concepts linked to environmental sustainability, and a significant gender effect influenced what consumers thought important to be disclosed on labels where, finding narrative components that indicate the type of packaging & details on the assortment of waste packaging, information on the food product's country of origin, along with details about the packaging's environmental footprint was deemed more important by women than by men (Chirilli et al., 2022). So, for an environmentally desirable product, customers consider a business's reputation, read item labels, & look for hints in the packaging of the product. Additionally, specific symbols & concepts have been identified as effective in conveying the eco-friendly notion (Smith and Brower, 2012). Further, sustainable management practices & the sustainability capability of the firm are influenced by customers' awareness & related competitiveness (Jermsittiparsert et al., 2019) because awareness of sustainable design benefits, & environmental knowledge are building sustainable consumer behaviour & environmental attitudes (Horani, 2020). So, it is imperative to test the following hypothesis.

H2: There is a significant positive effect of consumers' green perception on their attitude.

2.3 Attitude toward sustainability arouses brand loyalty

Consumer decisions (behavioural intention), particularly among Generation Z, are significantly impacted by an intermingling of individual attitudes, perceived social standards, & identity-related desires toward sustainability, where consumer behaviours related to sustainability are intensely entwined with their social identities & awareness of the environment (Elgammal et al., 2024). Also, environmentally friendly awareness & consumers' trust in environmentally conscious practices can mediate the connection between eco-labels and eco-friendly buying intention (Alamsyah et al., 2020). Where, the packaging of the items should be environmentally sustainable, avoiding unnecessary paper & plastic packaging and the firms should capitalise on their products' environmental characteristics for branding purposes (Majeed et al., 2022). Therefore, the attitude toward environmentally conscious behaviour is on the green image which in turn has a positive effect on green consumer satisfaction & loyalty (ÇavuÇoğlu et al., 2020). So, sustainable activities improve brand image, trust, & customer satisfaction. Furthermore, they have a positive

impact on building brand loyalty (Jung et al., 2020). Furthermore, there is a positive correlation between attitudes toward sustainability & brand loyalty (Kuchinka et al., 2018). However, brand infidelity can be triggered by adverse attitudes toward a firm's corporate social responsibility initiatives, and brand perception can strengthen this effect (Yuan et al., 2024). Nonetheless, consumers who care about the environment stick with their favorite brands even after sustainability is introduced (Kuchinka et al., 2018). Thus, the following hypothesis needs to be tested.

H3: There is a significant positive effect of consumers' attitude towards sustainability on their brand loyalty.

2.4 Attitude toward sustainability can mediate the effect of 'Perception towards green products' on brand loyalty

Consumers' awareness of eco-friendly marketing substantially influences the perceived quality, perceived-value, & buying intent, and meanwhile has a significant adverse effect on how risks are perceived which means that consumers' perceptions of value are strengthened when they perceive a higher-level of goods quality, which further strengthens their desire to make a purchase & their tendency to consume sustainably increases as their perception regarding value of green items rises which further refers that consumers' buying intentions will rise as a result of higher perceived quality & perceived value rather than a reduction in risk if they can identify a item's eco-friendly & innovative traits (Wu and Chen, 2014). In addition, quality & trust substantially impacts consumer attitude & loyalty (Baktash and Talib, 2019). So, it can be said that consumers' perceptions of eco-friendly practices influence their perceived 'green' image of a business, which in turn changes their attitudes towards the same (Jeong et al., 2014), where the environmentally conscious information's quality, persuasiveness, completeness, and credibility were found to have the biggest direct & indirect effects on brand love through the basic mechanism of environmentally friendly brand trust (Taufik, 2023) which can shape consumers attitude towards sustainability and arouse brand loyalty among them. Furthermore, students' attitudes toward sustainability can be favorably impacted by campus sustainability & sustainability education (Fanea-Ivanovici and Baber, 2022). Therefore, to stay afloat in globally competitive marketplaces commercial firms must emphasize & promote the eco-friendly benefits of their goods & services (Freze and Nurova, 2021). Hence, the following hypothesis needs to be tested.

H4: Attitude toward sustainability is significantly mediating the effect of Perception towards green products on brand loyalty.

