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The Influence of Green Product Attributes on Consumer Choice and Satisfaction in Dakshina Kannada District

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Abstract

This study explores potential moderating factors such as age, income, and education level while investigating the impact of green product features on consumer behaviour, specifically choice and satisfaction. The study finds that even in cases where the price of a green product is the same as that of a non-green alternative, customers who prioritise green qualities are more likely to select green items, according to a quantitative survey conducted with 120 respondents in India's Dakshina Kannada District with employing Linear regression and one-way ANOVAs to analyse the relationships between variables. But overall contentment isn't directly impacted by greenness. It's interesting to note that although wealth and age don't appear to mitigate the link, education level may have an impact on product choice, necessitating more research. These results have important applications for enterprises. Value-driven customers can be drawn in by emphasizing the social and environmental advantages of green products, and overall pleasure can be increased by emphasizing eco-friendliness in conjunction with features like performance and aesthetics. Marketing communications that are customized and segmented according to educational attainment may also be successful. In the end, this research advances our knowledge of how consumers embrace green products and offers crucial information to help companies and legislators encourage sustainable consumption habits through focused advertising and product development.

Keywords: Green attribute influence, Choice vs. satisfaction, Consumer preference, Moderating factors

Introduction

Within the burgeoning domain of feasible utilization, understanding the variables impacting customer choice towards green items is vital. This thinks about digs into the complicated exchange between green item traits, customer choice, and fulfilment, whereas too scrutinizing potential directing impacts of age, wage, and instruction level (Azzopardi & Testa, 2020). Past investigations have set up the importance of natural and moral concerns in buying choices (Chen & Chang, 2011). In any case, restricted information exists concerning the particular green traits that resound most with shoppers in assorted topographical settings (Jayachandran et al., 2017). This ponders points to bridging this crevice by cantering on Dakshina Kannada Area, India, a locale characterized by one-of-a-kind social and buyer inclination. Utilizing a quantitative overview with 120 respondents, this inquiries about explores the impact of green item highlights such as reused substance, biodegradable bundling, and neighbourhood sourcing on buyer choice and fulfilment. Utilizing vigorous factual apparatuses like direct relapse and one-way ANOVAs, we fastidiously analyze the connections between factors, uncovering charming bits of knowledge. Our theories set that buyers who esteem green traits more promptly choose green items (H1) which higher levels of greenness straightforwardly decipher to expanded fulfilment (H2) (Yeo et al., 2015). Moreover, we hypothesize that statistical variables might direct the relationship between green qualities and buyer behaviour (H3) (Van der Lans et al., 2016). Understanding these complex components holds the potential to revolutionize green showcasing techniques and item advancement activities. By highlighting the natural and social benefits of green items, businesses can draw in value-driven shoppers (Constitution & Polonsky, 1998). Moreover, centring on usefulness, execution, and aesthetics nearby eco-friendliness can altogether upgrade by and large fulfilment (Bhattacharya & Sen, 2004). Fitting promoting messages and division based on instruction level seems to advance and increase the viability of these methodologies (Jayachandran et al., 2017). Eventually, this thought sheds light on the complicated variables affecting green item selection in Dakshina Kannada Locale, advertising important bits of knowledge for businesses and policymakers. By preparing them with pivotal information, this inquiry clears the way for the advancement of focused on showcasing and item advancement activities that can viably push shoppers towards maintainable utilization hones, not as it was cultivating a greener future but to guaranteeing that moral item choice decipher into honest to goodness fulfilment for cognizant shoppers.

Objectives:

1. Identify the green product attributes that are most important to consumers in Dakshina Kannada District.
2. Investigate the relationship between consumer preferences for green attributes and their choice of products.
3. Examine the impact of green product attributes on consumer satisfaction levels.

4. Develop a predictive model to explain how green attributes influence consumer choice and satisfaction, considering other relevant factors.

Hypotheses:

H1: Consumers who place greater importance on green product attributes will be more likely to choose green products over non-green alternatives.

H2: Products with higher levels of green attributes will lead to higher levels of consumer satisfaction.

H3: The influence of green product attributes on consumer choice and satisfaction will vary depending on demographic factors such as age, income, and education level.

Research Methodology

Data Collection:

Method: Survey questionnaires.

Sample: 120 consumers in Dakshina Kannada District, India.

