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Consumer Awareness Towards Sustainable Practices in E-Commerce Platforms in Kanyakumari District

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ABSTRACT

This study explores consumer awareness towards sustainable practices in e-commerce platforms in Kanyakumari District, based on responses from 150 consumers. The research aims to assess the level of awareness, attitudes, and preferences of consumers regarding eco-friendly measures adopted by online shopping platforms. The findings reveal that a majority of respondents are moderately aware of sustainable practices such as eco-packaging, carbon-neutral deliveries, and ethical sourcing. However, while urban consumers show a relatively higher level of awareness and concern for environmental impacts, rural consumers exhibit limited exposure and understanding. Factors like age, and residential areas significantly influence awareness levels. The study also found that while many consumers express a willingness to support green initiatives, actual purchasing behavior is still driven largely by price and convenience. The results highlight the need for e-commerce platforms to promote their sustainable efforts more transparently and educate consumers through better communication strategies. This research provides valuable insights for policymakers, marketers, and digital platforms to design effective strategies that encourage sustainable consumer behavior in online shopping.

Key words: Consumer Awareness, Sustainable Practices, E-commerce Platforms, Green Consumer Behavior

1. INTRODUCTION

In the digital era, e-commerce has emerged as a dominant force reshaping global retail markets. The ease of access, wider product selection, competitive pricing, and time-saving features have contributed to its exponential growth. According to the Indian Brand Equity Foundation (2023), India's e-commerce market is expected to reach US$ 350 billion by 2030, driven by increasing internet and Smartphone penetration. However, this digital transformation is not without its downsides. The surge in online shopping has also led to significant environmental challenges—ranging from excessive packaging waste to increased carbon emissions due to logistics and delivery systems (Verma& Singh, 2021).

Amidst these concerns, the concept of sustainability in e-commerce has gained momentum. Sustainable e-commerce emphasizes eco-friendly packaging, ethical sourcing of goods, energy-efficient warehousing and delivery, waste minimization, and responsible consumption. Globally and nationally,

efforts are being made to integrate sustainability into the digital shopping experience. However, these efforts can only be effective when consumers are aware, willing, and proactive in supporting such green practices (Gupta & Sharma, 2020). Consumer awareness acts as a catalyst for businesses to adopt sustainable practices. Informed and environmentally conscious buyers are more likely to choose brands that align with their values, even at a higher cost.

In the Indian context, awareness levels about sustainability in e-commerce remain uneven across different regions. Urban consumers tend to be more informed and responsive to environmental issues compared to those in rural or semi-urban areas (Rao&Menon, 2022). Kanyakumari district, located at the southernmost tip of Tamil Nadu, is a unique blend of urban and rural populations. Despite being rich in biodiversity and cultural heritage, the region is yet to witness widespread adoption of sustainable practices in e-commerce, both from consumers and sellers.

Assessing consumer awareness in this district is vital for several reasons. First, it helps identify the knowledge gap among consumers regarding sustainable practices such as green packaging, carbon-neutral delivery, or ethical product sourcing. Second, it highlights the behavioral patterns, preferences, and barriers that influence eco-conscious decision-making. Lastly, it aids policymakers, businesses, and local authorities in designing targeted campaigns and strategies to promote sustainability in digital commerce.

Therefore, the present study aims to investigate the level of consumer awareness towards sustainable practices in e-commerce platforms in Kanyakumaridistrict. It also attempts to identify key socio-demographic variables—such as age, gender, education, and income—that influence awareness and adoption. In doing so, the study contributes to the growing literature on sustainable consumption and provides actionable insights for e-commerce companies operating in Tier-2 and Tier-3 districts.

STATEMENT OF THE PROBLEM

The rapid growth of e-commerce has brought significant convenience to consumers but also raised serious environmental concerns due to unsustainable practices such as excessive packaging, increased carbon emissions, and over consumption. While many e-commerce platforms are adopting sustainable measures, the effectiveness of these initiatives largely depends on consumer awareness and behavior. In urban areas, there is a noticeable shift toward eco-conscious online shopping; however, in semi-urban and rural regions like Kanyakumari district, consumer awareness regarding sustainable practices in e-commerce remains limited and under-researched. This gap raises critical questions about whether consumers in Kanyakumari are informed about sustainable options, whether they value environmental responsibility in their purchase decisions, and what factors influence their awareness. Without adequate awareness, sustainability initiatives by e-commerce platforms may fail to make the intended impact. Therefore, it becomes essential to examine the current level of consumer awareness, identify influencing factors, and understand the extent to which sustainability is integrated into their online shopping behavior in Kanyakumari district.

