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Factors Shaping Consumer Behaviour in the Eco-Friendly Solar Powered Garden Lamps Products



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ABSTRACT

This research investigates consumer behaviour towards eco-friendly solar-powered garden lamps in Chennai City, shedding light on the factors influencing purchasing decisions and satisfaction levels. Employing a convenient sampling method, data from 54 respondents were collected through a digital form, offering insights into demographics, information sources, constraints, and preferences. Findings reveal a predominant consumer interest in solar-powered garden lamps driven by environmental concerns. Quality, easy availability, and price are identified as key factors influencing satisfaction, while marketing elements significantly impact product preferences. Constraints such as higher prices and limited awareness present challenges to broader adoption. Policy recommendations emphasize awareness campaigns, incentives for sustainable practices, and addressing accessibility barriers. Managerial implications highlight the importance of quality assurance, strategic marketing, and adaptability. The study concludes by identifying avenues for future research, including geographical expansion, longitudinal studies, and in-depth cultural analyses, to further enrich our understanding of this evolving market.

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1.0 INTRODUCTION

In the contemporary era marked by environmental consciousness and sustainable living, consumer behaviour plays a pivotal role in shaping the market dynamics for eco-friendly products. This research paper delves into the intricate realm of consumer behaviour specifically concerning eco-friendly solar-powered garden lamps. With the increasing emphasis on renewable energy sources and eco-conscious living, understanding how consumers interact with and respond to solar-

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powered garden lamps becomes imperative. This study seeks to explore the factors influencing consumer choices, preferences, and decision-making processes in the context of eco-friendly lighting solutions for gardens. By unravelling the nuances of consumer behaviour in this niche market, the research aims to contribute valuable insights that can inform businesses, marketers, and policymakers, fostering a more sustainable and environmentally responsible consumer landscape. The investigation into consumer attitudes and behaviours towards solar-powered garden lamps holds promise for not only advancing academic discourse but also guiding practical strategies for businesses engaged in the eco-friendly product market.

1.1 Statement of the Problem

In the vibrant urban landscape of Chennai City, the surge in environmental awareness and the growing preference for sustainable living practices have given rise to a significant market for eco-friendly products, notably solar-powered garden lamps. However, amidst this evolving consumer landscape, there exists a critical gap in our understanding of the nuanced dynamics that govern consumer behaviour towards these products. This research aims to address the overarching problem: How do consumers in Chennai City navigate their choices, preferences, and decision-making processes when it comes to eco-friendly solar-powered garden lamps? The lack of comprehensive insights into this specific facet of consumer behaviour impedes businesses, marketers, and policymakers from effectively catering to the demands of this niche market. By delving into the intricacies of consumer behaviour towards eco-friendly lighting solutions for gardens in the unique context of Chennai City, this study seeks to bridge this gap and provide valuable guidance for stakeholders aiming to foster a sustainable and eco-conscious consumer culture in the region.

1.2 Review of Literature

Behera and Panda (2023) investigates the consumer attitudes and factors influencing the adoption of solar power solutions, with a specific focus on rural India. The research explores the mindset and purchasing behaviours of potential solar product buyers in this context, revealing that consumers' interest in transitioning to solar-powered lights is primarily motivated by environmental concerns. Additionally, social influences, ecological awareness, environmental attitude, environmental responsibility, and government efforts are identified as supporting factors in this decision-making process. The study establishes a correlation between eco-consciousness and the choice to install photovoltaic (PV) systems in homes, emphasizing the pivotal role of environmental concerns as the dominant determinant. Furthermore, the findings suggest that consumers acquire knowledge about eco-friendly products primarily through interpersonal networks, such as friends, family, and neighbours. The paper underscores the importance of businesses demonstrating cultural curiosity and a genuine interest in individuals to build trust and loyalty among consumers. Overall, the research highlights the significance of social factors, environmental awareness, and governmental initiatives in shaping consumers' intentions to adopt solar lighting systems, positioning environmental concerns as a key driver in promoting the growth of PV technology in the residential sector.