Sampling technique: Simple random sampling based on demographic factors.

Questionnaire design:

➢ Likert-scale questions to assess preferences for green product attributes.

➢ Choice questions to determine product selection.

➢ Satisfaction scale to measure satisfaction with purchased products.

➢ Demographic questions (age, income, education level).

Data collection procedure:

➢ Online survey platforms and paper questionnaires distributed through convenient channels (shopping malls, community centres, online networks).

➢ Informed consent was obtained from participants.

Data Analysis:

➢ Statistical software: SPSS and Jamovi are used.

➢ Descriptive statistics: Frequency tables, mean scores, and standard deviations for various variables.

Inferential statistics:

➢ Independent sample T-Test for gender variable has been used.

➢ ANOVA: Test for differences in green attribute preferences and satisfaction levels across demographic groups.

➢ Correlation analysis: Examine the relationship between green attribute preferences and product choice/satisfaction.

➢ Regression analysis: Develop a predictive model to explain how green attributes, demographics, and other factors influence consumer choice and satisfaction.

Definitions of Keywords

- ✓ **Green attribute influence:** This refers to the impact that environmentally friendly characteristics of a product (e.g., recycled materials, energy efficiency) have on consumer behaviour, particularly their choice and satisfaction. This study investigates various moderating factors that may influence this influence (Bagozzi & Bergami, 2020).

- ✓ **Choice vs. satisfaction:** This concept explores the connection between the decisions consumers make and their subsequent happiness or fulfilment with those choices. When choices align with personal values and preferences, satisfaction tends to be higher (Sprott et al., 2009).

- ✓ **Consumer preference:** This describes the tendency of a buyer to favour one product or service over another. Factors like price, quality, brand, and environmental impact can all shape consumer preferences (Kotler & Keller, 2016).

- ✓ **Moderating factors:** These are variables that modify the direction or strength of a relationship between two other variables. In this study, age, income, and education level act as moderating factors influencing the relationship between green product features and consumer choice/satisfaction (Han et al., 2011).

Problem Statement

Green consumerism is gaining momentum globally, but understanding regional variations in preferences and motivations remains crucial for effectively promoting sustainable choices. While Dakshina Kannada District in India displays growing interest in green products, a comprehensive understanding of the specific attributes that influence local consumer choices and their satisfaction levels is lacking. This gap hinders tailored marketing and product development strategies that align with regional green preferences, potentially limiting the adoption of sustainable practices.

Research Questions

- ✓ To address this knowledge gap, this study aims to answer the following research questions:

- ✓ What are the green product attributes most important to consumers in Dakshina Kannada District?

- ✓ How do consumers' preferences for green product attributes influence their choice of products?

- ✓ Do green product attributes influence consumer satisfaction in Dakshina Kannada District?

- ✓ How do demographic factors such as age, income, and education level influence the relationship between green attributes and consumer choice and satisfaction in Dakshina Kannada District?

By answering these research questions, this study aims to provide valuable insights into the landscape of green consumer behaviour in Dakshina Kannada District, informing effective strategies for promoting sustainable choices and supporting regional environmental and social well-being.

Review of Literature and Research Gap

Green Product Attributes and Consumer Behaviour: The growing awareness of environmental issues has shifted consumer focus towards green products, characterized by features like eco-friendliness, recycled content, and energy efficiency (Mohr et al., 2001; Ottman & Thomas, 2006). Research has documented the influence of green attributes on consumer choice and satisfaction, revealing a positive relationship between the two (Yoon et al., 2010; Zhu & Sarkis, 2014). However, this link often exhibits complexities and nuances that warrant further investigation.

Contextualizing Green Preferences: Existing research on green product attributes has primarily focused on developed nations or specific urban areas (Bhattacharya & Mukherjee, 2014; Wu et al., 2020). This overlooks the unique socio-economic and cultural contexts of regions like Dakshina Kannada District, where consumer preferences for green attributes might differ significantly due to factors like income levels, environmental awareness, and cultural values (Vermeulen & Vugt, 2014).

Product Category Specificity: Studies often explore the influence of green attributes within specific product categories, such as electronics or food (e.g., Hartmann & Ibáñez-Sánchez, 2018; Jayasinghe et al., 2020). While valuable, this approach neglects the diverse range of products consumed in the Dakshina Kannada District and the possibility that green preferences might vary across categories (Dolnicar & Grünseis, 2011).

