

Original Article

Study on Changing Consumer Behaviour towards Sustainable and Eco-Friendly Palm Leaf Products in Mayiladuthurai

Dr. R. Karthi¹, M. Hemaladevi²

¹Professor, Department of Management Studies, EGS Pillay Engineering College, Nagapattinam, India.

²MBA Student, Department of Management Studies, EGS Pillay Engineering College, Nagapattinam, India.

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ABSTRACT

This document provides detailed guidelines for the preparation and submission of manuscripts to World Comet Research Group Journals. The abstract should present a concise and self-contained summary of the research, clearly stating the purpose, methodology, key findings, and principal conclusions of the study. Authors are required to limit the abstract to a maximum of 300 words. Emphasis should be placed on the novelty and significance of the research contribution, clearly distinguishing the work from existing studies in the field. The abstract should be written in clear and precise academic language and must avoid the use of references, figures, tables, or unexplained abbreviations. As the abstract is often the first and sometimes the only part of the paper read by reviewers and readers, it should accurately reflect the content of the manuscript and highlight the original aspects and potential impact of the work. Compliance with these guidelines will facilitate effective peer review, indexing, and dissemination of articles published in World Comet Research Group Journals.

KEYWORDS

Consumer Behaviour, Sustainable Products, Eco-Friendly Products, Palm Leaf Products, Environmental Awareness, Sustainable Consumption.

1. INTRODUCTION

In recent years, people have become more concerned about environmental issues caused by the excessive use of plastic products. As awareness about environmental protection continues to grow, consumers are gradually changing their purchasing habits and showing greater interest in sustainable and eco-friendly alternatives. Palm leaf products have gained popularity as they are biodegradable, safe to use, and environmentally friendly. These products are increasingly being used in households, functions, and various social events as substitutes for plastic and thermocol items. In Mayiladuthurai, the demand for palm leaf products has been steadily increasing due to rising environmental awareness, health consciousness, and government initiatives promoting eco-friendly practices. Understanding how consumers perceive and adopt these products is important for encouraging sustainable consumption. Therefore, this study focuses on analysing the changing consumer behaviour towards sustainable and eco-friendly palm leaf products in Mayiladuthurai.

2. NEED OF THE STUDY

In recent years, environmental pollution caused by plastic and non-biodegradable products has become a serious concern across the world. As consumers become more aware of the harmful effects of plastic waste on the environment and human health, there is a growing interest in adopting sustainable and eco-friendly alternatives. Palm leaf products have emerged as one of the most suitable alternatives because they are natural, biodegradable, reusable, and environmentally safe. Although the demand for eco-friendly products is gradually increasing, the level of consumer awareness, perception, and actual usage of palm leaf products still varies among individuals. Therefore, it is important to understand how consumers perceive these products and the factors that influence their purchasing decisions.

3. RESEARCH GAP

Although several studies have been conducted on consumer behaviour towards ecofriendly and sustainable products, most of the existing research focuses on general, environmental awareness, and sustainable consumption practices. Only a limited number of studies have specifically examined consumer attitudes and purchasing behaviour towards palm leaf products. In addition, many previous studies have concentrated on urban consumers and large metropolitan areas, while relatively less attention has been given to consumers in semi-urban and rural regions such as Mayiladuthurai. As a result, there is limited understanding of how consumers in these areas perceive and adopt ecofriendly palm leaf products in their day-to-day lives. Furthermore, existing studies have not adequately explored the combined influence of factors such as environmental awareness, health and safety concerns, product availability, accessibility, and government initiatives on consumer purchasing decisions. There is also limited research examining whether consumers are genuinely shifting from plastic products to sustainable alternatives such as palm leaf products. Therefore, this study attempts to fill these gaps by analysing the changing consumer behaviour towards sustainable and eco-friendly palm leaf products in Mayiladuthurai and by identifying the key factors that influence their acceptance, usage, and market growth.

4. OBJECTIVES OF THE STUDY

1. To analyze the level of awareness among consumers about eco-friendly products.
2. To examine the changes in consumer buying behaviour towards sustainable products.
3. To investigate consumer perception towards eco-friendly products.
4. To identify the factors influencing consumers to choose eco-friendly products.
5. To evaluate the availability and accessibility of eco-friendly products in the local market.

6. SCOPE OF THE STUDY

This study focuses on understanding how consumers in Mayiladuthurai are responding to sustainable and eco-friendly palm leaf products in their everyday lives. With growing awareness about environmental protection and the harmful effects of plastic usage, many consumers are gradually changing their purchasing preferences towards eco-friendly alternatives. This research examines consumers' awareness, perceptions, and buying behaviour related to palm leaf products, while also identifying the factors that encourage their adoption.

7. REVIEW OF LITERATURE

Sharma and Gupta (2023) conducted a study on consumer preferences towards ecofriendly products and found that environmental awareness plays a significant role in influencing purchasing decisions. The study revealed that consumers who are more conscious about environmental issues are more likely to choose sustainable products over conventional alternatives. The authors also observed that increasing awareness campaigns and educational initiatives can further encourage the adoption of eco-friendly products among consumers.