2.5 Role of green perceived risk within the relationship of perception, attitude, and brand loyalty in the context of greenness and sustainability

For the consumers of natural products, the quality of details regarding greenness significantly predicts green brand love & trust, where the information's cogency, wholeness, & credibility are found to have the biggest direct & indirect impacts on brand love via the underlying mechanism of environmentally conscious brand trust (Taufik, 2023). However, aspects like confinements in ~~environmental awareness, pricing, perceived risks,~~ *Advances in Consumer Research*

business image, trust, & keenness to pay make the discrepancy between consumer attitudes and their actual purchasing patterns of eco-friendly products (Sharma, 2021). Thereby, consumer value and image of oneself positively influence satisfaction levels and intent to behave, while perceived risk has a contrary effect, rejecting the impact of ideal self-image and switching expenses (Nguyen-Van, 2024). Further, green-perceived risk has negative effects on green-perceived trust, & green-perceived value (Rizwan et al., 2013). In contrast, it positively influences price sensitivity and attitude towards green goods which in turn influences environmentally conscious buying behaviour (Sheikh et al., 2023). Furthermore, the perception of environmentally conscious values is positively correlated & the green-perceived risk perception is adversely correlated to the interest in buying eco-friendly goods (Dhewi et al., 2018). Also, in the environmentally conscious business value chain, the importance of perceived value & risk in the process of decision-making of consumers for green goods is emphasized (Hasan et al., 2019). Moreover, consumer involvement, brand equity, & perceived risk have a substantial association to customer fidelity (Hu, 2011) where perceived risk is mediating the influence of negative emotion & perceived differences on brand loyalty and information seeking (Chaudhuri, 1997), as well as when perceived risk is low, brand satisfaction solely ascertains brand loyalty, while when it is high, brand trust mainly decides brand loyalty (Paulssen et al., 2014). Thus, various types of perceived risk are interconnected to each other as well as to the overall perceived risk, which provides a valid & meaningful assessment across different studies (Jacoby & Kaplan, 1972). So, the high level of ecological risk perception, knowledge of the environment, social pressure, & health consciousness are the precursors of sustainable behavioural intention, which are leading to sustainable consumption behaviour (Ghaffar and Islam, 2023). Thus, it is important to test the following hypothesis.

H5: Consumers' perceived risk moderates the effects of consumers' green-perception on their attitude; on their brand loyalty; and moderates the effect of consumers' attitude towards sustainability on their brand loyalty.

3. THEORETICAL FRAMEWORK & MAJOR HYPOTHESES

Based on the extensive literature review and logical derivation of hypotheses, we have developed the following theoretical framework (figure-1).

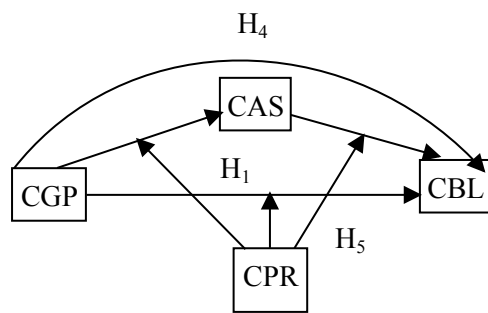


Figure 1: Theoretical foundation & Hypotheses

Here, CGP- Consumers' green perception; CAS- Consumers' attitude towards sustainability; CBL- Consumers' brand loyalty; CPR- Consumers' perceived risk.

4. MATERIALS AND METHODS

This research follows an experimental design, where causal relationships among consumers' perception, attitude toward sustainability, perceived risk, and brand loyalty are examined. The brand loyalty of consumers (organized retail sector) is measured, in the greenness and sustainability context. A structured questionnaire with a five-point Likert scale is distributed to a sample of 450 individual shoppers. This questionnaire consists of 33 items, out of which 16 items are related to consumers' green perception; 14 items are related to consumers' attitude towards sustainability; and 3 items are related to brand loyalty. This study implemented a stratified sampling method, with four geographical areas treated as four strata.