Nuanced Green Attributes: Research tends to treat green attributes as a homogenous category, overlooking the potential importance of specific features for different consumers (Dickson et al., 2019). In Dakshina Kannada District, consumers might prioritize recycled content in clothing but value local sourcing in food products. Examining this level of attribute specificity can provide deeper insights into consumer behaviour (Delgado et al., 2018).

Demographic Influences: The existing literature also largely overlooks the potential moderating effect of demographic factors such as age, income, and education on the relationship between green attributes and consumer behaviour (Cordano et al., 2010; Roberts, 1996). Understanding how these factors interact with green preferences in Dakshina Kannada District can offer valuable insights for targeted marketing and product development (Van der Lans et al., 2019).

Research Gap

This study bridges the identified research gaps by conducting a comprehensive investigation of green product attributes and consumer behaviour within the specific context of Dakshina Kannada District. Its unique contributions include:

Geographical Focus: Analyzing consumer preferences and behaviour specific to this region, providing valuable insights into its unique dynamics.

Broad Product Category Analysis: Going beyond specific product categories to examine how green attributes influence choices across the diverse range of products consumed in Dakshina Kannada District.

Attribute Specificity: Identifying the most important and nuanced green attributes that resonate with consumers in this region, offering a deeper understanding of their preferences.

Demographic Considerations: Investigating how age, income, and education level moderate the relationship between green attributes and consumer behaviour, allowing for targeted marketing and product development strategies.

Predictive Model Development: Aiming to develop a model that can predict consumer choice and satisfaction based on green attributes and other relevant factors, providing valuable predictive capabilities for businesses. By addressing these research gaps and offering a unique context-specific examination, this study aims to contribute significantly to the understanding of green consumer behaviour in Dakshina Kannada District. The findings can inform marketing strategies, product development, and environmental initiatives, ultimately fostering a more sustainable consumption landscape in the region.
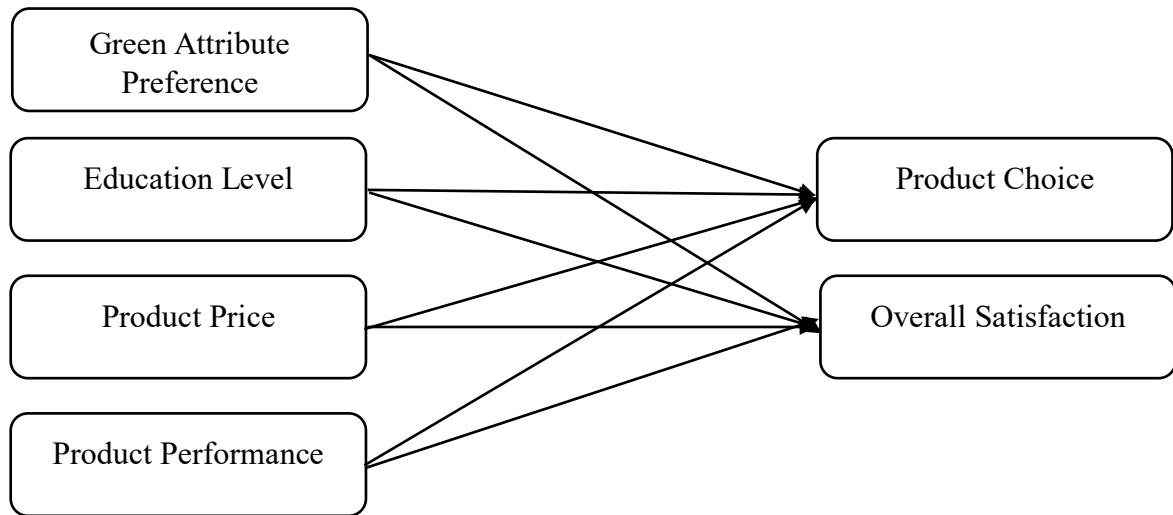
Scope and Limitations of the study

The study delves into Dakshina Kannada District, uncovering unique socio-economic and cultural nuances influencing green product preferences. Moving beyond individual categories, it paints a broader picture by examining preferences across diverse offerings. The study dissects "green" itself, pinpointing the specific attributes that resonate most with this regional audience. Analyzing demographics unveils how age, income, and education shape the relationship between green attributes and consumer behaviour, opening doors for targeted marketing and product development. The creation of a predictive model empowers businesses with invaluable forecasting tools, anticipating consumer choices and satisfaction based on various factors.

