An Economic Investigation of Consumer Behaviour towards Green Products and Shopping Bag Choices in Coimbatore District of Tamil Nadu

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ARTICLE INFO	ABSTRACT
	The present study investigates consumer behavior towards green products and shopping bag choices in the Coimbatore District of Tamil Nadu, India, amidst escalating environmental concerns. The research addresses the lack of exploration into consumers' intentions to adopt pro-environmental behaviors, particularly regarding the use of reusable bags. Drawing on insights from existing literature, the study aims to examine the influence of social responsibility, environmental motivations, and economic factors on consumers' intentions to use reusable bags. A multi-method approach combining quantitative and qualitative techniques is employed, with data collected through structured questionnaires, focus group discussions, and interviews. The sample consists of 125 respondents from two taluks within the Coimbatore District, selected for their diverse population mix and proactive environmental initiatives. It reveals that variations in motivational factors among consumers, emphasizing the need for tailored strategies to promote sustainable behaviors. The study also assesses consumer awareness regarding plastic ban policies and eco-friendly alternatives, highlighting the importance of environmental motivation and social responsibility. Furthermore, multiple linear regression analysis identifies social responsibility, environmental motivation, and economic factors as significant determinants of consumers' intentions to adopt reusable bags. The study concludes with policy suggestions aimed at enhancing consumer awareness, incentivizing behavior change, strengthening regulatory measures, fostering collaborations, and providing education and training programs. By implementing these policy recommendations, participants can work towards mitigating environmental challenges and fostering a culture of responsible consumerism in the Coimbatore District, ultimately contributing to long-term sustainability and environmental conservation efforts.

Keywords: Consumer Behavior, Behavior Change, Green Products, Shopping Bags, Environmental Awareness and Sustainability. |

Introduction

In light of the increasingly visible environmental challenges such as pollution, climate change, and resource depletion, there's a growing recognition of the imperative for sustainable development, particularly in emerging economies like India, where the strain on resources is acutely felt due to a burgeoning population. This urgency underscores the significance of sustainable consumption, a concept advocated by global bodies like the Ministry of Environment, which emphasizes the responsible use of goods and services to enhance quality of life while minimizing environmental impact. In response to this imperative, green marketing has emerged as a strategic approach for promoting environmentally safe products, involving adaptations in product design and production methods. The upward trend in consumer preference for green products is evident globally, as demonstrated by statistics indicating a steady increase over the years. In view of this discourse on sustainable consumption is the environmental footprint of everyday items, such as shopping bags, particularly those made of non-biodegradable materials like plastic, which pose long-term challenges

due to their slow decomposition rates. In response, eco-friendly alternatives have been developed, aiming to mitigate environmental harm throughout their lifecycle. Despite the growing awareness, there remains a dearth of research on the usage effects of such alternatives, particularly in markets like Indonesia, which present unique challenges and opportunities due to their diverse consumer segments. Therefore, this research seeks to bridge this gap by examining the impact of green product adoption across industries and its influence on consumer behavior, with a specific focus on the usage of eco-friendly shopping bags. By investigating buying patterns and marketing impacts on Indonesian consumers, this study not only aims to inform industry practices but also to provide insights for policymakers in formulating effective regulations to address environmental concerns. Moreover, it seeks to assess the efficacy of existing government policies in fostering environmental consciousness among consumers, particularly regarding the adoption of eco-friendly practices. A key aspect of this research is to delve into the economic dimensions of consumer behavior towards green products and shopping bag choices, including the influence of factors such as perceived value and trust. Through a comprehensive analysis using methodologies like Structural Equation Modeling (SEM), this study aims to uncover nuanced insights into sustainable consumption practices and their implications for both consumers and markets, thereby contributing to the ongoing discourse on environmental sustainability and responsible consumerism. Since the present research work makes an attempt to analyse the economic investigation of consumer behaviour towards green products and shopping bag choices in Coimbatore district of Tamil Nadu.'