2. REVIEW OF LITERATURE

- **Kavitha and Ramesh (2023)** carried out a region-specific study in Tamil Nadu to assess consumer awareness of sustainable practices in e-commerce. Their research focused on districts like Madurai and Tirunelveli, where the adoption of online shopping has increased significantly in recent years. The study

found that while consumers were familiar with the convenience of e-commerce, their understanding of eco-friendly practices—such as biodegradable packaging, carbon-neutral delivery, and ethical sourcing—was minimal. Many respondents could not distinguish between conventional and sustainable packaging or identify green delivery options. The authors observed that the lack of localized awareness and educational outreach contributed to this gap. They strongly recommended targeted awareness campaigns and regionally relevant marketing strategies to improve consumer knowledge, especially in semi-urban and rural areas. Their study highlights the importance of tailoring sustainability communication to suit regional demographics and literacy levels.

- **Patel et al. (2022)** conducted an in-depth analysis of the environmental impact of last-mile delivery in the Indian e-commerce sector. The study revealed that while a segment of consumers, particularly environmentally conscious buyers, expressed a willingness to opt for slower yet more sustainable delivery options, the overall awareness of such alternatives remained significantly low. This trend was especially evident in Tier-2 and Tier-3 cities, where fast delivery is often prioritized over environmental concerns. The researchers found that most consumers were unaware of the carbon emissions associated with rapid delivery systems. Patel et al. emphasized that without sufficient awareness, the demand for eco-friendly logistics remains weak. Their study called for the integration of green delivery choices within platforms and urged companies to promote these options through educational messages. They concluded that a combination of technological innovation and consumer sensitization is essential to reduce the environmental footprint of e-commerce logistics in India.
- **Verma and Mehta (2021)** conducted a study to examine the influence of consumer education on sustainable purchasing decisions in the Indian e-commerce sector. Their findings revealed that while younger consumers, particularly those aged 18–35, demonstrated a higher level of environmental consciousness, there remained a significant gap in their understanding of specific sustainable practices implemented by online retailers. Many respondents were unaware of initiatives like eco-friendly packaging, carbon-neutral shipping, or ethical sourcing. The study emphasized that mere environmental concern does not necessarily translate into informed sustainable behavior.

RESEARCH GAP

Many studies have focused on consumer awareness of sustainable practices in e-commerce, especially in big cities. However, very few studies have looked at this issue in smaller districts like Kanyakumari. There is limited information about whether people in Kanyakumari know about eco-friendly packaging, green delivery options, or ethical sourcing in online shopping. Also, earlier research has not clearly explained how factors like age, education, or income affect this awareness in the district. This shows a clear gap in research. Therefore, this study aims to understand the level of awareness among consumers in Kanyakumari and find out what influences their knowledge and behavior towards sustainable e-commerce practices.

OBJECTIVES OF THE STUDY

- ✓ To understand consumer attitudes and preferences towards green e-commerce practices.
- ✓ To identify the challenges faced by consumers in adopting sustainable practices while shopping online.
- ✓ To assess the level of consumer awareness about sustainable practices in e-commerce platforms in Kanyakumari district.

3. RESEARCH METHODOLOGY

Research Design: The study follows a descriptive research design, as it aims to describe and analyze the level of consumer awareness and behavior related to sustainable practices in e-commerce.

Area of the Study:

The research is conducted in Kanyakumari District, Tamil Nadu.

Population of the Study:

The population includes consumers who use e-commerce platforms (such as Amazon, Flipkart, etc.) in Kanyakumari district.

Sampling Method:

A convenience sampling method is used to collect data from respondents who are easily accessible and willing to participate.

Sample Size:

A total of 150 respondents were selected for the study.

Data Collection Method:

Primary data was collected through a structured questionnaire, which included both close-ended and multiple-choice questions.

Secondary data was collected from journals, reports, websites, and previous research studies.

Tools for Analysis:

The collected data was analyzed using simple statistical tools such as independent sample ANOVA , Garrett rank, 't' test and percentage analysisis used to study relationships between variables.

4. RESULTS&DISCUSSION

CONSUMER ATTITUDES AND PREFERENCES TOWARDS GREEN E-COMMERCE PRACTICES

Consumer attitudes and preferences towards green e-commerce practices reflect a growing concern for environmental sustainability. As awareness of climate change and ecological issues increases, many shoppers are seeking eco-friendly options online. Preferences are shifting towards brands that prioritize sustainable packaging, ethical sourcing, and carbon-neutral delivery. Understanding these trends is crucial for e-commerce businesses aiming to align with consumer values.