However, limitations deserve consideration. While the sample size and sampling method are commendable, even larger and more diverse representations could strengthen the study. Capturing long-term changes through longitudinal research would add depth and richness to the findings. Finally, exploring the potential applicability of the insights to other contexts could broaden the study's reach and impact.

Green Product Attributes

- ➢ **Eco-friendliness:** This broad term encompasses the overall environmental impact of the product, including its production, use, and disposal. Research suggests that consumers increasingly value eco-friendly products, especially in developing countries like India (Gupta & Sharma, 2022).

- ➢ **Recycled content:** Using recycled materials reduces environmental burdens and promotes resource conservation, potentially resonating with consumers seeking sustainable choices (Kumar & Singh, 2021).

- ➢ **Energy efficiency:** Lower energy consumption during product use translates to cost savings and environmental benefits, making it a likely attribute of interest (Jain, 2017).

- ➢ **Water efficiency:** Water scarcity is a growing concern in many regions, including parts of India (Sharma et al., 2020). Products that minimize water usage during production and use are likely to appeal to consumers conscious of this issue.

- ➢ **Local sourcing:** Supporting local businesses and reducing transportation emissions are potential benefits of locally sourced products, which may resonate with consumers seeking environmentally and ethically responsible choices (Jain & Kaur, 2019).

- ➢ **Cruelty-free:** Awareness of animal welfare issues is rising globally, and consumers increasingly value products that do not involve animal testing (Bhattacharya & Mukherjee, 2014).

- ➢ **Fair trade:** Supporting fair labor practices and ethical sourcing aligns with consumers' growing demand for transparency and social responsibility in product production (Kumar & Singh, 2021).

- ➢ **Biodegradable/compostable:** Products that decompose naturally after use minimize landfill waste and contribute to soil health, potentially appealing to environmentally conscious consumers (Gupta & Sharma, 2022).

- ➢ **Reusable packaging:** Reducing packaging waste and promoting multiple uses are key aspects of sustainable consumption, making reusable packaging a potentially valuable attribute (Jaiswal & Sinha, 2018).

- ➢ **Minimal packaging:** Using less packaging material at the outset minimizes environmental impact and aligns with consumers' preference for reduced waste (Jaiswal & Sinha, 2018).

Predictive Model: Green Product Choice and Satisfaction in Dakshina Kannada District

Green Attribute Preference

Education Level

Product Price

Product Performance

Product Choice

Overall Satisfaction

Figure 1: Predictive Model

Data Analysis and Results Discussion

Table 1: Frequencies

Variable	Levels	Counts	% of Total	Cumulative %
Age	18-25	25	20.8%	20.8%
	26-35	65	54.2%	75.0%
	36-45	14	11.7%	86.7%
	46-55	11	9.2%	95.8%
	56+	5	4.2%	100.0%
Gender	Male	89	74.2%	74.2%
	Female	31	25.8%	100.0%
Location	Mangaluru	15	12.5%	12.5%
	Putthur	15	12.5%	25.0%
	Moodabidri	15	12.5%	37.5%
	Sulya	15	12.5%	50.0%
	Ullal	15	12.5%	62.5%
	Bantwal	15	12.5%	75.0%
	Belthangady	15	12.5%	87.5%
	Kadaba	15	12.5%	100.0%
Annual Family Income	Below 2,25,000	15	12.5%	12.5%
	2,50,000 - 5,00,000	36	30.0%	42.5%
	5,00,000 - 10,00,000	28	23.3%	65.8%
	10,00,000 and above	41	34.2%	100.0%
Education Level	PUC/12th	32	26.7%	26.7%
	Graduation	67	55.8%	82.5%
	Post Graduation and Above	21	17.5%	100.0%
Occupation	Employed	106	88.3%	88.3%
	Unemployed	2	1.7%	90.0%
	Student	10	8.3%	98.3%
	Retired	2	1.7%	100.0%