Data analysis starts with scale reliability testing. Then the analysis is followed with structural equation modelling (SEM). Prior to the structural model goes through testing, two measurement models (consumers' green perception and consumers' attitude toward sustainability, both with three constructs) are validated using confirmatory factor

analysis (CFA) to ensure that the constructs can be measured using the indicators derived from the literature review. Thus, the second-order CFA is applied. Following that, the moderating effect of perceived risk is tested within the aforementioned structural relationship. Hence, the current study aimed to test Hayes' model-59. The data analysis is performed using software such as IBM-SPSS 27.0, AMOS 24.0, Process-Macro, and Mendeley Desktop for referencing and citations.

5. ANALYSIS, RESULTS, AND DISCUSSION

5.1 Reliability of the scale of the study

The reliability of this study's scale according to internal consistency is nearly 95% (Cronbach's alpha value with standardised items is 0.949) with 38 items excluding 6 demographic variables. So, the structured questionnaire carries 'excellent' reliability (George & Mallery, 2006) along with a mean value of 146.67, and a standard deviation value of 22.753.

5.2 Sample profile of the study

There are approximately 41% female and 59% male respondents in the sample. The age distribution of the sample discloses that youngsters (those under 30) made up the largest proportion, at roughly 62%, followed by middle-aged consumers (those up to 50), who made up 33%, and senior citizens (those over 50), who made up just 5%. The sample's marital status reveals that 65% of the sample's respondents are single, and 35% are married. The respondents having an educational background of intermediate level are only 2%, undergraduate level is 14%, post-graduate level is 53%, and higher than post-graduate level is nearly 31% and the respondents with employment status, nearly 14% worked for government agencies, 55% for private organisations, nearly 6% owned businesses, students with incomes of nearly 4%, and participants with other types of employment are 21%. According to the sample's distribution of income, the low-income group (up to 30,000 INR) accounts for nearly 39%, the mid-income group (up to 60,000 INR) for 32%, and the high-income group (above 70,000 INR) for 29%.

5.3 Measurement model of consumers' green perception (CGP)

This measurement model (figure-2) is tested through CFA that constitutes three constructs WPG (Willingness to pay more for green products); QGP (Quality of green products); and RGP (Recycling nature of green products) carrying five, six, and five indicators respectively.

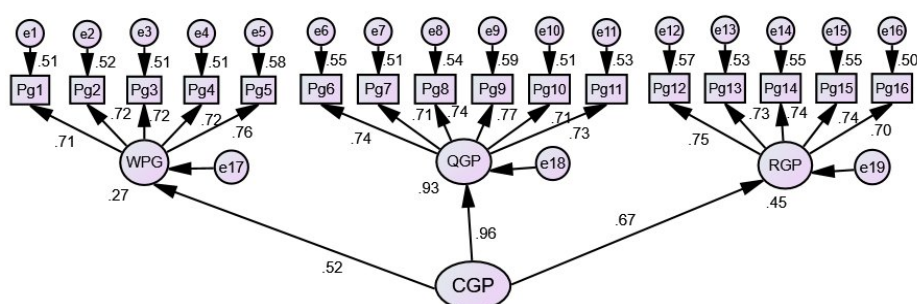


Figure 2: Measurement model of green perception

Statistical inferences says that model-fitting of CGP is acceptable because the fit-indices are meeting the cut-off criteria, where values (.925, .917, .902, .945, .935, & .945) of GFI, NFI, RFI, IFI, TLI & CFI are higher than .9 (Hair et al., 2013; Hu and Bentler, 1998); value (2.792) of CMIN/DF is below 3 (Schreiber et al., 2006); value (.0430) of RMR is lesser than .08 (Hu and Bentler, 1999); and value (.063) of RMSEA is between .06 and .08 (Schreiber et al., 2006).

5.4 Measurement model of consumers' attitude towards sustainability (CAS)

This measurement model (figure-3) is also tested by CFA using three constructs: CSK (Sustainability Knowledge), CSD (Sustainability Decision), and CSF (Sustainability Feeling), each with five, five, and four indicators.

