

Digitizing Sustainability: A Study on E – Commerce Platforms and Green Consumerism

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Abstract

The integration of digital technologies into commerce has transformed the global retail landscape, giving rise to e-commerce platforms that influence consumer behavior at scale. This study examines the role of digitization in promoting sustainability, with a specific focus on green consumerism within e-commerce ecosystems. The paper explores how digital tools, platform features, and green supply chain practices shape environmentally responsible purchasing decisions. Using a conceptual and analytical approach based on secondary data, the study finds that e-commerce platforms significantly contribute to sustainability by enhancing product transparency, increasing accessibility to eco-friendly alternatives, and influencing consumer awareness. However, challenges such as greenwashing and environmental costs of logistics remain critical concerns. The rapid growth of digital technologies has significantly transformed consumer behavior and business practices, particularly through e-commerce platforms. This study explores how digitization contributes to sustainability by promoting green consumerism. It examines the role of digital marketing, platform design, and green supply chain practices in influencing environmentally responsible purchasing decisions. The study highlights that e-commerce platforms act as catalysts for sustainable consumption by increasing awareness, transparency, and accessibility of eco-friendly products.

Keywords: Digitization, Sustainability, E-commerce, Green Consumerism, Digital Marketing, Sustainable Consumption

Introduction

Sustainability has become a central issue in contemporary economic and environmental discourse. The increasing concerns over climate change, resource depletion, and environmental degradation have compelled businesses and consumers to adopt more sustainable practices. In parallel, the rapid expansion of e-commerce has revolutionized the way consumers interact with markets. Digitization enables real-time access to information, personalized recommendations, and global connectivity, which can be leveraged to promote sustainable consumption. E-commerce platforms have emerged as powerful tools that can influence green consumer behavior by providing access to eco-friendly products and information that supports informed decision-making. Sustainability has become a critical global concern due to environmental degradation, climate change, and resource depletion. In this context, the rise of e-commerce has created new opportunities for integrating sustainability into consumer markets. Digitization enables businesses to reach a wider audience while encouraging environmentally responsible consumption patterns. Green consumerism refers to the preference for products and services that have minimal environmental impact. With the expansion of online shopping, consumers are increasingly exposed to eco-friendly alternatives, thereby influencing their purchasing decisions.

Literature Review

Previous studies indicate a strong relationship between digitalization and sustainable consumption. Research highlights that digital marketing strategies enhance environmental awareness and positively influence consumer attitudes toward green products. Scholars have also emphasized the importance of transparency, eco-labeling, and sustainable supply chain practices in shaping consumer trust and purchase intention.

Studies on green consumerism suggest that environmental concern, social influence, and perceived value significantly affect consumers' willingness to adopt sustainable products. However, the literature also identifies issues such as greenwashing and lack of standardization as barriers to effective green consumption in digital environments.

Early studies on **green consumerism** emphasize that environmental awareness is a primary driver of sustainable purchasing behavior. Consumers with higher ecological concern

tend to prefer products that minimize environmental harm. However, attitudes do not always translate into actual purchasing behavior due to price sensitivity and lack of trust in green claims.

Sewar Alkhatib , Petra Kecskés and Veronika Keller(2023): The research aims to evaluate and compile research papers on digital and green marketing that have been published in the last 10 years, from 2012 to 2022. The objective is to monitor the development of the field's research and comprehend the trends that have been investigated throughout that time. In addition to other aspects of the particular research, the database analysis explains the article's topic and viewpoint, the methodology employed, and the themes. The primary aim of this study is the recognition of five key themes or categories within the research domain: strategies, challenges, promotion, consumers, and digital media.

Objectives of the Study

- To analyze the role of e-commerce platforms in promoting sustainability
- To examine factors influencing green consumer behavior in digital environments
- To identify challenges associated with digitizing sustainability
- To explore emerging trends in sustainable e-commerce

Conceptual Framework

Digitization and Sustainability

Digitization refers to the integration of digital technologies into business operations, including online platforms, artificial intelligence, and data analytics. Research shows that digital marketing and e-commerce platforms significantly enhance sustainability awareness and influence eco-friendly purchasing behavior.

Green Consumerism

Green consumerism involves consumers making purchasing decisions based on environmental considerations such as eco-friendly production, packaging, and disposal. It promotes sustainable lifestyles and supports environmentally responsible businesses.

