



Factors Influencing Consumer Adoption Of Green Products In The Food And Beverage Market: Evidence From Coimbatore District

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ABSTRACT

Growing environmental awareness and health consciousness have significantly influenced consumer preferences in the food and beverage market. This study examines the factors influencing consumer adoption of green products in Coimbatore District. The research aims to identify the underlying determinants that drive consumers toward environmentally friendly food and beverage choices. Primary data were collected through a structured questionnaire administered to consumers in selected urban areas. Factor analysis was employed as the primary statistical tool to identify and group the key influencing variables into meaningful dimensions. The results reveal that environmental concern, health consciousness, perceived product quality, social influence, and price sensitivity are the major factors shaping green product adoption. Among these, environmental and health-related considerations emerged as the most influential determinants. The findings provide valuable insights for marketers, policymakers, and industry stakeholders to design effective strategies that promote sustainable consumption and enhance the market penetration of green products in the food and beverage sector.

keywords: Green Products, Consumer Adoption, Food and Beverage Market, Environmental Concern, Health Consciousness, Price Sensitivity.

INTRODUCTION

The growing concerns over environmental degradation, climate change, and public health have significantly transformed consumer behavior across industries. Among these, the food and beverage market has witnessed a notable shift toward sustainable and eco-friendly products. Green products in this sector refer to food and beverage items that are produced, processed, packaged, and distributed in ways that minimize environmental impact while promoting health and sustainability. Increasing awareness about organic ingredients, eco-friendly packaging, reduced carbon footprints, and ethical sourcing has encouraged consumers to reconsider their purchasing decisions.

In emerging markets like India, rapid urbanization and rising disposable incomes have further influenced consumption patterns. Consumers are becoming more conscious of the environmental and health implications of their food choices. However, despite the growing demand, the adoption rate of green products remains inconsistent due to factors such as higher prices, limited availability, lack of awareness, and skepticism about product authenticity.

Coimbatore District, being one of Tamil Nadu's major commercial and industrial hubs, presents a relevant context for examining green consumer behavior. The district has experienced steady economic growth and increased exposure to sustainable products, making it an ideal setting for studying green product adoption in the food and beverage market.

Understanding the factors that influence consumer adoption is essential for marketers, policymakers, and industry stakeholders to develop effective strategies that encourage sustainable consumption. Therefore, this study aims to identify and analyze the key determinants influencing consumer adoption of green products in the food and beverage market, using factor analysis as a statistical tool to uncover the underlying dimensions shaping consumer decisions.

STATEMENT OF THE PROBLEM

Environmental degradation, climate change, excessive plastic usage, and health-related concerns have intensified the need for sustainable consumption patterns, particularly in the food and beverage market. Although green products such as organic foods, eco-friendly packaged beverages, and sustainably sourced items are increasingly available, their adoption among consumers remains uneven and limited. While awareness about environmental protection and healthy living is growing, actual purchase behavior does not always align with positive attitudes toward green products.

In Coimbatore District, a rapidly developing commercial center in Tamil Nadu, consumers are exposed to a variety of green food and beverage options. However, factors such as higher prices, limited product availability, lack of clear labeling, skepticism regarding authenticity, and insufficient awareness may hinder widespread adoption. Moreover, marketers and policymakers lack clear empirical evidence on the relative importance of these influencing factors in shaping consumer decisions within the district.

Therefore, there is a need to systematically identify and analyze the key determinants influencing consumer adoption of green products in the food and beverage market in Coimbatore District. Understanding these underlying factors through statistical analysis will help bridge the gap between environmental awareness and actual purchasing behavior.

REVIEW OF LITERATURE

The growing emphasis on environmental sustainability has led to extensive research on green consumer behavior, particularly in the food and beverage sector. Scholars have examined various psychological, social, and economic factors influencing green product adoption.