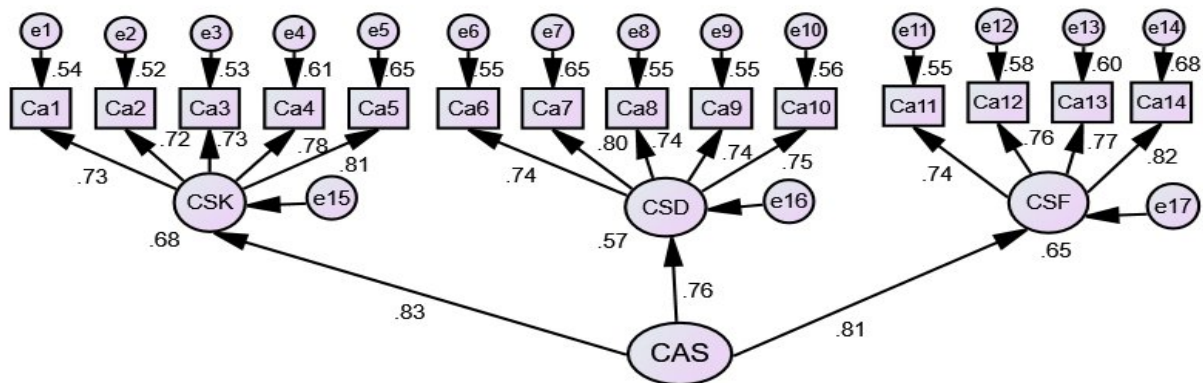


Figure 3: Measurement model of attitude towards sustainability

Model-fitting of CAS is acceptable because the fit indices meet the cut-off criteria, where values (.928, .936, .921, .957, .947, & .957) of GFI, NFI, RFI, IFI, TLI & CFI are higher than .9 (Hair et al., 2013; Hu and Bentler, 1998); value (2.919) of CMIN/DF is below 3 (Schreiber et al., 2006); value (.0409) of SRMR is lesser than .08 (Hu and Bentler, 1999); and value (.065) of RMSEA is between .06 and .08 (Schreiber et al., 2006).

5.5 Reliability and convergent validity of both measurement models (CGP and CAS)

Every construct (WPG, QGP, & RGP; CSK, CSD, & CSF) of both measurement models are tested for reliability and convergent validity according to the recommendations of Straub et al. (2004) and results are presented in table-1.

Table-1: Reliability & Convergent Validity of constructs of both CGP & CAS							
Consumers' Green Perception (CGP)				Consumers' Attitude towards Sustainability (CAS)			
Construct-indicator relationships	B	't'	α & C R	Construct-indicator relationships	B	't'	α & C R
WPG				CSK			
Pg1	.711	**	.8	Ca1	.735	**	.8

Pg2	.720	13.597*	.847	Ca2	.724	14.103*	.869
Pg3	.715	13.665*		Ca3	.727	14.504*	
Pg4	.716	13.533*		Ca4	.782	15.500*	
Pg5	.761	13.826*		Ca5	.806	16.832*	
QGP				CSD			
Pg6	.744	**	.875	Ca6	.742	**	.869
Pg7	.711	14.587*		Ca7	.803	16.290*	
Pg8	.736	14.977*		Ca8	.741	14.942*	
Pg9	.769	15.793*		Ca9	.741	15.351*	
Pg10	.714	14.458*		Ca10	.749	15.245*	
RGP				CSF			
Pg12	.754	**	.854	Ca11	.744	**	.857
Pg13	.715	15.1		Ca12	.715	15.3	

	31	99*	&		59	54*	&
Pg14	.7 41	14.7 53*	.8 54	Ca13	.7 73	15.6 60*	.8 57
Pg15	.7 40	14.6 92*		Ca14	.8 22	16.7 28*	
Pg16	.7 04	14.2 18*					
CGP (2 nd order constru ct)				CAS (2 nd order constru ct)			
WPG	.5 22	**	.7 75	CSK	.8 27	**	.8 39
QGP	.9 65	6.28 5	& .8 95	CSD	.7 56	9.93 2*	& .9 12
RGP	.6 70	7.53 6		CSF	.8 08	9.80 1*	
<p>'t' is the value of critical ration (CR); β – Standardized regression weight; α – Cronbach's Alpha; WPG: Willingness to pay more for green products; QGP: Quality of green products; RGP: Recycling nature of green products; CSK: Sustainability Knowledge; CSD: Sustainability Decision; CSF: Sustainability Feeling; *Significant at 1% level of significance; **Pre-fixed regression weight as 1</p>							
<p>Source: Authors' compiling from analyses</p>							