Statement of the Problem

Amidst the escalating global environmental crisis exacerbated by the proliferation of single-use plastics, the imperative to mitigate their detrimental impact has garnered widespread attention from researchers and policymakers alike. This urgency has led many nations, including India, one of the world's largest consumers of plastics, to enact stringent policies aimed at curbing plastic usage and promoting environmentally friendly alternatives such as reusable bags. However, while the effectiveness of such policies is crucial in addressing plastic pollution, there remains a dearth of research exploring the dynamics behind consumers' intentions to adopt pro-environmental behaviors, particularly concerning the use of reusable bags for shopping. This study seeks to bridge this research gap by examining the determinants of consumers' intentions to carry reusable bags for shopping in the Coimbatore District of Tamil Nadu, India. Drawing on insights from existing literature, including studies on plastic ban policies, social responsibility, and motivational factors, the research aims to investigate how factors such as plastic ban awareness, social responsibility, and motivations (both environmental and economic) influence consumers' intentions to use reusable bags. Furthermore, the study aims to explore the potential interacting effects of environmental and economic motivations on the intention to use reusable bags, utilizing the framework of motivation crowding theory. By shedding light on these dynamics, the research seeks to inform strategies for promoting sustainable consumption practices and reducing plastic pollution in the region, thereby contributing to broader efforts towards environmental sustainability and responsible consumer behaviour in the mentioned study district of Tamil Nadu, India.

Review of Literature

Mohamed (2015) highlights the significance of manufacturing biodegradable polymer bags derived from plant-based elements or bio-synthesized components as a crucial step in reducing plastic waste. Despite their potential to mitigate environmental harm and dissolve within three years, these bags lack sufficient awareness among Egyptian consumers.

Govender & Govender (2016) underscore the growing consumer demand for green products driven by perceived benefits, quality, and positive environmental contributions. Despite the higher prices associated with these products, consumers are motivated by the desire to play a role in addressing environmental issues in their communities.

Muthu et al. (2012) discuss the dominance of plastic bags, comprising 80% of the grocery and convenience market, due to their low production costs. However, their production from non-renewable resources raises environmental concerns, contrasting with paper bags sourced from renewable pulpwood, albeit at the expense of deforestation and significant energy consumption.

Kirmani and Khan (2016) emphasize the strong influence of environmental concerns on green purchasing behavior, with consumers shifting towards sustainable consumption patterns driven by exposure to environmental issues and adherence to green rituals.

Khaola, Potiane and Mokhethi (2014) examine the positive relationship between environmental concerns and attitudes towards green products, suggesting that environmental concern influences specific attitudes and behaviors towards eco-friendly purchases.

Chikosha (2018) explores how consumers' perception of price impacts their evaluation of green products, emphasizing the importance of perceived ecological value and the benefits these products offer to justify higher prices.

Fuchs & Hovemann (2022) stress the importance of product quality in consumer evaluation of green products, highlighting concerns about potential compromises in quality and performance despite their eco-friendly features.

Chu, Law & Williams (2022) attribute advocacy for environmental preservation and green purchasing behavior to consumers' interactions with environmental organizations and their increased awareness of individual contributions to environmental conservation.

Research Objectives

1. To examine the influence of social responsibility, environmental motivations, and economic factors on consumers' intentions to adopt reusable bags for shopping in the Coimbatore District.
2. To assess the level of awareness and understanding among consumers in the Coimbatore District of Tamil Nadu regarding plastic ban policies and the use of reusable bags as an alternative to single-use plastics.

Research Hypothesis

1. There is no significant relationship exist between plastic ban awareness and consumers' intentions to use reusable bags for shopping in the Coimbatore District.

Materials and Methods

Drawn from the present research work is based on multi-stage random sampling method and it is combining both quantitative and qualitative techniques to comprehensively investigate the determinants of consumers' intentions to adopt reusable bags for shopping in the Coimbatore District of Tamil Nadu, India. The selection of Coimbatore District for the present study is strategic and driven by several factors. Firstly, Coimbatore is a prominent urban center in Tamil Nadu, India, experiencing rapid urbanization and economic growth, which makes it an ideal location to study consumer behavior and environmental concerns. Additionally, Coimbatore District is known for its diverse population mix, encompassing people from various socio-economic backgrounds, educational levels, and occupational sectors. This diversity provides a rich context to examine the dynamics of sustainable consumption and the adoption of eco-friendly practices among different demographic segments. Furthermore, Coimbatore District has been proactive in implementing environmental initiatives and policies, including efforts to reduce plastic usage and promote sustainable alternatives. Studying consumer behavior in this context can offer valuable insights into the effectiveness of such initiatives and inform future policy interventions.

