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ARTIFICIAL INTELLIGENCE AND SUSTAINABLE CONSUMER BEHAVIOUR: INSIGHTS FROM QUICK COMMERCE PLATFORMS IN INDIA

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ABSTRACT

Artificial Intelligence (AI) has become an important driver of innovation in modern business by enabling organizations to analyse large volumes of consumer data and provide personalized services. In the retail sector, the growth of quick commerce platforms has transformed consumer purchasing behaviour by offering faster delivery and convenient digital shopping experiences. This study examines the role of artificial intelligence in influencing sustainable consumer behaviour within quick commerce platforms in India. The research adopts a descriptive design and is based entirely on secondary data collected from academic journals, industry reports, company publications, and credible online sources related to artificial intelligence, sustainability, and digital retail. The analysis indicates that AI-driven technologies improve operational efficiency, enhance customer engagement, and support better inventory and delivery management. These systems can also promote sustainable consumption practices by reducing wastage, improving resource utilization, and encouraging environmentally responsible purchasing decisions. The study concludes that the integration of artificial intelligence within quick commerce platforms can significantly influence sustainable consumer behaviour while improving the efficiency of digital retail operations.

KEYWORDS: Artificial Intelligence, Sustainable Consumer Behaviour, Quick Commerce, Digital Retail, Consumer Analytics

INTRODUCTION

Artificial Intelligence (AI) has become a game-changing technology that is impacting contemporary corporate operations in recent years. AI-based solutions are being used by businesses in a variety of sectors to enhance customer interaction, operational effectiveness, and decision-making. Technologies like machine learning, predictive analytics, recommendation systems, and automated logistics help businesses in the retail industry analyze massive amounts of customer data and gain a deeper understanding of their purchase patterns. These developments enable companies to provide individualized services and product recommendations, enhancing the general client experience.

Artificial intelligence use in retail marketplaces has surged due to the swift growth of digital commerce platforms. The rise of rapid commerce, a business strategy that emphasizes providing goods to customers in a relatively short amount of time, is one of the most important advancements in this field. Platforms like Big Basket, Instamart, Swiggy, Zepto, and Blinkit By providing quick delivery, real-time inventory management, and easy digital shopping experiences, they have now completely changed the Indian online retail scene. For demand forecasting, logistics management, route optimization, and customized product suggestions, these platforms mostly rely on AI-driven solutions.

Simultaneously, global consumer behavior has been impacted by growing awareness of environmental sustainability and responsible consumption. Customers are favoring goods and services that promote sustainable practices as they become more aware of how their purchases affect the environment. Buying decisions that take into account the effects on the environment, society, and economy are referred to as sustainable consumer behavior. Eco-friendly packaging, efficient supply chains, decreased product waste, and improved delivery processes can all promote sustainability in digital retail and fast commerce systems.

In digital commerce platforms, artificial intelligence also helps to encourage sustainable consumption habits. While logistics optimization solutions increase delivery efficiency and lower fuel usage, AI-based demand forecasting can assist businesses in maintaining ideal inventory levels and minimizing product waste. Additionally, by emphasizing sustainable options during the buying process, recommendation algorithms might persuade customers to choose environmentally friendly products.

Artificial intelligence's integration with fast commerce platforms opens up new possibilities for enhancing operational efficiency and encouraging sustainable consumption habits within the Indian retail environment. Understanding how AI-driven technologies affect customer decision-making is crucial as digital retail grows. Thus, by analyzing insights from current

literature, industry reports, and other secondary data sources, the current study investigates how artificial intelligence influences sustainable consumer behavior inside rapid commerce platforms in India.

II. REVIEW OF LITERATURE

The rising use of artificial intelligence (AI) in business settings and its expanding significance in contemporary organizational operations are highlighted by recent studies. AI tools like recommendation algorithms, machine learning, and predictive analytics allow businesses to handle massive amounts of customer data and facilitate better decision-making. According to Davenport and Ronanki (2018), AI-driven analytical tools assist businesses in increasing operational effectiveness and creating data-driven customer engagement strategies. According to Huang and Rust (2021), AI-enabled service systems are also changing consumer interactions by making it possible for automatic responses, tailored suggestions, and more effective service delivery.