Values of Cronbach's alpha and CR (composite reliability) for all constructs are above 0.7 (Hair et al., 2013) which signifies the acceptable reliability for both measurement models. Simultaneously, convergent validity is also acceptable for these two measurement models having additional statistical results of lowest factor-loadings (.711, .711, .704, & .724; .741, & .744) of the constructs (WPG, QGP, & RGP; CSK, CSD & CSF) of CGP and CAS respectively that crosses 0.7 (Henseler et al., 2009); and all AVE values that cross 0.5 (Bagozzi and Yi, 1988), by meeting the cut-off values. Significant 't' for every indicator at 1% level of significance proves the correctness of the model composition (table-1).

5.6 Discriminant validity of both measurement models (CGP and CAS)

All six constructs are tested for discriminant validity of both measurement models and results are presented in table-2.

CGP	Mean	SD	AVE	MSV	ASV	Max R(H)	WPG	QGP
	18.22	4.013	.525	.253	.188	.848	.725	
	23.90	4.731	.538	.419	.336	.876	.503*	.733
	20.74	3.756	.539	.419	.271	.855	.350*	.647
CAS							CSK	CSD
	19.31	4.114	.571	.446	.418	.872	.756	
	18.28	4.225	.571	.391	.382	.871	.625*	.756
	16.08	3.336	.601	.446	.410	.860	.668*	.611

Deviation, AVE: Average Variance Extracted; MSV: Maximum Shared Variance; ASV: Average Shared Variance; CGP: Consumers' green perception; CAS: Consumers' attitude towards sustainability; WPG: Willingness to pay more for green products; QGP: Quality of green products; RGP: Recycling nature of green products; CSK: Sustainability Knowledge; CSD: Sustainability Decision; CSF: Sustainability Feeling, *Inter-construct co-relationship at 1% level of significance.

Source: Authors' compilation from analysis

Discriminant validity for both the measurement models is proved as the square root of AVE (diagonal values in bold) for every construct (table-2) of consumers' green perception, and consumers' attitude towards sustainability carry a higher value than the respective inter-construct co-relationships; and values of MSV and ASV are less than respective values of AVE (Fornell and Larcker, 1981). Additionally, the values of Max R(H), and maximal reliability of all constructs are more than 0.8 (Hancock and Mueller, 2001). The mean and standard deviation (SD) of all constructs are showing their statistical nature.

5.7 Testing the structural model

According to two-step recommendation (Anderson and Gerbing, 1988), structural model (figure-4) is tested by SEM (Structural Equation Modelling) technique after testing two measurement models. The structural model carries 16 indicators of CGP, 14 indicators of CAS, and 3 indicators of CBL.

