

A Study on Global Trends in E - Commerce Sustainability and Customer Attitude and Preferences

Prof. Gaurav Mishra and Khan Mohmmad Faheem Mohmmad Akhlak

Jai Bharat College of Commerce (Night), Mumbai, Maharashtra, India

Abstract: *Customers are aware of the rising number of online purchases and demand actions that are sustainable and environmentally friendly. There is a lack of research on the state, development, and structure of consumer behavior and sustainability in e-commerce research, despite the growing interest in this subject. In order to generate new understandings, the purpose of this study is to examine the intellectual, conceptual, and social knowledge of consumer behavior and sustainability in e-commerce research. A bibliometric analysis was carried out after 104 articles' Scopus data were gathered. The findings showed that the topic is closely related to city logistics, big data analysis, customer engagement, the circular economy, online services, and omnichannel retail. They also showed that the topic is related to multiple research approaches and transversal themes. By identifying trends and suggesting future research topics, this study contributes to sustainability academic research.*

Keywords: how people behave; sustainability; e-commerce; Bibliographic

I. INTRODUCTION

E-commerce has established a solid foothold in international commerce. This shouldn't come as a surprise because e-commerce has a number of positive effects on international trade. It makes it easier for businesses to enter new markets, builds a faster international presence, finds product-market fit, and shortens business-to-business (B2B) sales cycles. The worldwide web based business market is assessed to reach USD 5.55 trillion of every 2022. By 2025, e-commerce is expected to account for 24.5% of total sales, a 37.6% increase in just five years, from 17.8% in 2020. Studies on consumer behavior in e-commerce have received a lot of attention from researchers (e.g., Sustainability issues in e-commerce have also been the focus of many authors, either by looking at packaging and its waste, cross-border e-commerce sustainability, e-commerce cyber-security and sustainability or addressing the three dimensions of sustainability (environmental, social, and economic aspects) in e-commerce.

Consumer Behavior and Sustainability in E-Commerce: Related Research In the last ten years, shareholders, governments, and society have put pressure on the e-commerce industry to improve its sustainability performance. Customers have discovered that e-commerce offers numerous advantages, including practicality, convenience, utility, and habit, traffic or weather issues and environmental issues. E-commerce processes now incorporate environmental, social, and economic concerns as a result of this pressure. As a result, the sustainability topic has gained prominence in recent years in relation to e-commerce and consumer behavior.

Sustainability is made up of three pillars: the economy, society, and the environment. City logistics is another emerging topic related to consumer behavior and sustainability in e-commerce. E-commerce considers commercial transactions conducted electronically on the Internet, including types such as business-to-consumer, business-to-business, and consumer-to-consumer. City logistics can cut transaction costs, boost economic growth and efficiency, and be good for the environment [1]. Villa and Monzón developed a related study. The authors looked into a way to offer delivery services that use metro stations to pick up packages in lockers and suggested that doing so would cut down on noise, air pollution, and emissions of greenhouse gases. So, Ignat and Chankov looked into whether e-commerce customers changed their preference for last-mile delivery if more information about the impact on social and environmental sustainability was available.

Their findings suggest that e-commerce customers are more likely to select a more environmentally and socially responsible option when environmental and social impact information about last-mile deliveries is displayed. In addition, Gatta et al. A study that sought to comprehend the impact of e-grocery by taking into account consumers' shopping trips and freight movements from distribution centers to consumers came to the conclusion that more efficient home deliveries would benefit the environment. Numerous studies on the connection between e-commerce sustainability and consumer behavior have been conducted using a variety of approaches by various authors.

The objective of this bibliometric analysis is to present fresh perspectives on consumer behavior and sustainability in e-commerce Methodology^{3.1} and to systematize and synthesize the relevant literature. A search query was used in the Scopus database to locate the published research that addressed consumer behavior and sustainability in e-commerce. Scopus is the database with the highest quality standards and the best organization. In addition, it is widely acknowledged as one of the most useful social sciences-specific indexed research publication databases. Variations of consumer behavior, sustainability, and e-commerce were some of the terms used in the Scopus database. Previous research has used these terms. The search string was applied without restriction in the first stage, resulting in the return of 20,003 documents. The first selection criteria were to restrict the search to the title–abstract–keyword search field, which yielded 191 documents, following the strategy of previous works [21,44,46]. The search was restricted to journal articles by the second selection criterion, which returned 109 articles. Analysis and Results The 104 articles published over the course of 21 years on consumer behavior and sustainability in e-commerce were cited 1433 times, an average of 13.78 times per article. Journal articles were chosen for their academic recognition as the most up-to-date and advanced knowledge sources in the field of marketing. Malaga's study, which compared the costs of participating in e-commerce to those of traditional retail outlets, was the first to be published on the subject. There have been 21 years of publications that can be cited.