The application of artificial intelligence in consumer markets has accelerated due to the growth of digital retail platforms. With the use of cutting-edge technologies, businesses may analyze consumer behavior patterns and provide tailored product recommendations based on each customer's interests and past purchases. According to Pantano and Pizzi (2020), advancements like artificial intelligence and big data analytics have drastically changed commerce by facilitating personalized marketing tactics and real-time customer engagement. In a similar vein, Shankar (2018) notes that AI-driven recommendation systems impact consumer choices by showcasing goods that correspond with their interests and consumption habits.

In marketing and sustainability studies, the idea of sustainable consumer behavior has grown in significance at the same time. Sustainable consumption entails making purchases that take long-term social well-being, resource conservation, and environmental preservation into account. Joshi and Rahman (2015) note that companies are encouraged to implement responsible production techniques and market eco-friendly products by growing customer knowledge of environmental issues. Digital technology can also support sustainable retail practices by enhancing supply chain transparency, reducing waste, and boosting operational efficiency, according to Verhoef, Kannan, and Inman (2015).

The rise of quick commerce platforms, which concentrate on extremely quick delivery of necessities via hyperlocal fulfilment centres and technology-driven logistics networks, is another significant development in digital retail. According to Kumar and Ramachandran

(2022), rapid commerce businesses need on sophisticated digital technologies to guarantee effective operations, such as AI-based demand forecasting, automated inventory management, and optimum delivery routing. These technologies are used by major rapid commerce systems to manage inventories in real-time and give urban customers speedier order fulfillment.

The relevance of artificial intelligence in promoting sustainable operating practices within digital commerce systems has also been highlighted by recent study. Demand forecasting powered by AI can help businesses have the right amount of inventory on hand and cut down on product waste, which will increase resource efficiency. Intelligent supply chain technologies, according to Soni and Kodali (2021), allow businesses to optimize delivery routes, save fuel usage, and enhance logistical performance, all of which support environmentally conscious retail operations.

While prior research has looked at artificial intelligence in supply chain management, retail marketing, and consumer behavior, little of it has specifically addressed how AI technologies affect sustainable consumer behavior within quick commerce platforms, especially in light of India's quickly expanding digital retail industry. Understanding how AI-driven systems influence responsible consumption behaviors is crucial as rapid commerce services continue to grow in urban economies. Thus, the current study investigates the connection between sustainable consumer behavior and artificial intelligence applications in Indian rapid commerce platforms.

III. NEED FOR THE STUDY

The retail sector has undergone a dramatic transformation due to the quick growth of digital technology, especially with the increasing use of artificial intelligence and data-driven platforms. This change has been hastened in recent years by the growth of rapid commerce, which has made it possible for more individualized online buying experiences and extremely speedy delivery services. To increase operational effectiveness and customer convenience, major rapid commerce platforms are depending more and more on AI-based demand forecasts, recommendation algorithms, and logistics systems. While these technological developments improve retail services' speed and accessibility, they also pose significant concerns about the long-term effects of technology-driven purchasing behaviours.

Simultaneously, growing awareness of environmental sustainability has started to impact corporate plans as well as consumer behavior. Customers' growing awareness of how their purchases affect the environment is pushing companies to implement ethical and sustainable

business practices. By enhancing resource efficiency, streamlining supply chain processes, and assisting companies in encouraging ecologically conscious purchasing, artificial intelligence can help achieve these goals.

Even if artificial intelligence is becoming more and more important in digital commerce, most of the research that is currently available concentrates on customer experience, operational effectiveness, and technological innovation in online retail platforms. Examining how AI technologies affect sustainable consumer behaviour has received comparatively little study, especially in the quickly growing fast commerce industry. Understanding how AI-driven systems impact consumer decision-making and promote responsible consumption patterns becomes crucial as rapid commerce platforms continue to expand inside India's digital retail ecosystem.

In order to close this gap, the current study examines how artificial intelligence affects sustainable consumer behaviour on Indian fast commerce platforms. The study intends to offer insights into how AI-enabled technologies support sustainable consumption within the changing digital retail environment by looking at existing literature and secondary data sources.