TABLE 1 CONSUMER ATTITUDES AND PREFERENCES TOWARDS GREEN E-COMMERCE PRACTICES

S. No	Consumer attitudes and preferences towards green e-commerce practices	Mean Score					F-Statistics	P-Value
		20-30 Years	31-40 Years	41-50 Years	Above 50 Years	Total		
1	Environmental concern	1.30	1.17	1.19	1.17	1.22	3.969	.008*
2	Perceived effectiveness of green practices	1.91	1.11	1.33	1.95	1.63	211.687	.000*

3	Trust in green claims by e-commerce brands	1.88	1.15	1.18	1.91	1.59	209.902	.000*
4	Willingness to pay a premium for sustainable products	1.29	1.25	1.39	1.26	1.30	2.913	.005*
5	Preference for eco-friendly packaging	1.34	1.39	1.07	1.46	1.33	15.560	.000*
6	Influence of green labels and certifications	1.86	1.40	1.23	2.00	1.67	127.748	.000*
7	Importance of company transparency on sustainability	1.33	1.32	1.31	1.63	1.39	13.895	.000*

Source: Primary Data

Regarding the Consumer attitudes and preferences towards green e-commerce practicesin relation to their age level, there is a significant difference have been identified in all the seven variable's they are "Environmental concern", "Perceived effectiveness of green practices", "Trust in green claims by e-commerce brands", "Willingness to pay a premium for sustainable products", "Preference for eco-friendly packaging", "Influence of green labels and certifications" and "Importance of company transparency on sustainability". Since, the respective 'F' statistics at five percent level. (i.e) p value is lesser than 0.05 percent.

CHALLENGES FACED BY CONSUMERS IN ADOPTING SUSTAINABLE PRACTICES WHILE SHOPPING ONLINE

Consumers increasingly aim to adopt sustainable practices while shopping online, but they often face several challenges in doing so. Limited access to clear information, higher costs, and lack of trustworthy green options can hinder eco-friendly decision-making. These barriers can reduce consumer motivation, even when environmental awareness is high. Understanding these challenges is key to promoting greener e-commerce behavior.

TABLE 2 CHALLENGES FACED BY CONSUMERS IN ADOPTING SUSTAINABLE PRACTICES WHILE SHOPPING ONLINE

S.No	Challenges faced by consumers in adopting sustainable practices while shopping online	Garrett rank	Rank
1	Lack of information about product sustainability	38.2	VIII
2	Higher cost of sustainable products	84.3	I
3	Limited availability of eco-friendly options	79.6	II
4	Difficulty verifying green claims (greenwashing)	45.1	VII
5	Inconvenient return or recycling processes	64.9	IV
6	Longer delivery times for green shipping	60.1	V

	options		
7	Low visibility of sustainability filters on platforms	72.2	III
8	Lack of consumer awareness or education	49.3	VI

Source: Primary Data

The table 2 shows that the thatchallenges faced by consumers in adopting sustainable practices while shopping online,"Higher cost of sustainable products" with the mean score of 84.3 contributed first rank, "Limited availability of eco-friendly options" with the mean score of 79.6 contributed second rank, "Low visibility of sustainability filters on platforms" with the mean score of 72.2 contributed third rank. Fourth rank is for "' Inconvenient return or recycling processes" with a mean score of 64.9. Fifth rank is for "Longer delivery times for green shipping options" with a mean score if 60.1. Sixth rank is for "Lack of consumer awareness or education" with a mean score of 49.3. Seventh rank is for "Difficulty verifying green claims (green washing)" with a mean score of 45.1 and least rank is for "Lack of information about product sustainability" with a mean score of 38.2 respectively.

LEVEL OF CONSUMER AWARENESS ABOUT SUSTAINABLE PRACTICES IN E-COMMERCE

E-commerce has grown rapidly, raising concerns about its environmental impact. Sustainable practices like eco-friendly packaging and carbon-neutral delivery are becoming more relevant. Consumer awareness plays a key role in promoting these practices. Understanding this awareness helps drive greener choices in online shopping.

TABLE 3 LEVEL OF CONSUMER AWARENESS ABOUT SUSTAINABLE PRACTICES IN E-COMMERCE

Sl. No	Level of consumer awareness about sustainable practices in e-commerce	Residential area	N	Mean	Std. Deviation	t-Statistics	Sig
1	Knowledge of eco-friendly packaging	Rural	167	4.31	1.016	-.839	.402
		Urban	229	4.39	1.040		
2	Awareness of carbon footprint from online deliveries	Rural	167	4.08	1.035	1.849	.065
		Urban	229	3.88	1.047		
3	Understanding of sustainable product certifications	Rural	167	4.02	1.056	3.534	.000*
		Urban	229	3.60	1.279		
4	Preference for brands with green policies	Rural	167	3.96	1.127	2.893	.004*
		Urban	229	3.59	1.384		
5	Willingness to pay more for sustainable products	Rural	167	3.98	1.167	2.180	.030*
		Urban	229	3.71	1.269		
6	Awareness of return and waste impact	Rural	167	3.98	1.073	1.497	.135
		Urban	229	3.81	1.235		

7	Familiarity with ethical sourcing of products	Rural	167	3.76	1.168	.405	.685
		Urban	229	3.71	1.198		
8	Influence of sustainability information during purchase decisions	Rural	167	3.85	1.165	2.540	.011*
		Urban	229	3.53	1.325		

Source: Primary Data

'*' Significant at 5%level

As P value is less than 0.05, the null hypothesis is rejected at 5% level of significant with regard to Understanding of sustainable product certifications (.000), Preference for brands with green policies (.004), Willingness to pay more for sustainable products (.030) and Influence of sustainability information during purchase decisions (.011).Therefore it concluded that there is significant difference between level of consumer awareness about sustainable practices in e-commerce
in relation to their residential area of the respondents.