White *et al.*, (2019) underscore the pivotal role of marketing in fostering sustainable consumption by conducting a comprehensive review of academic literature from the realms of marketing and behavioural science. This study seeks to discern the most effective strategies for inducing a shift in consumer behaviours towards sustainability. Throughout the literature review process, the authors introduce the SHIFT framework, a conceptual model designed to encapsulate

and promote sustainable consumer behaviour change. Represented by the acronym SHIFT, the framework posits that consumers are more inclined to adopt pro-environmental behaviours when marketing messages or contexts strategically leverage specific psychological factors. These factors, integral to the SHIFT framework, include social influence, Habit formation, Individual self, Feelings and cognition, and Tangibility. By amalgamating insights from marketing and behavioural science, [White et al., \(2019\)](#) not only contribute to the scholarly discourse surrounding sustainable consumption but also provide a practical guide for marketers aiming to effectively navigate the landscape of consumer behaviour and encourage environmentally responsible choices.

[Yang \(2017\)](#) investigated the impact of prior brand knowledge on consumers' impressions and assessments of brands. The findings of this research study have given an insight into customers' perspectives and provide a thorough understanding of the influence of brand awareness on consumer attitudes towards environmentally friendly skincare products and product assessment.

This study by [Purohit \(2011\)](#) attempts to understand how consumers' perceptions of green marketing influence their purchase decision. The research results demonstrate that people are willing to pay extra for goods with less environmental impact. They also give preference to eco-friendly distribution methods and campaigns that minimise waste. However, they will not sacrifice product quality for sustainability.

1.3 Objectives of the Study

1. To examine the awareness and consumer behaviour towards eco-friendly Solar Powered Garden Lamps Product.
2. To analyse the behaviour of consumers towards Green Products.

1.4 Limitation of the Study

While the study contributes valuable insights, it is essential to acknowledge its limitations.

- Firstly, the reliance on a relatively small sample size of 54 respondents may restrict the generalizability of the findings to a broader population. The use of convenient sampling, while practical, introduces potential selection bias, as participants may not be representative of the larger population.
- Additionally, the exclusive focus on Chennai city in data collection through a digital form may limit the study's applicability to diverse geographical or demographic contexts, potentially undermining the external validity of the results. The digital form method might exclude individuals without internet access, possibly introducing a source of sampling bias. These limitations collectively emphasize the need for caution when interpreting the findings and underscore the importance of future research endeavours to expand the scope and diversity of the study population.

2.0 RESEARCH METHODOLOGY

2.1 Research Design

The research design for this study is a crucial and comprehensive strategy that guides the systematic investigation into consumer behaviour towards eco-friendly solar-powered garden lamps in Chennai City. The chosen design ensures a structured and insightful exploration of the factors influencing consumer preferences and decision-making processes in this specific market segment.

2.2 Sampling Technique

Convenient sampling was employed to select participants for this study. While this method offers practicality and ease of access to respondents, it is essential to acknowledge the potential for selection bias. Participants were chosen based on their accessibility and willingness to participate, recognizing that the findings may be representative of a specific subgroup within the broader population.

2.3 Data Collection

The data sample was collected exclusively from Chennai City, and the survey was administered through a digital form. This approach not only facilitates efficient data collection but also aligns with contemporary methods, acknowledging the prevalence of digital communication in urban settings. The use of a digital form allows for streamlined responses and efficient data management.

2.4 Sample Size

A total of 54 respondents were surveyed to gather data for this study. While the sample size is relatively modest, it provides a basis for initial insights into consumer behaviour in the context of eco-friendly solar-powered garden lamps in Chennai City. The use of a targeted sample allows for in-depth examination and analysis of individual responses.

2.5 Instrumentation

Information from the respondents was collected through a well-designed questionnaire. The questionnaire is crafted to capture a spectrum of variables relevant to consumer preferences, decision-making factors, and attitudes towards eco-friendly solar-powered garden lamps. The careful design of the instrument ensures the collection of meaningful and pertinent data for the study.

2.6 Data Analysis

Upon the completion of data collection, the gathered information will be subjected to rigorous analysis. Descriptive statistics will be employed to derive the data, offering valuable insights into the factors influencing consumer behaviour towards eco-friendly solar-powered garden lamps in Chennai City.