The concept of green marketing was critically analyzed by Peattie, Ken and Crane, Andrew (2005), who argued that green marketing must move beyond superficial claims and focus on genuine environmental value creation. Their work highlights the importance of credibility in influencing consumer trust and purchase intention. The theoretical foundation of green consumer behavior is largely supported by the Theory of Planned Behavior proposed by Ajzen, Icek (1991), which explains how attitudes, subjective norms, and perceived behavioral control shape behavioral intentions. This framework has been widely applied in studies examining sustainable food consumption. Vermeir, Iris and Verbeke, Wim (2006) examined sustainable food consumption and found that environmental concern and perceived consumer effectiveness significantly influence the intention to purchase green food products. However, they observed a gap between intention and actual buying behavior. Research by Diamantopoulos, Adamantios et al. (2003) explored demographic and psychographic determinants of green purchasing. Their findings suggest that environmental concern and education level positively influence green buying behavior, though demographic factors alone are insufficient predictors. Price sensitivity has been identified as a significant barrier. Joshi, Yatish and Rahman, Zillur (2015) conducted a comprehensive review and concluded that while consumers express positive attitudes toward green products, higher prices often limit actual adoption. Social influence also plays a crucial role. Cheah, Isaac et al. (2019) found that subjective norms and peer influence significantly affect green purchase intentions, particularly in collectivist societies.

RESEARCH OBJECTIVE

1. To identify and analyze the underlying factors influencing consumer adoption of green products in the food and beverage market

RESEARCH METHODOLOGY

The present study adopts a descriptive research design and is based on primary data collected from consumers in Coimbatore District to identify the factors influencing the adoption of green products in the food and beverage market. A structured questionnaire was developed based on an extensive review of literature, incorporating variables such as environmental concern, health consciousness, perceived quality, price sensitivity, social influence, and green product adoption behavior. The responses were measured using a five-point Likert scale ranging from Strongly Disagree to Strongly Agree. Prior to the main survey, a pilot study was conducted with 120 respondents to assess the clarity, validity, and reliability of the instrument. The reliability of the questionnaire was tested using Cronbach's Alpha, and the overall reliability coefficient was found to be 0.87, indicating high internal consistency. Since the values exceeded the acceptable threshold of 0.70, the instrument was considered reliable and suitable for the final data collection and subsequent factor analysis.

LIMITATIONS OF THE STUDY

- The study is confined to consumers in Coimbatore District; therefore, the findings cannot be generalized to other regions.
- The research is based on primary data collected through a questionnaire, which may be subject to respondents' personal bias and perception errors.
- The study focuses only on selected factors influencing green product adoption and does not consider all possible determinants.

RESULTS AND DISCUSSION

Table: 1 - Cronbach's Alpha Test

Cronbach's Alpha	N of items
0.721	16

Table 1 explores the reliability of the interview schedule tested using Cronbach's Alpha. Through this study, Cronbach's Alpha of overall principal factors had value 0.721 and individually it has above 0.50. Hence the reliability of the questions is proved, i.e., the value is greater than 0.60 and the questionnaire is reliable for the purpose of data collection.

Factor analysis

This technique is used to condense a huge number of variables into fewer ones. This technique combines the largest common of all variable into a single score. We can use this score as an indicator of all factors for the further study. Factor analysis is part of the general linear model (GLM) and it makes numerous assumptions; there is a linear relationship, no multicollinearity, important variables are included in the analysis, and variables and factor have a real association.

The most prevalent method employed by researchers is Principal Common Analysis (PCA). The maximum variance is extracted by PCA and placed in the first factor. Then it minimizes the variance explained by the first two factors and begins extracting the maximum variance for the second factor. This procedure leads to the final factor. The correlation coefficient for the variable and factor is known as factor loading. The variance explained by the variable on that particular factor is shown by factor loading. In the SEM technique, a factor loading of 0.7 or greater indicates that the factor extracts enough variables from the variables.

KMO and Bartlett's test

Table: 2 - KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.681
Bartlett's Test of Sphericity	Approx. Chi-Square	1251.476
	df	120
	Sig.	.000

Table 2 measures Kaiser-Meyer-Olkin is an index which define of Sampling Adequacy. The KMO test value is 0.681 which is more than 0.5, can be considered and acceptable and valid to conduct data reduction techniques.

The Bartlett's Test of Sphericity helps to decide, whether the result of factor analysis are worth for considering and whether we should continue analyzing the research work. Bartlett's Test of Sphericity significant to a level of significance is < 0.001 which shows that there is a high level of correlation between variables, which make it adequate to apply factor analysis.