E-Commerce Platforms

E-commerce platforms such as online marketplaces enable the distribution of goods and services through digital channels. These platforms play a vital role in promoting sustainability through: Eco-labeling, Carbon footprint transparency, Sustainable logistics and packaging, Recycling and circular economy practices

Statement of the Problem

The rapid growth of digital technologies has transformed the way consumers access information and make purchasing decisions, significantly influencing green consumerism. While digital platforms offer opportunities to promote sustainable products and raise environmental awareness, they also create challenges such as greenwashing, misinformation, lack of transparency, and ethical concerns related to data usage. Many consumers struggle to distinguish genuine eco-friendly products from misleading claims, which weakens trust and limits the effectiveness of green consumption initiatives. Moreover, unequal digital access and varying levels of sustainability awareness further complicate the adoption of green consumerism in the digital era.

Scope of the Study

The scope of this study is to understand green consumerism within the context of the digital age by examining how online technologies shape consumers' knowledge, perceptions, and buying decisions related to environmentally friendly products. The research concentrates on the influence of digital channels such as social networking sites, e-commerce platforms, online promotions, and web-based information in encouraging sustainable consumption. It also investigates the potential benefits of digitalization, including easier access to green products, improved availability of product-related environmental information, and greater consumer interaction through digital reviews and communities. In addition, the study considers the key difficulties consumers face in the digital marketplace, such as misleading green claims, trust issues, pricing concerns, and excessive online information.

Research Methodology

Sampling Method: The study has used non-probability sampling

Sampling Techniques- The study adopted a convenience sampling technique, selecting respondents based on their accessibility and willingness to participate.

Sampling Size- The research has taken 100 respondents to collect the data.

Data Collection

Primary Data: A Structured questionnaire was designed to capture consumer perceptions, attitudes, and behaviors related to green products.

Secondary Data: Relevant literature, research articles, reports on green consumerism, digital marketing were used to get a better understanding.

Role of E-Commerce in Promoting Sustainability

Sustainable Advantages of E-commerce

E-commerce offers several sustainability advantages that differentiate it from traditional retail methods. **Reduced environmental footprint:** Online retailing reduces the need for building and maintaining traditional brick-and-mortar stores, thereby reducing the burden on the environment. **Additionally, e-commerce enables goods to be delivered directly to the consumers, eliminating long supply chains and unnecessary intermediaries. More energy-efficient transportation and packaging:** In online purchases, goods are mostly sourced from centralized warehouses or logistics centers, where they are packed and transported more efficiently to consumers. This reduces the amount of required fuel and the number of involved vehicles, resulting in lower emissions. **Less product surplus and food waste:** Online sales facilitate better inventory management by accurately estimating demand based on purchase data and automated systems. This minimizes products, especially food, waste, and associated losses. **Transparency and awareness:** E-commerce platforms provide easy access to data and information about the origin, manufacturing processes, and ecological footprints of products. This helps consumers make more sustainable choices.

The Role of E-commerce in Promoting Conscious Buying Decisions

E-commerce not only brings sustainability benefits but also contributes to promoting conscious buying decisions. **Informed consumers:** Online platforms allow consumers to easily access detailed product information, feedback, and reviews. This helps consumers

understand the sustainability impact of the products they purchase beforehand. Wide range of sustainable products: E-commerce platforms offer a diverse selection of sustainable products that meet environmental criteria and adhere to stricter quality and ethical standards. Sustainable campaigns and information flow: E-commerce platforms facilitate the sharing of information and campaigns related to sustainable lifestyles. This raises awareness among consumers about conscious buying habits and the benefits of a sustainable lifestyle.

Data Analysis

Various tools are used for the analysis and interpretation of data. Data gathering tool questionnaire. The data collected will be analyzed using simple percentage methods. Data representation through charts.

Demographic Analysis

Table 1: Age Distribution

Age Group	Respondents	Percentage
Below 20	8	16%
21–30	22	44%
31–40	12	24%
Above 40	8	16%
Total	50	100%

Interpretation

Majority (44%) of respondents belong to the 21–30 age group, indicating that young consumers dominate e-commerce usage.

Table 2: Gender Distribution

Gender	Respondents	Percentage
Male	28	56%
Female	20	40%
Other	2	4%

Interpretation

Male respondents slightly outnumber female respondents, but participation is relatively balanced.