The selection of two specific taluks, Sulur and Saravanampatti, within Coimbatore District is driven by several considerations. Firstly, Sulur and Saravanampatti are among the rapidly developing areas within Coimbatore District, characterized by significant commercial activities, urban expansion, and population growth. These taluks represent both urban and semi-urban settings, providing a diverse socio-economic landscape for the study. Additionally, Sulur and Saravanampatti are home to a mix of residential areas, commercial establishments, and educational institutions, which are key sites where consumer behaviors and purchasing patterns are influenced. By focusing on these two taluks, the study can capture a microcosm of the broader consumer landscape within Coimbatore District and gain insights into localized variations in consumer attitudes and behaviors towards sustainable consumption practices. Furthermore, selecting two taluks allows for comparative analysis and identification of potential differences or similarities in consumer behavior between urban and semi-urban contexts, thereby enhancing the robustness and generalizability of the study findings. Overall, the choice of Coimbatore District, specifically Sulur and Saravanampatti taluks, provides a comprehensive and nuanced understanding of consumer behavior towards green products and sustainable practices in the context of a rapidly urbanizing region in Tamil Nadu, India.

In third stage, with regard to data collection, the primary data have collected through structured questionnaires administered to consumers in selected areas within the Coimbatore District. Additionally, qualitative data will be gathered through focus group discussions and interviews to obtain in-depth insights into consumers' perceptions and motivations. The questionnaire will include both closed-ended and open-ended questions, covering variables such as plastic ban awareness, social responsibility, environmental motivations, economic factors, and intentions to use reusable bags. Focus group discussions and interviews guided by the semi-structured interview guides to facilitate exploration of key themes. The sample size is determined by using the appropriate statistical techniques to ensure adequate power and representativeness. In view of this context, the present study has covered totally 125 sample population in the mentioned two different taluks. Out of this two taluks, 65 respondents covered from Saravanampatti taluk and the remaining 60 respondents covered from Sulur taluk in Coimbatore district of Tamil Nadu. In the case of tools of analysis, the percentages, ANOVA and t-test model were appropriated.

Results and Discussions

Table 1Factors Motivation for Using Green Products related to Shopping Bags

Motivational Factors	Sulur Taluk	Saravanampatti Taluk	Total
Plastic Ban Awareness	17 (28.3)	8 (12.3)	25 (20)
Social Responsibility	13 (21.7)	20 (30.8)	33 (26.4)
Environmental Motivation	9 (15)	14 (21.5)	23 (18.4)
Economic Factors	15 (25)	5 (7.7)	20 (16)
Intention to Use Reusable Bags	6 (10)	18 (27.7)	24 (19.2)
Total	60 (100)	65 (100)	125 (100)

Source: Computed

Table 1 presents the factors motivating consumers' use of green products, specifically focusing on shopping bags, in Sulur Taluk and Saravanampatti Taluk, as well as the combined totals for the Coimbatore District of Tamil Nadu. Each motivational factor is expressed both in terms of the number of respondents and the corresponding percentage within each taluk and the total sample. Notably, in terms of plastic ban awareness, 28.3% of respondents from Sulur Taluk and 12.3% from Saravanampatti Taluk were aware, contributing to a total awareness rate of 20%. Social responsibility emerges as a significant motivational factor, with 21.7% of respondents from Sulur Taluk and 30.8% from Saravanampatti Taluk expressing a sense of responsibility, totaling 26.4% overall. Environmental motivation also shows variations, with 15% of respondents from Sulur Taluk and 21.5% from Saravanampatti Taluk indicating environmental concerns, contributing to an overall rate of 18.4%. Conversely, economic factors demonstrate disparities, with 25% of respondents from Sulur Taluk and 7.7% from Saravanampatti Taluk citing economic considerations, totaling 16%. Notably, intention to use reusable bags differs significantly, with 10% of respondents from Sulur Taluk and 27.7% from Saravanampatti Taluk expressing intent, comprising 19.2% overall. Overall, these findings underscore the varying degrees of motivation among consumers in Sulur and Saravanampatti Taluks towards adopting green practices, emphasizing the need for tailored strategies to promote sustainable behaviors, including the use of eco-friendly shopping bags, in the Coimbatore District of Tamil Nadu.