Creators' Exhibition Analysis

Identifying the most contributing creators is pertinent as they are fundamental in the field's construction and development and decidedly influence the future of the research topic. 342 distinct authors contributed to the field from the dataset. Based on the number of published articles and citations, Table 6 highlights the most productive and cited authors. Rai HB. was the author with the most output., with four articles, and three each from Macharis C. and Verlinde S. The number of citations was also given the same ranking. Rai HB. was cited the most on the list, with 59 citations, followed by Macharis C. and Verlinde S., who each received 57 citations.

The fact that three papers were published simultaneously is related to this result [52,66,67]. However, HB Rai. was the author whose fractionalized frequency was the highest (1.83). Depending on the number of authors, each author receives a credit in the fractionalized frequency. The author receives one point for a single-author article. A half-point is awarded to each author of an article with two authors, and so on. Co-authorship interactions between academics can be better understood thanks to this analysis. Adreopoulou Z was the author on the list with the fewest points. Using the number of articles and fractionalized frequency, a Pearson correlation can be done to figure out how the total and adjusted appearances are related.

Future Research Directions

The so-called "last mile problem" of sustainable business-to-consumer e-commerce distribution and the impact of e-commerce's development of green logistics challenges involving sustainability and reverse logistics in electronic markets are major issues. E-commerce is related to the problem of the last mile because the last leg of a supply chain—from the warehouse to the customer—is the most expensive and time-consuming part of shipping. It can cost up to 53% of the total cost of shipping, even though customers want free and fast shipping. Examining e-commerce supply chains, their environmental sustainability, and their competitiveness is another important question. Due to the rapid expansion of e-commerce worldwide and its environmental repercussions, such as waste and potential trade-offs, packaging sustainability in e-commerce is becoming increasingly important. In order for e-commerce to be truly sustainable, social, environmental, and economic factors must be taken into account together and not separately. Additionally, a trade-off is required to ensure that the positive outcomes outweigh the negative ones. For instance, if e-commerce businesses make greater investments in fine-tuning their digital marketing strategies, which may include better

customer targeting with the appropriate products, the likelihood of products being returned will decrease, relieving pressure on reverse logistics and the environment as a result.

E-commerce's social responsibility and sustainability are important topics that merit additional research. Improved economics for sustainable e-commerce business models that can be leveraged by existing developments in artificial intelligence make sustainable development goals in e-commerce effects a very appropriate topic. Sustainable business models should be studied further because they have the potential to benefit e-commerce businesses in numerous ways. They can implement environmentally friendly practices in the supply chain, thereby lowering operational costs and benefiting the environment, by reducing carbon emissions (for instance, by choosing suppliers who are closer to their warehouse).

E-commerce success is largely dependent on customer satisfaction. Therefore, it is important to focus on sustainable e-commerce by incorporating social media, mobile marketing, and local marketing. Last but not least, the issue of sustainability in e-commerce ought to be looked into from a more comprehensive and holistic perspective, taking into account crucial issues like ethics, the law, and cyber security. Ethical and legal e-commerce should offer fair wages, prompt tax payments, and decent working conditions

III. CONCLUSION

E-commerce has recently accelerated its expansion, particularly in the context of a pandemic [82], and it is anticipated that this expansion will continue in the years to come. Additionally, e-commerce should encourage cybersecurity sustainability, which entails investing time, effort, and money in a way that reduces risk, lowers costs, and increases effectiveness, both immediately and over the long term. An increase in online sales resulted in a smaller impact on the environment. Since they are aware of this, customers expect businesses to employ environmentally sustainable practices [12]. This bibliometric analysis has limitations that need to be stated because businesses struggle to come up with novel strategies to be environmentally sustainable and satisfy customer expectations. Their primary objective is to make profits and income that are economically sustainable. In the first place, the information collection included just articles from the Scopus data set barring articles distributed in other databases. However, it should be noted that every database has limitations [87]. As a result, additional databases may be included in subsequent research. Second, even though the search string's terms were comprehensive, they might not have been. However, the majority of the studies that dealt with the subject of this study were probably found through the search. Thirdly, despite the fact that the authors of this paper utilized the bibliometric analysis's objective during the manual article selection stage, the analysis always carries inherent subjectivity. Fourth, because a researcher may cite a work in their paper for a variety of reasons, including factors related to the journal or author prestige, editorial policies, or the method employed by the authors [89], using the citation count as the criterion for some analyses may not be entirely reliable. When planning future research projects, this study hopes to provide researchers with fresh perspectives on consumer behavior and e-commerce sustainability. In addition, it serves as a capstone paper for the Sustainability scientific journal's Special Issue on Consumer Behavior and Sustainability in Electronic Commerce.

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