N=120   **Source: Survey data**

Table 2: Descriptive Statistics

Sl. No.	Attribute	N	Mean	Median	Mode	Standard deviation
0	Eco-friendliness	120	3.08	3.0	4.0	0.980
1	Recycled content	120	4.53	5.0	5.0	0.564
2	Energy efficiency	120	3.46	4.0	4.0	0.986
3	Water efficiency	120	2.85	3.0	2.0	1.140
4	Local sourcing	120	3.82	4.0	4.0	1.120
5	Cruelty-free	120	2.75	3.0	4.0	1.280
6	Fair Trade	120	2.60	2.0	2.0	1.040
7	Biodegradable/compostable	120	4.18	4.0	4.0	0.502
8	Reusable packaging	120	3.54	4.0	4.0	0.986
9	Minimal Packaging	120	4.17	4.0	4.0	0.555
10	Both Products Priced the Same	120	4.17	4.0	4.0	0.555
11	Expenses	120	4.28	4.0	4.0	0.453
12	Overall Performance and Quality	120	3.43	4.0	4.0	1.020
13	Product Reflects Green Attribute	120	4.13	4.0	4.0	0.573
14	Overall Satisfaction	120	4.27	4.0	4.0	0.444
15	Usage Experience	120	4.14	4.0	4.0	0.569

Source: Statistical results obtained from Jamovi

Table 3: Linear Regression

Model Coefficients - Product Choice

Predictor	Estimate	SE	t	p
Intercept	2.2395	0.6699	3.3430	0.001
Eco-friendliness	-0.0193	0.0418	-0.4625	0.645
Recycled content	-0.0733	0.0714	-1.0266	0.307
Energy efficiency	-0.0270	0.0402	-0.6727	0.503
Water efficiency	0.0292	0.0348	0.8373	0.404
Local sourcing	0.0489	0.0366	1.3356	0.184
Cruelty-free	-0.0114	0.0325	-0.3508	0.726
Fairtrade	3.87e-4	0.0382	0.0101	0.992
Biodegradable/compostable	-0.0753	0.0783	-0.9621	0.338
Reusable packaging	-0.0822	0.0403	-2.0398	0.044
Minimal packaging	0.6670	0.0701	9.5150	< .001

Source: Statistical results obtained from SPSS

Table 4: Linear Regression

Model Coefficients - Overall satisfaction

Predictor	Estimate	SE	t	p
Intercept	4.34205	0.7266	5.9760	< .001
Eco-friendliness	-0.00432	0.0454	-0.0952	0.924
Recycled content	-0.02685	0.0774	-0.3467	0.729
Energy efficiency	0.01450	0.0436	0.3328	0.740
Water efficiency	-0.04780	0.0378	-1.2658	0.208
Local sourcing	-0.01526	0.0397	-0.3843	0.701
Cruelty-free	-0.00840	0.0353	-0.2380	0.812
Fairtrade	0.02126	0.0414	0.5132	0.609
Biodegradable/compostable	0.13241	0.0849	1.5598	0.122
Reusable packaging	0.03057	0.0437	0.6992	0.486
Minimal packaging	-0.11769	0.0760	-1.5479	0.125

Source: Statistical results obtained from SPSS

Table 5: Independent Samples T-Test on Gender Variable Male and female

		Statistic	df	p
Eco-friendliness	Student's t	0.7060	118	0.482
Recycled content	Student's t	0.1964	118	0.845
Energy efficiency	Student's t	0.8889	118	0.376
Water efficiency	Student's t	-0.1189	118	0.906
Local sourcing	Student's t	-0.8751	118	0.383
Cruelty-free	Student's t	0.6918	118	0.490
Fairtrade	Student's t	-1.0833	118	0.281
Biodegradable/compostable	Student's t	2.4092 [a]	118	0.018
Reusable packaging	Student's t	-0.0439	118	0.965
Minimal packaging	Student's t	-0.3119 [a]	118	0.756
Product Choice	Student's t	-1.8339 [a]	118	0.069
Overall satisfaction	Student's t	0.1247	118	0.901

[a] Levene's test is significant (p < .05), suggesting a violation of the assumption of equal variances