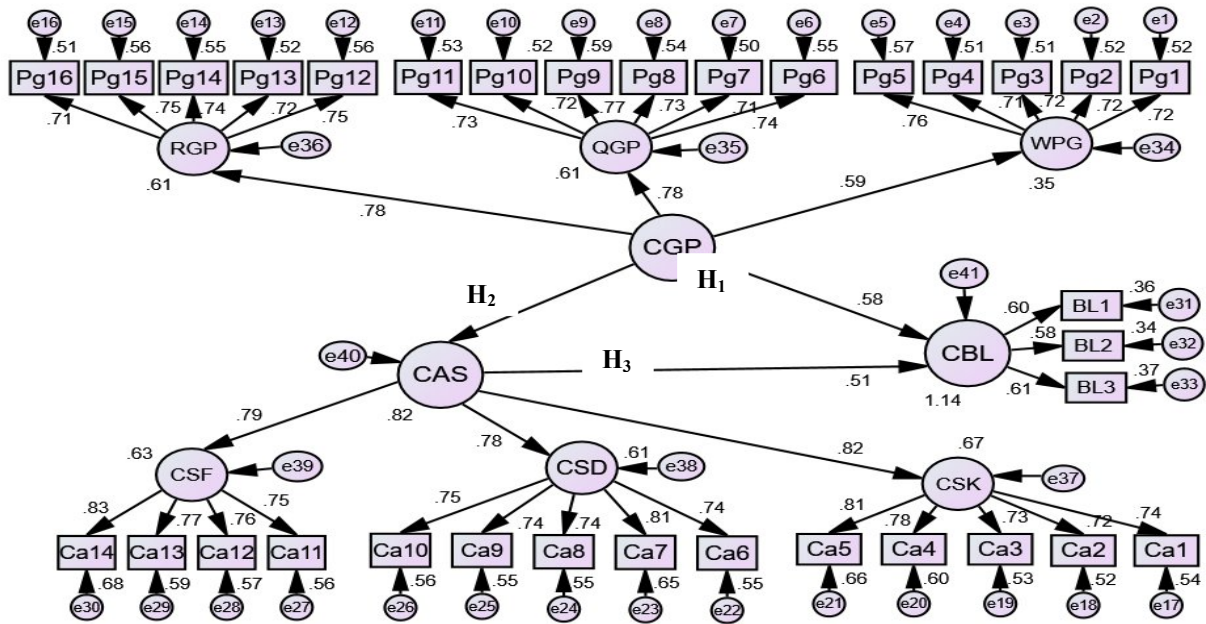


Figure 4: Structural model of perception-attitude-loyalty

Model-fitting of the structural model is acceptable as major fit-indices are successfully meeting the cut-off criteria, where values (.906, 901, & 906) of IFI, TLI, & CFI are more than .9 (Hu and Bentler, 1998); value (2.511) of CMIN/DF is below 3 (Schreiber et al., 2006); value (.0512) of SRMR is below .08 and value (.058) of RMSEA is below .06 (Hu and Bentler, 1999). Thus, three major hypotheses (H₁, H₂, & H₃) are tested successfully by the above structural model. Outcomes are explained in the table-3. Standardized regression weights shown in the model (figure-4) justifies their effects as being significant for the hypotheses.

Table-3: Major hypotheses testing through structural model & results				
Hypotheses & their position in the structural model	β	S.E.	't'	Results of tested hypotheses
There is a significant positive effect of consumers' green perception on their brand loyalty. (H ₁ : CBL CGP)	.584	.260	2.671**	Supported
There is a significant positive effect of consumers' green perception on their attitude towards sustainability. (H ₂ : CAS CGP)	.906	.104	10.184*	Supported

CGP)				
There is a significant positive effect of consumers' attitude towards sustainability on their brand loyalty. (H ₃ : CBL CAS)	.508	.216	2.396**	Supported
* Significant at 0.001				
CGP: Consumers' green perception; CAS: Consumers' attitude towards sustainability; CBL: Consumers' Brand loyalty β - Standardised Regression Weight; 't' – Critical Ratio; S.E.- Standard Error; *Significant at 1% level of significance; **Significant at 5% level of significance.				
Source: Authors' compilation from analysis				

Table-3 reflects that three major hypotheses are supported. That means consumers' green perception put significant positive effects (nearly 58% & 91%) on their brand loyalty and on their attitude towards sustainability. And, attitude towards sustainability also carries a significant positive (nearly 51%) effect on their brand loyalty. Three hypotheses being supported is logically supporting the 4th hypothesis (H₄) that the indirect effect (through mediating effect of attitude towards sustainability) of green perception on brand loyalty is significant.

5.8 Moderation of consumers' perceived risk

The moderating effect of consumers' perceived risk is tested through the model-59 of Hayes (2018) in Process-Macro of SPSS that tests the hypothesis-5 also. The statistical and their inferences are presented in the table-4.

of CGP on CBL through CAS							
Interactions with CPR	Coefficient	SE	't'	P	LLCI	ULCI	Info
Int_1 with the outcome variable as CAS	-.0842	.0726	-1.1605	.2465	-.2269	.0584	Mo efft not sig
Int_1 with the outcome variable as CBL	.0454	.0754	.6017	.5477	-.1028	.1935	
Int_2 with the outcome variable as CBL	.0577	.0462	1.2475	.2129	-.0332	.1485	
SE- Standard Error; LLCI- Lower Level Confidence Interval; ULCI- Upper Confidence Interval; CGP- Consumers' green perception; CGA- Consumer attitude towards sustainability; CBL- Consumers' brand loyalty; Int_1 = CGP X CPR; Int_2 = CGA X CPR							
Level for all confidence intervals- 95.000, Number of bootstrap samples- 5							
Source: Authors' compilation from data analysis							