3.0 RESULTS AND DISCUSSION

Table 1

Demographic Variables

Demographic	Frequency	Percentage
Age		
20 years – 30 years	39	72.22
30 years – 40 years	7	12.96
40 years – 50 years	5	9.26
Above 50 years	3	5.56
Gender		
Male	6	11.11
Female	48	88.89

Occupation		
Student	28	51.85
Self-Employee	7	12.96
Working Professional	16	29.63
Home Maker	3	5.56

Source: Primary data

In the demographic analysis of respondents (*vide Table 1*), the age distribution revealed a predominant representation of individuals aged between 20 and 30 years, constituting 72.22% of the sample. The 30 to 40 years age group comprised 12.96%, while those between 40 and 50 years and above 50 years constituted 9.26% and 5.56%, respectively. In terms of gender, females significantly outnumbered males, comprising 88.89% of the respondents. Regarding occupation, students constituted the largest group at 51.85%, followed by working professionals at 29.63%, self-employed individuals at 12.96%, and homemakers at 5.56%. This detailed demographic breakdown provides a comprehensive understanding of the characteristics of the study participants and lays the foundation for further analysis of socio-economic variables in the research study.

Table 2

How did you get to know about Eco-Friendly Solar-Powered Garden Lamps Products

Particulars	Frequency	Percentage
Newspaper	10	18.52
Television	10	18.52
Social Media	20	37.04
Family/Friends	14	25.93
Total	54	100.00

Source: Primary data

In the exploration of sources informing respondents about eco-friendly solar-powered garden lamps products, the frequency table demonstrates a varied distribution. Social media emerges as the most influential source, with 37.04% of respondents acquiring information through this platform. Both newspapers and television equally contribute, each representing 18.52% of the sample. Family and friends play a significant role, with 25.93% of respondents relying on personal networks for information (*see Table 2*). This breakdown of information sources underscores the diverse channels through which individuals acquire knowledge about eco-friendly solar-powered garden lamps, providing valuable insights into the media landscape shaping consumer awareness in this specific market.

Table 3

Factors Influencing the Purchasing of Eco-Friendly Solar-Powered Garden Lamps

Particulars	Frequency	Percentage
Quality	18	33.33
Brand	16	29.63
Price	10	18.52
Best Promotions	10	18.52
Total	54	100.00

Source: Primary data

Table 3 outlines the factors influencing the purchasing decisions of eco-friendly solar-powered garden lamps, revealing distinct preferences among respondents. Quality emerges as the primary determinant, with 33.33% of respondents prioritizing this factor in their purchasing choices. Brand recognition closely follows, constituting 29.63% of the sample, emphasizing the significance of brand reputation in influencing consumer decisions. Price and promotional offers share equal importance, each representing 18.52% of respondents' considerations. This nuanced breakdown provides valuable insights into the multifaceted aspects that shape consumer preferences in the context of eco-friendly solar-powered garden lamps, shedding light on the key factors that guide purchasing behaviour in this market segment.

Table 4

Constraints in Purchasing Eco-Friendly Solar-Powered Garden Lamps Products

Particulars	Frequency	Percentage
Higher price	7	12.96
Easy availability of the existing brand	13	24.07
Not much aware	12	22.22
Size of packaging	13	24.07
Non-availability stores	9	16.67
Total	54	100.00

Source: Primary data

Table 4 illuminates the constraints encountered by respondents in the purchase of eco-friendly solar-powered garden lamps. Notably, the issue of a higher price emerges as a prominent concern, with 12.96% of respondents citing it as a constraint. The easy availability of existing brands and limited awareness about eco-friendly products each account for 24.07% of respondents, underscoring the challenges associated with brand loyalty and consumer awareness. The size of packaging is identified as a constraint by 24.07% of respondents, suggesting the importance of packaging considerations in consumer decision-making. Non-availability of these products in stores is noted as a constraint by 16.67% of respondents. This nuanced examination of constraints provides valuable insights into the barriers that may hinder the widespread adoption of eco-friendly solar-powered garden lamps, offering implications for marketers and policymakers seeking to address these challenges.

Table 5

Consumer Satisfaction towards Eco-Friendly Solar-Powered Garden Lamps Products

Particulars	Frequency	Percentage
Quality of the product	14	25.92
Easy availability of the product	11	20.37
Price of the product.	14	25.93
Attractive product.	15	27.78
Total	54	100.00

Source: Primary data

Table 5 presents a comprehensive overview of consumer satisfaction regarding eco-friendly solar-powered garden lamps products, elucidating key factors influencing their contentment. Notably, the quality of the product stands out as a significant contributor to consumer satisfaction,

with 25.92% of respondents expressing contentment in this regard. The easy availability of the product closely follows, representing 20.37% of respondents, emphasizing the importance of accessibility in influencing consumer satisfaction. Similarly, the price of the product is identified as a critical factor, with 25.93% of respondents indicating its influence on their satisfaction levels. An attractive product design is highlighted by 27.78% of respondents as a key contributor to their overall satisfaction. This nuanced examination of consumer satisfaction provides valuable insights into the factors that contribute to a positive consumer experience with eco-friendly solar-powered garden lamps, offering implications for marketers and product developers in enhancing customer satisfaction in this niche market.