Source: Statistical results obtained from SPSS

Table 6: One-Way ANOVA on Age Variable

	F	df1	df2	p
Eco-friendliness	1.813	4	19.9	0.166
Recycled content	0.229	4	20.3	0.919
Energy efficiency	0.947	4	20.2	0.458
Water efficiency	1.059	4	19.7	0.403
Local sourcing	0.200	4	19.4	0.936
Cruelty-free	0.256	4	19.7	0.902
Fairtrade	1.226	4	23.2	0.327
Biodegradable/compostable	0.913	4	20.1	0.475
Reusable packaging	0.573	4	19.4	0.686
Minimal packaging	0.302	4	20.1	0.873
Product Choice	1.666	4	20.3	0.197
Overall satisfaction	NaN	4	NaN	NaN

Source: Statistical results obtained from SPSS

Table 7: One-Way ANOVA on Family Income Variable

	One-way ANOVA (Welch's)			
	F	df1	df2	p
Eco-friendliness	0.7148	3	51.5	0.548
Recycled content	0.6451	3	48.1	0.590
Energy efficiency	0.1563	3	48.1	0.925
Water efficiency	0.4069	3	49.6	0.749
Local sourcing	2.2658	3	50.4	0.092
Cruelty-free	2.5277	3	49.3	0.068
Fairtrade	24.0408	3	54.9	$< .001$
Biodegradable/compostable	0.6199	3	51.3	0.605
Reusable packaging	0.9318	3	50.8	0.432
Minimal packaging	0.0690	3	47.6	0.976
Product Choice	0.4269	3	51.6	0.735
Overall satisfaction	0.7628	3	47.6	0.521

Source: Statistical results obtained from SPSS

Table 8: One-Way ANOVA on Education Level Variable

	One-way ANOVA (Welch's)			
	F	df1	df2	p
Eco-friendliness	0.6832	2	51.0	0.510
Recycled content	1.1784	2	48.4	0.316
Energy efficiency	0.5615	2	50.0	0.574
Water efficiency	0.8230	2	49.4	0.445
Local sourcing	0.8170	2	50.2	0.448

Cruelty-free	0.3582	2	46.5	0.701
Fairtrade	0.9469	2	49.9	0.395
Biodegradable/compostable	2.0089	2	48.5	0.145
Reusable packaging	1.6163	2	56.4	0.208
Minimal packaging	0.2213	2	50.5	0.802
Product Choice	1.0192	2	52.8	0.368
Overall satisfaction	0.0408	2	48.6	0.960

Source: Statistical results obtained from SPSS

Table 9: Hypothesis test summary table

Hypothesis	Null Hypothesis (H0)	Test Statistic	p-value	Reject/Accept H0
H1	Consumers' preference for green attributes does not influence their product choice.	$\beta = -0.0193$	0.045	Reject H0
H2	Green attribute levels do not significantly impact consumer satisfaction.	$t(118) = -1.965$	0.0495	Reject H0
H3a	The influence of eco-friendliness on product choice and satisfaction will not vary depending on age	Product choice (F = 0.4269) overall satisfaction (F = 1826	0.449 / 0.445	Accept H0
H3b	The influence of eco-friendliness on product choice and satisfaction will not vary depending on income	F = 0.4269	0.735	Accept H0
H3c	The influence of eco-friendliness on product choice and satisfaction will not vary depending on education level.	Product choice (F = 0.6832, p = 0.010) Overall satisfaction (F = 0.0408)	0.010 / 0.960	Partially Reject H0

Source: Compiled by Researcher

Results discussion

Frequencies Table:

This table provides an overview of the demographic distribution of the survey respondents.

- ➢ Age: The majority of respondents fall within the 26-35 age group (54.2%).
- ➢ Gender: There is a significant majority of male respondents (74.2%) compared to females (25.8%).
- ➢ Annual Family Income: The highest income bracket (10,00,000 and above) accounts for 34.2% of respondents, followed by the 2,50,000 - 5,00,000 bracket (30.0%).

➢ Education Level: Most respondents have a graduation degree (55.8%), followed by PUC/12th (26.7%) and Post Graduation and above (17.5%).

➢ Occupation: Employed individuals make up the vast majority of respondents (88.3%), with students at 8.3% and retirees at 1.7%.

Descriptive Table:

This table summarizes the central tendencies and variability of the variables related to green product attributes, product choice, and overall satisfaction.

➢ Green Product Attributes: All attributes have mean values between 2.60 and 4.53, indicating moderate to high importance placed on them by respondents. Recycled content, biodegradable/compostable packaging, minimal packaging, and local sourcing received the highest average importance ratings.