The table-4 reflects that the 't' statistics in all cases are not significant ($p > 0.05$) even at 5% level of significance. Further, 'zero' can appear between lower-level confidence interval (LLCI) and upper-level confidence interval (ULCI) as all LLCI are negative and ULCI are positive. So, consumers' perceived risk (CPR) is not moderating the effects of consumers' green-perception on their attitude and on their brand loyalty. Also, CPR is not moderating the effect of consumers' attitude towards sustainability on their brand loyalty.

6. FINDINGS OF THE STUDY

It is confirmed that consumers' green perception can be adequately measured by 3 constructs which are 'willingness to pay more for green products', 'quality of green products', and 'recycling nature of green products' (Isaacs, 2015). Also, it is conformed that consumers' attitude towards sustainability can be adequately measured through 3 constructs such as 'sustainability knowledge', 'sustainability decision', and 'sustainability feeling' (Zhang et al., 2021).

Consumers' green perception positively & significantly influences brand loyalty and their attitude towards sustainability, where the effect on later much more than

prior. This fact signifies that consumers' perception should go through their attitude to achieve the marketing targets of the organisation if it is green marketing.

Consumers' attitude towards sustainability put a significant positive effect on their brand loyalty in the context of green marketing. This outcome along with the previous outcome of the present study justified that attitude towards sustainability can (significant mediating effect) make the green perception build the consumers' loyalty towards certain brands of marketer having green features.

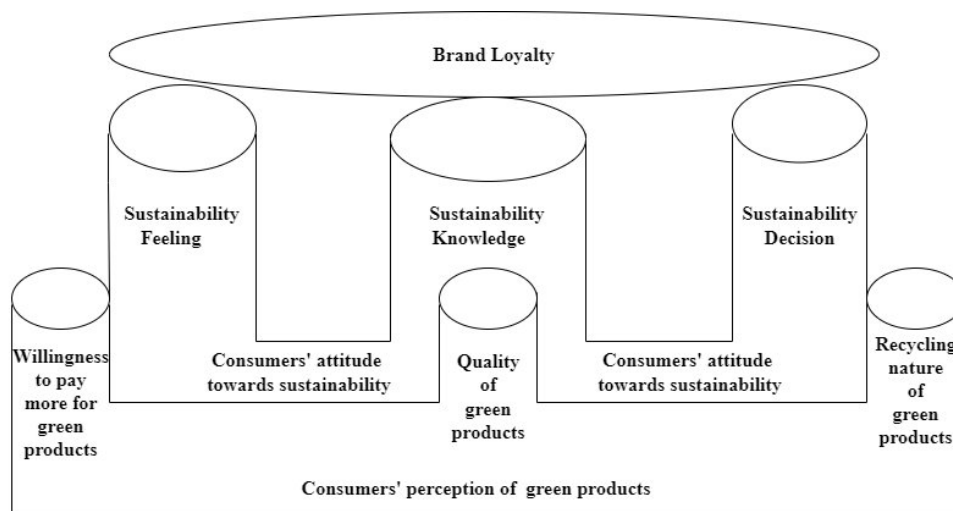
While purchasing green-products, consumers' perceived risk does not moderate the effect of their perception on brand loyalty and on their attitude towards sustainability; also, do not moderate the effect of their attitude towards sustainability on brand loyalty. Thus, it is suggested that emerging marketing strategies having green features should not be twisted with or be customized with the perceived risk.

6.1 Brand loyalty: A balance between 'hard' and 'soft' environmental elements

Customers' brand loyalty can emerge and be strengthened in the present days with the environmental elements relevant to the consumers. Some of such elements are visible and carry the 'overt' properties whereas the rest of the elements are realized by the consumers carrying 'covert' properties. Three major environmental elements (Willingness to pay more for green products, quality of green products, recycling nature of green products) that reflect the customers' perception towards green products are putting a significant positive effect on brand loyalty which justifies the hard dimensions of brand loyalty. The hard dimensions that generally are visible and expressible openly (overt), form the consumers' perception and ultimately build brand loyalty.