Ramesh and Priya (2022) examined consumer attitudes towards biodegradable products and reported that health, safety, and environmental concerns are among the major factors influencing purchase behaviour. The study highlighted that consumers increasingly prefer products that are safe for both human health and the environment. The researchers concluded that biodegradable products have strong growth potential due to the growing demand for sustainable lifestyles and responsible consumption practices.

Joseph and Arul (2021) investigated the impact of product availability and accessibility on consumer adoption of sustainable products. Their findings indicated that even when consumers have positive attitudes towards eco-friendly products, limited availability in local markets can affect purchasing decisions. The study emphasized that improving product accessibility, increasing retail presence, and enhancing promotional efforts can significantly contribute to the widespread acceptance of sustainable products among consumers.

Abinaya & Vani (2020) explored the role of advertising and media communication in promoting green marketing practices. The study found that advertising significantly increased consumer awareness regarding eco-friendly and sustainable products. Through media platforms and promotional campaigns, consumers became more informed about the environmental benefits of

green products. The research explained that marketing communication improved product recognition and consumer understanding of sustainability concepts. Awareness created through advertisements positively influenced consumer purchase intention towards eco-friendly products. The study further observed that effective promotional strategies encouraged environmentally responsible consumption behaviour among consumers. Thus, the study concluded that advertising plays an important role in supporting green awareness and sustainable purchasing decisions.

Acharya et al. (2020) examined the influence of mass media on consumer awareness and buying behaviour towards green products. The study found that media platforms played a significant role in creating awareness regarding environmental issues and eco-friendly alternatives. Consumers exposed to environmental campaigns and sustainability-related information showed greater willingness to purchase green products.

8. RESEARCH METHODOLOGY

The study follows a descriptive research design as it seeks to analyse the changing consumer behaviour towards sustainable and eco-friendly palm leaf products in Mayiladuthurai. It focuses on collecting structured information from consumers and examining their awareness, perception, buying behaviour, and factors influencing the adoption of palm leaf products.

8.1. Hypothesis

- H1: There is a significant relationship between awareness of biodegradable palm leaf products and reduction of environmental pollution.
- H2: Health and safety concerns significantly influence the choice of palm leaf products among consumers.
- H3: There is a significant association between the occupation of respondents and the availability of palm leaf products in the local markets of Mayiladuthurai.

8.2. Limitations

- The study is limited to consumers in Mayiladuthurai region only, so findings may not be generalized to other areas.
- The study is based on 150 respondents, which may not fully represent the entire population of consumers in the region.
- The study depends on respondents' personal opinions, which may be influenced by their perception, mood, or understanding of eco-friendly products.
- The study was conducted within a limited time period, which may restrict deeper exploration of consumer behaviour patterns.
- The study mainly focuses on awareness, perception, and buying behaviour towards palm leaf products and does not cover other eco-friendly product categories in detail.

9. DATAANALYSIS AND INTERPRETATION

In this study, data were collected from consumers in Mayiladuthurai to analyse their behaviour towards sustainable and eco-friendly palm leaf products. Palm leaf products are widely recognized for their biodegradable nature, environmental benefits, and health advantages. Consumers also perceive these products as safe, hygienic, and suitable substitutes for plastic products. Statistical tools such as Correlation Analysis, One Sample T-Test, and Chi-Square Test were used to examine the relationship between consumer awareness, purchase behaviour, product availability, and other influencing factors.

Table 1: Correlation Analysis

Correlations			
		Biodegradable palm leaf product	Reduction environmental pollution
Biodegradable palm leaf product	Pearson Correlation	1	.002
	Sig. (2-tailed)		.980
	N	150	150
Reduction of Environmental pollution	Pearson Correlation	.002	1
	Sig. (2-tailed)	.980	
	N	150	150

Result: To investigate whether awareness of the term "biodegradable" regarding palm leaf products links to the conviction that opting for these products mitigates environmental degradation, a Pearson Correlation analysis was executed. The test yielded a correlation coefficient of $r = 0.002$, demonstrating an extremely negligible or non-existent positive connection between the two parameters. The derived significance level stood at $p = 0.980$, which clearly exceeds the standard 0.05 threshold. Consequently, the null hypothesis is retained, while the alternative hypothesis is dismissed. Thus, it is evident that a consumer's familiarity with the environmental term does not statistically associate with their belief in the product's pollution-reducing capabilities. An increase in term awareness does not translate into a stronger belief regarding environmental relief.

Table 2: Descriptive Statistics of Health and Safety Concerns Affecting Consumer Choice of Palm Leaf Products

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Health and safety concerns are the primary factors influencing the choice of palm leaf products.	150	4.29	.499	.041

Table 3: Effect Size Estimation of Health and Safety Concerns as a Determinant of Palm Leaf Product Selection

One-Sample Effect Sizes					
		Standardiser	Point Estimate	95% Confidence Interval	
				Lower	Upper
Health and safety concerns are the primary factors influencing the choice of palm leaf products.	Cohen's d	.499	2.592	2.256	2.926
	Hedges' correction	.501	2.579	2.245	2.911
a. The denominator used in estimating the effect sizes. Cohen's d uses the sample standard deviation. Hedges' correction uses the sample standard deviation, plus a correction factor.					