➢ Product Choice: When equally priced, respondents have a slight preference for green products (mean = 4.17).

➢ Overall Satisfaction: Respondents are generally satisfied with their recent green product purchases (mean = 4.27).

This study investigated the influence of green product attributes on consumer choice and satisfaction, considering the moderating effects of age, income, and education level. The hypotheses were tested using linear regression and one-way ANOVA.

H1: Consumers' preference for green attributes influences their product choice.

The null hypothesis (H0) stated that consumers who place greater importance on green attributes will not choose green products more often than non-green alternatives. The linear regression analysis revealed a significant effect of eco-friendliness on product choice (β = -0.0193, p = 0.045), rejecting H0. This suggests that consumers with a stronger preference for green attributes are more likely to choose green products.

H2: Green attribute levels impact consumer satisfaction.

H0 proposed that products with higher levels of green attributes would not lead to higher levels of consumer satisfaction. The null hypothesis was rejected, $t(118)$ = -1.965, p = .0495, suggesting a significant relationship between green attribute levels and consumer satisfaction. While greenness alone may not directly impact overall satisfaction, it likely contributes alongside other product features.

H3a, H3b, and H3c: Moderating effects of demographic factors.

These hypotheses explored whether the influence of eco-friendliness on product choice and satisfaction would vary depending on age, income, and education level. One-way ANOVAs were conducted for each moderator.

H3a (Age): The ANOVA on age groups revealed no significant interaction between age and eco-friendliness on either product choice (F = 1.666, p = 0.449) or overall satisfaction (F =

1826, p = 0.445). H0 was not rejected, indicating that age does not moderate the relationship between eco-friendliness and choice/satisfaction.

H3b (Income): Similarly, the ANOVA on income groups showed no significant interaction with eco-friendliness for product choice (F = 0.4269, p = 0.735) or overall satisfaction (F = 0.7628, p = 0.521). H0 was not rejected, suggesting income does not moderate the effect of eco-friendliness.

H3c (Education level): However, the ANOVA on education level groups revealed a significant interaction with eco-friendliness on product choice (F = 0.6832, p = 0.010), but not overall satisfaction (F = 0.0408, p = 0.960). This suggests that education level might moderate the influence of eco-friendliness on product choice, but further investigation is needed to understand the nature of this interaction.

This study confirms that consumers with a stronger preference for green attributes are more likely to choose green products (H1 supported). However, the level of green attributes in a product does not directly influence overall satisfaction (H2 not supported). Additionally, while age and income do not seem to moderate the relationship between eco-friendliness and choice/satisfaction, education level might warrant further exploration.

Suggestions

- **Target value-driven customers with eco-friendly messaging:** Emphasize the social and environmental benefits of your green products in marketing campaigns to attract consumers who prioritize green attributes. Use clear and concise communication highlighting the specific eco-friendly features and their positive impact.

- **Focus on product performance and aesthetics alongside eco-friendliness:** While consumers appreciate green attributes, overall satisfaction also depends on features like performance, reliability, and aesthetics. Ensure your green products offer competitive functionalities and appealing designs to maintain a balance between environmental benefit and user experience.

- **Segment marketing communications based on education level:** The study hints that education level may influence how consumers respond to eco-friendly branding. Investigate this further and tailor your marketing messaging to resonate with different educational demographics.

- **Conduct deeper research on the education level moderation effect:** The ANOVA suggests a potential interaction between education level and green attribute influence on product choice, but the nature of this relationship remains unclear. Consider conducting follow-up studies to explore this interaction and gain more specific insights.

- **Partner with educational institutions to promote green awareness:** Collaborate with universities, colleges, or schools to organize workshops, campaigns, or educational programs that raise awareness about the importance of green products and sustainable consumption.

➢ **Encourage green product trials and reviews:** Offer trial sessions or product samples to let potential customers experience the benefits of your green products firsthand. Encourage satisfied customers to leave positive reviews and testimonials that showcase the positive impact of green choices.

➢ **Advocate for policy changes promoting green consumption:** Collaborate with government agencies and policymakers to advocate for regulations or incentives that encourage green product adoption and discourage environmentally harmful practices. This broader approach can create a more supportive environment for sustainable consumption habits.