Simultaneously, three soft environmental elements (Sustainability feeling, Sustainability knowledge, and Sustainability decision) that reflect the consumers' attitude toward sustainability are carrying significant positive effects on brand loyalty. While the effects of both soft elements and hard elements do not significantly differ from each other, but carry more than 50 percent effect magnitude on loyalty, the consumers' brand loyalty requires a balance between both the effects in order to make itself strengthened. Hence, a new theory can be coined as the "theory of balanced brand loyalty".

According to the statistical result, the consumers' perception of green products consisting of three pillars significantly and positively impacts consumers' attitude toward sustainability which also consists of three elements. So, it can be inferred from figure 5 that consumers' perception of green products forms the base that builds consumers' attitude toward sustainability in the way of strengthening brand loyalty.



Source: Authors' compilation from data analysis

Figure 5: Balanced Brand Loyalty

The above inferences can be substantiated by another fact that consumers' perception of green products accelerates brand loyalty if passes through their attitude towards sustainability. That means, only the perception or only the attitude are not sufficient to build brand loyalty in the emerging modern market, rather a balance between perception and attitude can develop a synergy effect on brand loyalty. Hence, brand loyalty is said to be so strengthened in such a manner that little scope will be left for the concerned consumers' fidelity towards competing brands.

7. IMPLICATIONS

Since consumers' green perception influences brand loyalty more strongly when channelled through attitude towards sustainability, marketers should focus on strengthening sustainability attitudes of consumers through educational initiatives, transparent sustainability reporting and prioritizing positive attitude building awareness campaigns for green products and brands. Furthermore, brands should can nurturing positive attitude towards sustainability by community programs, and incentives for sustainable behaviours. By doing so, green perceptions of consumers can more reliably translate to loyalty for green brands. However, marketers should not focus more on risk reduction messaging like overemphasizing product guarantees rather should focus on emphasizing the positive effects or benefits of green products and building values, as perceived risk does not moderate the perception-attitude-loyalty relationships. Additionally, marketers should explore and focus on innovative digital engagement strategies such as interactive eco-tracking apps, gamified sustainability, or immersive augmented reality experiences that allows consumer to visualise the eco-friendly products and their environmental impacts, thereby strengthening consumer attitude towards sustainability and ultimately translating those attitudes into brand loyalty.

8. CONCLUSION AND CONTRIBUTION OF THE STUDY

This paper conducts a meticulous review of existing literature in the realms of greenness and sustainability. The present study is done to ascertain factors that are influencing consumers' green brand loyalty, focusing on the mediation and moderation of consumers' attitude towards sustainability and their perceived risk respectively, which is a key contribution of this research work. This study finds both the consumers' perception and attitude to be influencing their brand loyalty, and attitude towards sustainability mediating significantly the effect. Surprisingly, the study discovered that perceived risk did not significantly moderate the relationship.

This study adds to the growing repository of knowledge by presenting empirical proof of the key determinants of consumers' green brand loyalty while emphasizing the importance of both attitudinal and perceptual factors of consumers in this regard. Importantly the study highlights that innovative approaches such as gamified sustainability and augmented reality can empower consumers and drive loyalty towards green brands in this rapidly evolving green and sustainable marketplace.

9. LIMITATION AND FUTURE RESEARCH AVENUES

Data collection is done in a particular state of India, but future researchers can collect data from wider geographical areas to make the results of this study more pervasive. Only three constructs each are considered for the consumers' green perception and their attitude towards sustainability, but similar studies can be conducted in the future with other important constructs to explore new ways to build strong consumers' loyalty towards products with green features.

Declaration

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Acknowledgement

This research was funded by MRFP fund by OSHEC (Odisha State Higher Education Council), Odisha, India.

Disclosure statement

The authors report there are no competing interests to declare.

Simran Babu, is a Fellowship holder for PhD, under Mukhyamantri Fellowship program by OSHEC (Odisha State Higher Education Council), Odisha, India

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