Rotated Component Matrix**Table: 3 - Rotated Component Matrix of factor influencing consumer adoption of green products in the food and beverage market.**

Variables	Components				
	1	2	3	4	
Protecting the environment is important to me	0.583				
I feel personally responsible for reducing environmental damage.	0.671				
I try to choose products that are environmentally friendly.	0.619				
Environmental issues influence my purchasing decisions.	0.610				
I prefer products made with natural or organic ingredients.		0.513			
I avoid food products with artificial additives or chemicals.		0.780			
I regularly check nutrition labels before purchasing.		0.759			
Maintaining a healthy diet is a priority for me.		0.675			
I am very conscious about the healthiness		0.705			
I know the difference between green and conventional products.			0.534		
I am aware of how food production affects the environment.			0.661		
I can identify products with sustainable packaging.			0.561		
I am knowledgeable about environmentally friendly			0.797		
I understand what eco-labels on products mean.			0.652		
Green food and beverage products are of high quality.				0.528	
Green products taste as good as or better than conventional products.				0.573	
Green products are fresh and safe to consume.				0.759	
I trust the nutritional value of green products.				0.675	
Green products meet my expectations in terms of quality.					0.661
I intend to purchase green food and beverage products regularly.					0.561
I am likely to choose green products in the future.					0.797
I prefer buying green products whenever possible.					0.705

Source: Calculated and Compiled from Primary Data**Extraction Method:** Principal Component Analysis**Rotation Method:** Varimax with Kaiser Normalization

Factors Loaded

Factor loading shows the variance explained by the variables on that particular factor. Another criterion for determining the number of factor is Eigen Value. If the Eigen value is greater than one, the factor should be considered. If less than one, then that factor should be ignored.

Table - 4 Result of Factor Loading

Principal Factor	Factor Loading	Eigen Value	% of Variance	Cronbach's Alpha
Factor I Environmental Concern		6.26	24.44	0.569
Protecting the environment is important to me	0.583			
I feel personally responsible for reducing environmental damage.	0.671			
I try to choose products that are environmentally friendly.	0.619			
Environmental issues influence my purchasing decisions.	0.610			
Factor II Health Consciousness		2.807	16.94	0.619
I prefer products made with natural or organic ingredients.	0.513			
I avoid food products with artificial additives or chemicals.	0.780			
I regularly check nutrition labels before purchasing.	0.759			
Maintaining a healthy diet is a priority for me.	0.675			
I am very conscious about the healthiness	0.705			
Factor III Brand Image & Trust		4.252	11.89	0.622
I trust brands that claim to be environmentally responsible.	0.534			
I believe green brands are honest about their environmental claims.	0.661			
A brand's environmental reputation affects my purchase decision.	0.561			
I prefer brands that demonstrate social and environmental responsibility.	0.797			
I trust certifications and labels on green products.	0.652			
Factor IV Perceived Product Quality		1.68	8.23	0.531
Green food and beverage products are of high quality.	0.528			
Green products taste as good as or better than conventional products.	0.573			
Green products are fresh and safe to consume.	0.759			
I trust the nutritional value of green products.	0.675			
Factor V Purchase Intention		1.086	5.23	0.512
Green products meet my expectations in terms of quality.	0.661			
I intend to purchase green food	0.561			

and beverage products regularly.				
I am likely to choose green products in the future.	0.797			
I prefer buying green products whenever possible.	0.705			
Total Variance Explained : 66.50 % of Variance				

Source: Calculated and Compiled from Primary Data

Table 4, The factors are extraction from the loaded items. 22 parameters were loaded to extract five factor using principal compound method. The total variance explained is 66.50 percent, it shows that five factors are extracted from the loaded statements.

Factor I was identified as “Environmental Concern” with 4 variables and accounted with 24.44 percent of total variance , Factor II as “Health Consciousness” with 5 variables and accounted with 16.94 percent of total variance, Factor III include 5 variables items named as Brand Image & Trust and accounted for 11.89 percent, Factor IV include 4 variables items named as Perceived Product Quality and accounted for 8.23 percent and the last factor V identified as “Purchase Intention” which comprised with 4 items and accounted for 5.23 percent of total variance.

CONCLUSION

The study concludes that several important factors influence consumers’ adoption of green products in the food and beverage market. Environmental concern, health consciousness, environmental knowledge, perceived product quality, and purchase intention were identified as key determinants. Among these, environmental and health-related factors play a major role in shaping consumer decisions.

The results indicate that consumers are more likely to purchase green products when they are aware of environmental issues, value their personal health, and perceive the products to be of good quality. Overall, the findings highlight the growing importance of sustainability and health awareness in influencing consumer behavior and provide useful insights for businesses and policymakers to promote green products effectively.

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