Table 4: Statistical Evaluation of Health and Safety Concerns as a Determinant of Palm Leaf Product Selection

One-Sample Test						
	T	Df	Sig. (2-tailed)	Test Value = 3		
				Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Health and safety concerns are the primary factors influencing the choice of palm leaf products.	31.747	149	.000	1.293	1.21	1.37

Result: A One-Sample t-test was implemented to evaluate if consumers regard health and safety considerations as dominant elements dictating their preference for palm leaf items, evaluated against a neutral baseline score of 3. The dataset registered a mean score of $M = 4.29$ ($SD = 0.499$), with an observed t-statistic of $t(149) = 31.747$. Since the calculated significance value reached $p < 0.001$ (well below the 0.05 benchmark), the null hypothesis is confidently rejected in favor of the alternative hypothesis. This proves that the target audience strongly aligns with the view that health and safety attributes are crucial drivers behind choosing palm leaf alternatives. This robust positive consensus is mirrored by the high mean value of 4.29. Additionally, the substantial effect size (Cohen's $d = 2.592$) validates that this finding holds immense practical relevance.

Table 5: Association between Occupation and Perceived Availability of Palm Leaf Products in Mayiladuthurai Local Markets

OCCUPATION OF THE RESPONDENT PALM LEAF PRODUCTS ARE READILY AVAILABLE IN THE LOCAL MARKETS OF MAYILADUTHURAI								
			SD	D	N	A	SA	T
Occupation	Student	Count	1	1	4	27	15	48
		Expected Count	0.6	0.6	5.8	27.2	13.8	48
		% within Occupation of the	2.10	2.10	8.30	56.30	31.30	100

		respondent					
Employee	Count	1	0	6	16	12	35
	Expected Count	0.5	0.5	4.2	19.8	10	35
	% within Occupation of the respondent	2.90	0.00	17.10	45.70	34.30	100
Business	Count	0	1	4	23	10	38
	Expected Count	0.5	0.5	4.6	21.5	10.9	38
	% within Occupation of the respondent	0.00	2.60	10.50	60.50	26.30	100
Homemaker	Count	0	0	4	19	6	29
	Expected Count	0.4	0.4	3.5	16.4	8.3	29
	% within Occupation of the respondent	0.00	0.00	13.80	65.50	20.70	100
Total	Count	2	2	18	85	43	150
	Expected Count	2	2	18	85	43	150
	% within Occupation of the respondent	1.30	1.30	12.00	56.70	28.70	100

Table 6: Pearson Chi-Square Test Statistics and Significance Analysis

CHI-SQUARE TESTS			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.155 ^a	12	.847
Likelihood Ratio	8.632	12	.734
Linear-by-Linear Association	.073	1	.787
N of Valid Cases	150		

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .39.

Result: To ascertain if a statistical dependency exists between a respondent's occupation and their view on how accessible palm leaf goods are across Mayiladuthurai's local marketplaces, a Chi-Square test of independence was carried out. The analysis produced a Pearson ChiSquare value of $\chi^2(12) = 7.155$. The asymptotic significance was determined to be $p = 0.847$. Because this value sits comfortably above the 0.05 margin, the null hypothesis is accepted and the alternative hypothesis is turned down. Therefore, the data confirms that a person's professional background does not influence how they perceive the availability of these products in Mayiladuthurai. Individuals belonging to various fields—including students, salaried employees, business operators, and homemakers share a uniform perspective concerning market availability.

10. FINDINGS OF THE STUDY

- Most respondents are aware of eco-friendly palm leaf products. This awareness encourages the use of sustainable alternatives and supports environmental protection.

- Consumers consider palm leaf products a good alternative to plastic products. They believe these products help reduce environmental pollution.
- Young consumers show greater interest in eco-friendly products. Their concern for the environment influences their buying decisions.
- Female respondents have higher awareness of sustainable products. They show a positive attitude towards environmentally responsible consumption.
- Environmental concerns influence consumer purchasing behaviour. Many respondents prefer products that help reduce pollution.

11. SUGGESTIONS

- Increasing public awareness about the environmental benefits of palm leaf products can encourage consumers to reduce the use of plastic disposable items.
- Better support from government authorities through promotional programs and ecofriendly initiatives may help improve the acceptance of palm leaf products among the public.
- Easy availability of palm leaf products in supermarkets, local shops, and retail outlets can positively influence consumer purchasing behaviour.
- Hotels, catering units, and event organizers can contribute to environmental protection by preferring palm leaf products during functions and public gatherings

12. CONCLUSION

The study concludes that consumer interest in sustainable and eco-friendly palm leaf products is gradually increasing in Mayiladuthurai. Growing environmental awareness and health concerns have encouraged consumers to prefer eco-friendly alternatives over conventional plastic products. The findings indicate that palm leaf products are widely perceived as safe, practical, and environmentally responsible. Overall, the study highlights a positive shift in consumer behaviour towards sustainable consumption and supports the growing demand for eco-friendly products in the market.

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