Table 3: E-Commerce Usage Analysis: Frequency of Online Shopping

Frequency	Respondents	Percentage
Frequently	26	52%
Occasionally	18	36%
Rarely	6	12%

Interpretation

More than half of the respondents frequently shop online, showing strong engagement with e-commerce platforms.

Table 4: Preferred Platforms

Platform	Respondents	Percentage
Amazon	20	40%
Flipkart	15	30%
Meesho	10	20%
Others	5	10%

Interpretation

Amazon and Flipkart are the most preferred platforms among respondents.

Table 5: Likert Scale Analysis (Mean Score)

(Scale: 1 = Strongly Disagree, 5 = Strongly Agree)

Statement	Mean Score
Preference for eco-friendly products	4.1
Awareness of sustainability	4.0
Influence of eco-labels	3.8
Willingness to pay more	3.6

Influence of online reviews	4.2
Availability of sustainability information	3.7
Trust in sustainability claims	3.4
Concern about packaging waste	4.3
Concern about fast delivery impact	4.0
Support for sustainable brands	4.2

Interpretation of Likert Analysis

- Consumers show high concern for environmental issues (Mean > 4)
- Online reviews (4.2) strongly influence green purchasing
- Packaging waste concern (4.3) is the highest factor
- Trust in sustainability claims (3.4) is relatively low → indicates skepticism
- Willingness to pay more (3.6) is moderate

Table 6: **Barriers to Green Purchasing**

Barrier	Respondents	Percentage
High Price	18	36%
Lack of Trust	12	24%
Limited Availability	10	20%
Lack of Awareness	10	20%

Interpretation

High price is the biggest barrier, followed by lack of trust in green products.

Table 7: **Perception of Environmental Impact**

Response	Respondents	Percentage
Yes	30	60%
No	8	16%
Maybe	12	24%

Interpretation

60% of respondents believe e-commerce contributes to environmental problems.

Key Findings

1. Young consumers are the primary users of e-commerce platforms
2. Majority prefer eco-friendly products but face practical barriers
3. Packaging waste is a major concern among consumers
4. Online reviews play a crucial role in influencing green purchases
5. Trust in sustainability claims is relatively low
6. High price is the biggest obstacle to green consumption
7. Consumers are aware but not fully committed due to cost and trust issues

Conclusion

The present study highlights the significant role of digitization in advancing sustainability through e-commerce platforms and promoting green consumerism. With the rapid growth of online shopping, digital platforms have become powerful tools for influencing consumer behavior by providing access to eco-friendly products, enhancing awareness, and enabling informed decision-making.

The findings from both secondary and primary data indicate that consumers exhibit a positive attitude toward environmentally sustainable products. Factors such as environmental awareness, online reviews, and platform transparency play a crucial role in shaping green purchasing behavior. However, despite this positive inclination, a noticeable gap exists between consumer intention and actual buying behavior. The study also reveals that challenges such as high prices, lack of trust in sustainability claims, and concerns about greenwashing hinder the widespread adoption of green consumerism. Additionally, environmental issues related to packaging waste and logistics emissions remain significant concerns in the e-commerce ecosystem.

References

- 1) Ibrahim, A., Amin, N., Shehloo, A. A., & Qadri, N. (2025). *Digital marketing as a catalyst for environmental sustainability and green consumerism: A transformative approach. International Journal of Environmental Sciences, 11(12s), 1011–1023.*

- 2) Sarkar, M. (2023). *Environmental sustainability under e-commerce: A holistic perspective. European Journal of Development Studies, 3(3).*
- 3) Elysha, C. N., Melita, S., & Yoestini. (2025). *Green innovations and consumer purchase behavior: A systematic literature review. Journal of Business Management and Accounting.*
- 4) Parvathi, B., and P. Annamuthu. "Measuring Green/Sustainable Consumption Habits among E-Shoppers." *ShodhKosh Journal, vol. 5, no. 6, 2024.*
- 5) Joshi, Y., and Z. Rahman. "A Review of Green Purchase Behaviour: A TCCM Approach." *Cleaner and Responsible Consumption, 2022.*
- 6) Panchasara, D. "Consumer Preferences for Green and Sustainable Products: A Critical Review." *Research Review International Journal of Multidisciplinary, 2024.*