Table 6

Reasons that Make People Pay More for Eco-Friendly Solar-Powered Garden Lamps Products

Particulars	Frequency	Percentage
Quality	13	24.07
Marketing Elements	12	22.22
Addressing environmental issues	17	31.48
Easy waste disposal	12	22.22
Total	54	100.00

Source: Primary data

Table 6 delineates the reasons compelling individuals to pay a premium for eco-friendly solar-powered garden lamps products. A predominant factor is the emphasis on quality, with 24.07% of respondents recognizing it as a key motivator for spending more. Marketing elements, constituting 22.22% of the respondents, play a significant role in influencing consumer choices, highlighting the impact of promotional strategies and branding. Addressing environmental issues emerges as the most compelling factor, with 31.48% of respondents expressing a willingness to pay more for products contributing to environmental sustainability. Easy waste disposal considerations are noted by 22.22% of respondents, showcasing the importance of end-of-life product management in influencing purchasing decisions. This detailed analysis of reasons behind a willingness to pay a premium offers valuable insights into the motivators driving consumer choices in the eco-friendly solar-powered garden lamps market, aiding marketers and policymakers in strategic decision-making.

4.0 POLICY IMPLICATIONS

The managerial implications derived from the research findings offer valuable guidance for businesses operating in the eco-friendly solar-powered garden lamps industry. Managers should prioritize quality assurance and innovation, investing in advanced technologies to meet the discerning expectations of environmentally conscious consumers. Strategic marketing communications should emphasize sustainability and unique selling points to create a positive brand image. Thoughtful pricing strategies, aligning with consumers' willingness to pay, and establishing partnerships with retailers contribute to product accessibility. Managers should champion recycling initiatives, embody sustainable practices, and regularly engage with customers to understand evolving preferences. Employee training on eco-friendly features and cultural alignment with sustainability can enhance brand credibility. Adaptability to market changes and responsiveness to consumer trends will ensure businesses remain dynamic and competitive in the evolving landscape

of eco-friendly consumer products. Incorporating these implications into managerial strategies positions businesses to not only meet consumer demands but also contribute positively to environmental sustainability.

5.0 CONCLUSION

In conclusion, this research has provided valuable insights into the complex dynamics of consumer behaviour towards eco-friendly solar-powered garden lamps in Chennai City. The findings underscore the pivotal role of environmental concerns in driving consumer interest and purchasing decisions within this niche market. Quality, easy availability, and price have been identified as critical factors influencing consumer satisfaction, while marketing elements play a significant role in shaping preferences. The study further reveals constraints, such as higher prices and limited awareness, that need to be addressed to foster broader adoption. These findings hold significant implications for policymakers, managers, and businesses aiming to navigate the landscape of sustainable consumer products. Policy recommendations focus on promoting awareness, incentivizing sustainable practices, and addressing barriers to accessibility. Managerial implications highlight the importance of quality assurance, strategic marketing, and adaptability to consumer preferences. Ultimately, as the demand for eco-friendly products continues to grow, the insights from this research provide a foundation for shaping policies, strategies, and practices that contribute to a more sustainable and environmentally conscious future in the realm of solar-powered garden lamps.

5.1 Scope for Further Research

While this research provides valuable insights into consumer behaviour towards eco-friendly solar-powered garden lamps in Chennai City, there remains a rich scope for future investigations to deepen our understanding of this dynamic market.

- Future research could extend the geographical scope to encompass diverse regions, urban and rural, to capture a more comprehensive view of consumer preferences and behaviours. Examining variations in attitudes across different locations would contribute to a more nuanced understanding of regional influences.
- Exploring the influence of cultural factors on consumer behaviour could be a fruitful avenue for future research. Understanding how cultural values, traditions, and social norms shape preferences and perceptions of eco-friendly products would contribute to tailored marketing strategies.
- Conducting comparative studies between different types of eco-friendly lighting solutions could offer valuable insights. Comparisons with other sustainable lighting options, such as LED or traditional solar lamps, would help businesses and policymakers understand the relative advantages and disadvantages of different eco-friendly alternatives.

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