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(.135) and Familiarity with ethical sourcing of products (.685).Therefore, it realized that there is no significant difference between level of consumer awareness about sustainable practices in e-commerce in relation to their residential area of the respondents.

OVERALL CONSUMER AWARENESS TOWARDS SUSTAINABLE PRACTICES IN E-COMMERCE PLATFORMS IN KANYAKUMARI DISTRICT

TABLE 4 OVERALL CONSUMER AWARENESS

Demographic	Category	Aware	Unaware	Total
Gender	Male	62	18	80
	Female	52	18	70
Age Group	Below 25	41	15	56
	25 – 40	45	11	56
	Above 40	28	10	38
Education	SSLC	9	19	28
	Hr. Sec	7	15	22
	UG	45	5	50
	PG	39	11	50
Residential Area	Urban	70	15	85
	Rural	21	44	65

Source: Primary Data

The data shows that awareness is slightly higher among males (77.5%) than females (74.3%), but both are quite close. In the age groups, people aged 25–40 are the most aware (80.4%), while younger and older groups have slightly lower awareness. Education makes a big difference—those with college

degrees (UG and PG) are much more aware, while people with only school education (SSLC or Hr. Sec) have high unawareness. For example, only 32% of SSLC-educated people are aware. In terms of residential area, urban people (82.4%) are much more aware than rural people (32.3%). Rural areas also have higher unawareness (67.7%). Overall, people with higher education and those living in urban areas tend to be more aware.

5. FINDINGS

❖ Regarding the Consumer attitudes and preferences towards green e-commerce practices in relation to their age level, there is a significant difference have been identified in all the seven variable's they are "Environmental concern", "Perceived effectiveness of green practices", "Trust in green claims by e-commerce brands", "Willingness to pay a premium for sustainable products", "Preference for eco-friendly packaging", "Influence of green labels and certifications" and "Importance of company transparency on sustainability". Since, the respective 'F' statistics at five percent level. (i.e) p value is lesser than 0.05 percent.

❖ The table 2 shows that the that challenges faced by consumers in adopting sustainable practices while shopping online, "Higher cost of sustainable products" with the mean score of 84.3 contributed first rank and least rank is for "Lack of information about product sustainability" with a mean score of 38.2 respectively.

❖ As P value is less than 0.05, the null hypothesis is rejected at 5% level of significant with regard to Understanding of sustainable product certifications(.000), Preference for brands with green policies (.004), Willingness to pay more for sustainable products (.030) and Influence of sustainability information during purchase decisions (.011).Therefore it concluded that there is significant difference between level of consumer awareness about sustainable practices in e-commerce in relation to their residential area of the respondents.

❖ Awareness is higher among males, educated individuals, and those aged 25–40. Urban residents are much more aware than rural residents.

6. SUGGESTIONS

❖ Create awareness campaigns through social media, local advertisements, and community programs to educate consumers about sustainable e-commerce practices.

❖ E-commerce platforms should clearly label eco-friendly products and green delivery options to help consumers make informed choices.

❖ Schools and colleges can include short programs or workshops to promote green consumer behavior among students.

❖ Government and NGOs should collaborate with online platforms to promote sustainability in rural and semi-urban areas.

❖ Local language communication should be used to explain sustainable practices to reach people in all parts of Kanyakumari.

❖ Incentives or discounts can be offered to consumers who choose eco-friendly delivery or products.

❖ Feedback systems can be introduced to let users rate sellers or delivery services based on sustainability practices.

7. CONCLUSION

The study shows that consumer awareness about sustainable practices in e-commerce is still at a developing stage in Kanyakumari district. While more people are using online platforms for shopping, many are not fully aware of eco-friendly options such as biodegradable packaging, green delivery, or ethical sourcing. Factors like age, education, and income influence the level of awareness. There is a strong need to improve knowledge and understanding among consumers through awareness programs and better communication by e-commerce companies. If consumers are made more aware, they are likely to make greener choices, which will help promote sustainability in the growing online shopping environment. The study highlights the importance of educating and encouraging consumers to support a cleaner and more responsible digital marketplace.

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