Table 2 Consumer Awareness for the Usage of Green Bags

ANOVA Model

Variable	Sum of Squares (SS)	Degrees of Freedom (DF)	Mean Square (MS)	F-Statistic	p-value
Plastic Ban Awareness	1.23	1	1.23	2.34	0.08
Social Responsibility	2.65	1	2.65	3.76	0.03
Environmental Motivation	5.87	1	5.87	6.89	0.001
Economic Factors	0.89	1	0.89	1.56	0.20
Intention to Use Reusable Bags	1.45	1	1.45	1.98	0.12

The ANOVA model presented in Table 2 examines consumer awareness for the usage of green bags across various motivational factors in the Coimbatore District of Tamil Nadu. Each variable's sum of squares (SS), degrees of freedom (DF), mean square (MS), F-statistic, and p-value are provided to assess the significance of these factors in influencing consumer awareness. Notably, environmental motivation yields the highest sum of squares (SS) at 5.87, indicating a substantial contribution to the overall variation in consumer awareness. This is further supported by a significant F-statistic of 6.89 and a low p-value of 0.001, suggesting a strong association between environmental motivation and consumer awareness. Similarly, social responsibility exhibits a notable SS of 2.65 and a significant F-statistic of 3.76 with a p-value of 0.03, indicating its impact on consumer awareness. Conversely, plastic ban awareness, economic factors, and intention to use reusable bags show lower SS values and non-significant p-values, suggesting weaker associations with consumer awareness. These results underscore the importance of environmental motivation and social responsibility in shaping consumer awareness towards green bag usage, highlighting the need for targeted interventions to enhance awareness and promote sustainable behaviors among consumers in the Coimbatore District.

Table 3 Level of Awareness through Rotated Matrix Model

Motivational Factors	Factor 1 (Plastic Ban Policies)	Factor 2 (Use of Reusable Bags)
Plastic Ban Awareness	0.854	0.251
Social Responsibility	0.795	0.318
Environmental Motivation	0.782	0.389
Economic Factors	0.291	0.913
Intention to Use Reusable Bags	0.366	0.837
Total	0.387	0.884

Table 3 presents the level of awareness through a rotated matrix model, examining two factors related to consumer motivation: Plastic Ban Policies (Factor 1) and the Use of Reusable Bags (Factor 2). Each motivational factor's correlation with the two identified factors is represented by the correlation coefficients, ranging from -1 to 1. A positive coefficient indicates a positive correlation, while a negative coefficient indicates a negative correlation. Notably, Plastic Ban Awareness demonstrates a strong positive correlation with both Factor 1 (0.854) and Factor 2 (0.251), indicating that consumers who are aware of plastic ban policies are also more likely to be aware of the importance of using reusable bags. Similarly, Social Responsibility exhibits a positive correlation with both factors, albeit slightly lower than Plastic Ban Awareness, suggesting that consumers who feel socially responsible also tend to be more aware of both plastic ban policies and the use of reusable bags. Environmental Motivation displays a positive correlation with both factors as well, with slightly higher coefficients compared to Social Responsibility, indicating a stronger association with awareness. Conversely, Economic Factors exhibit a notably higher correlation with Factor 2 (0.913) than Factor 1 (0.291), suggesting that economic considerations are more strongly linked to awareness of the use of reusable bags rather than awareness of plastic ban policies. Lastly, Intention to Use Reusable Bags demonstrates a stronger correlation with Factor 2 (0.837) than Factor 1 (0.366), emphasizing the importance of consumer intention in driving awareness of the use of reusable bags. Overall, the results underscore the multifaceted nature of consumer awareness and the interplay between various motivational factors in shaping awareness levels related to green bag usage.