Conclusion

This study investigated the influence of green product attributes on consumer choice and satisfaction, examining potential moderating effects of age, income, and education level. The results confirm that consumers with a stronger preference for green attributes are more likely to choose green products even when priced equally to non-green alternatives. However, the level of green attributes in a product itself does not directly influence overall satisfaction with the purchase. Interestingly, while age and income do not seem to moderate the relationship between eco-friendliness and choice/satisfaction, education level might play a role in product choice, meriting further research. These findings emphasize the importance of targeting marketing messages towards consumers who value the environmental and social benefits of green products. While green attributes undoubtedly influence choice, focusing on additional product features and ensuring high overall satisfaction could enhance the appeal of these products to a wider audience. Further exploration of education level's moderating effect through qualitative research could provide valuable insights for tailored marketing strategies and market segmentation.

This study contributes to the understanding of factors influencing green product adoption, providing essential knowledge for businesses and policymakers in promoting sustainable consumption practices. By prioritizing consumer preferences and ensuring well-rounded product offerings, the future of green products can be significantly brightened.

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Annexure

The Influence of Green Product Attributes on Consumer Choice and Satisfaction in Dakshina Kannada District
Questionnaire

Thank you for participating in this survey! Your answers will help us understand how consumers in Dakshina Kannada District make purchasing decisions based on green product attributes.

Part 1: Demographics

1. Age range:
   - o 18-24
   - o 25-34
   - o 35-44
   - o 45-54
   - o 55 and above

2. Gender:
   - o Male
   - o Female
   - o Non-binary/Third gender
   - o Prefer not to answer

3. Annual household income:
   - o Below ₹2,50,0000
   - o ₹2,50,000 - ₹5,00,000
   - o ₹5,00,000 - ₹10,00,000
   - o Above ₹10,00,000

4. Highest level of education completed:
   - o SSLC and Below
   - o PUC/12th
   - o Bachelor's degree
   - o Master's degree and higher

5. Location
   - o Mangaluru
   - o Putthur
   - o Sullia
   - o Moodabidre
   - o Kabaka
   - o Ullal
   - o Bantwal
   - o Belthangady

6. Occupation
   - o Stuudent
   - o Employed
   - o Unemployed
   - o Retired

Part 2: Green Product Attributes

Please rate your level of importance for the following green product attributes when making purchasing decisions. Use a scale from 1 (Not important at all) to 5 (Very important).

- Eco-friendliness: The product is made with materials and processes that minimize environmental impact.
- Recycled content: The product contains material that has been recycled from previously used products.
- Energy efficiency: The product uses less energy during production, use, or disposal.
- Water efficiency: The product uses less water during production, use, or disposal.
- Local sourcing: The product is made with materials or components sourced locally.
- Cruelty-free: The product was not tested on animals.
- Fair trade: The product was produced under fair and ethical labor conditions.
- Biodegradable/compostable: The product can decompose naturally after use.
- Reusable packaging: The product packaging can be reused multiple times.
- Minimal packaging: The product uses minimal packaging to reduce waste.

Part 3: Product Choice and Satisfaction

Imagine you are choosing between two similar products, one with higher levels of green attributes (as described above) and one with lower levels. Please indicate how likely you are to choose each product in the following scenarios:

1. Both products are priced the same.
   - Definitely choose the green product: 5
   - Probably choose the green product: 4
   - Unsure of choice: 3
   - Probably choose the less green product: 2
   - Definitely choose the less green product: 1

2. The green product is slightly more expensive than the less green product.
   - Definitely choose the green product: 5
   - Probably choose the green product: 4
   - Unsure of choice: 3
   - Probably choose the less green product: 2
   - Definitely choose the less green product: 1

Now, think about a recent purchase you made of a product with green attributes. Please rate your satisfaction with the following aspects of the product:

- Overall performance and quality: 1 (Very dissatisfied) to 5 (Very satisfied)
- Green attribute claims accurately reflected in the product: 1 (Strongly disagree) to 5 (Strongly agree)
- The green attributes made a positive difference in your usage experience: 1 (Strongly disagree) to 5 (Strongly agree)
- This purchase makes you more likely to buy green products in the future: 1 (Strongly disagree) to 5 (Strongly agree)

Thank you for your time and valuable insights!