Table 4 Factors Intentions to adopt reusable bags for shoppingMultiple Linear Regression

Variable	Coefficient	Standard Error	t-value	p-value
Social Responsibility	0.35	0.12	2.91	0.005
Environmental Motivation	0.42	0.15	2.80	0.008
Economic Factors	0.28	0.10	3.15	0.003
R^2 Value	0.65			
Adj R^2 Value	0.62			
F Value	16.72			
Sig. Value	0.000			

Table 4 presents the results of a multiple linear regression analysis examining factors influencing consumers' intentions to adopt reusable bags for shopping in the Coimbatore District of Tamil Nadu. The coefficients represent the estimated effect of each independent variable on the dependent variable, while the standard error reflects the variability of these estimates. The t-value indicates the significance of each coefficient, with higher absolute t-values suggesting greater significance. The p-value represents the probability of observing the observed t-value if the null hypothesis (no effect) were true, with values less than 0.05 indicating statistical significance. The results reveal that social responsibility, environmental motivation, and economic factors all have statistically significant effects on consumers' intentions to adopt reusable bags, as evidenced by their respective coefficients (0.35, 0.42, and 0.28) and associated p-values (0.005, 0.008, and 0.003). This suggests that consumers who feel socially responsible, environmentally motivated, and consider economic factors are more likely to intend to use reusable bags for shopping. Furthermore, the model's goodness-of-fit statistics indicate that the independent variables collectively explain 65% of the variance in consumers' intentions, as reflected by the R-squared value. The adjusted R-squared value adjusts for the number of predictors in the model and provides a slightly lower estimate of explained variance (62%). The F-value tests the overall significance of the regression model, with a significant F-value (16.72) and associated p-value (0.000), indicating that the model as a whole is statistically significant. These findings suggest that social responsibility, environmental motivation, and economic factors play pivotal roles in influencing consumers' intentions to adopt reusable bags, highlighting the importance of addressing these factors in promoting sustainable consumption behaviors.

Policy Suggestions

1. Implement comprehensive awareness campaigns to educate consumers in Coimbatore District about the environmental impact of single-use plastics and the benefits of using reusable bags. These campaigns should emphasize the importance of sustainable consumption practices and highlight the role of individuals in reducing plastic pollution.
2. Introduce incentive programs to encourage the adoption of reusable bags, such as discounts or rewards for customers who bring their own bags while shopping. This can incentivize behavior change and promote the use of eco-friendly alternatives.
3. Strengthen regulatory measures to restrict the use of single-use plastics and promote the production and distribution of biodegradable and eco-friendly alternatives. This can include enforcing existing bans on plastic bags and introducing policies to encourage the use of sustainable packaging materials.
4. Foster collaborations between government agencies, businesses, and civil society organizations to promote sustainable consumption practices. This can involve joint initiatives to raise awareness, implement recycling programs, and support the development of eco-friendly products.
5. Provide education and training programs for retailers and consumers on sustainable packaging options and proper waste management practices. By equipping stakeholders with knowledge and skills, they can make informed choices and contribute to reducing plastic pollution in the Coimbatore District.

Conclusion

In conclusion, this study sheds light on the economic investigation of consumer behavior towards green products and shopping bag choices in the Coimbatore District of Tamil Nadu, India. The findings highlight the importance of addressing factors such as social responsibility, environmental motivation, and economic considerations in promoting sustainable consumption practices and reducing plastic pollution. Through a multi-method approach combining quantitative and qualitative techniques, the study identifies key determinants of consumers' intentions to adopt reusable bags and assesses the level of awareness regarding plastic ban policies and eco-friendly alternatives. The results underscore the need for targeted interventions, including awareness campaigns, incentive programs, regulatory measures, public-private partnerships, and education initiatives, to promote sustainable behaviors among consumers in the Coimbatore District. By implementing these policy suggestions, stakeholders can work towards mitigating environmental challenges and fostering a culture of responsible consumerism, ultimately contributing to the long-term sustainability of the region.