IV. OBJECTIVES OF THE STUDY

The present study is conducted with the following objectives:

1. To examine the role of artificial intelligence in quick commerce platforms.
2. To analyse the influence of AI-driven technologies on consumer purchasing behaviour in digital retail environments.
3. To evaluate the potential of artificial intelligence in promoting sustainable consumer behaviour within quick commerce platforms.

V. SCOPE AND PERIOD OF THE STUDY

This study's scope is restricted to examining how artificial intelligence affects sustainable consumer behavior on Indian fast commerce platforms. The study focuses on large rapid commerce startups that use AI technology for inventory management, delivery optimization, demand forecasting, and recommendation systems, like Blinkit, Zepto, Swiggy Instamart, and BigBasket Now.

In the context of digital retail, the study looks at how these technology platforms enhance operational effectiveness and promote responsible consumption. The study's time frame,

2020–2025, saw the quick commerce industry grow quickly as a result of rising digital usage, smartphone penetration, and shifting consumer preferences.

VI. RESEARCH METHODOLOGY

The study adopts a **descriptive and analytical research design** to examine the role of artificial intelligence in influencing sustainable consumer behaviour within quick commerce platforms in India. The research is based entirely on **secondary data sources**.

Data were collected from peer-reviewed academic journals, industry reports, company publications, and credible online sources related to artificial intelligence, digital retail, and quick commerce platforms. The collected information was analysed using a **qualitative analytical approach** to identify key themes related to AI applications, consumer behaviour patterns, and sustainability practices within the quick commerce ecosystem.

VII. RESULTS AND DISCUSSION

Secondary data analysis shows that artificial intelligence has a big impact on how consumers behave and how quick commerce platforms operate. Businesses can analyze customer buying trends, streamline supply chain operations, and improve service effectiveness thanks to AI-driven technology. Artificial intelligence is commonly employed in the fast commerce ecosystem for delivery route optimization, inventory management, and demand forecasting. These technology methods enable businesses to more precisely forecast customer demand and guarantee quicker order fulfillment.

Recommendation algorithms are one of the main uses of AI in fast commerce platforms. In order to make meaningful product recommendations, AI-powered recommendation systems examine customer browsing history, purchase trends, and preferences. This individualized strategy influences purchasing decisions in addition to improving the customer experience. AI technologies promote more effective consumption patterns and decrease pointless product searches by offering consumers relevant product selections.

Additionally, artificial intelligence helps speed up commerce operations by increasing the effectiveness of logistics. Delivery platforms can find the best routes and shorten delivery times with the aid of AI-based routing solutions. Within urban delivery networks, effective logistics management can reduce fuel use and enhance resource utilization. AI-enabled demand forecasting tools also help businesses keep the right amount of inventory on hand, which lowers the possibility of product waste and improves supply chain effectiveness.

The part artificial intelligence plays in promoting sustainable purchasing habits is another significant factor. Platforms can track consumer behavior and spot chances to advertise eco-friendly items thanks to AI-driven data. Digital platforms, for instance, might draw attention to environmentally friendly substitutes or persuade customers to choose goods with sustainable packaging. These technology innovations have the potential to progressively raise consumer awareness and encourage ethical shopping.

Overall, the results show that artificial intelligence has the ability to affect sustainable consumer behavior in addition to improving operational efficiency in rapid commerce platforms. AI technologies support better digital retail experiences and more effective resource use through enhanced demand forecasting, tailored recommendations, and optimized logistics systems.

VIII. FINDINGS AND SUGGESTIONS

FINDINGS

The study's analysis of secondary data yields the following important conclusions:

1. By enhancing demand forecasting, inventory control, and delivery efficiency, artificial intelligence is essential to the operation of rapid commerce systems.
2. By offering tailored product recommendations and enhancing online shopping experiences, AI-based recommendation systems have a substantial impact on customer purchase behavior.
3. Quick commerce businesses can enhance operational efficiency and optimize delivery routes by utilizing AI-driven logistics systems.
4. By decreasing product waste and increasing resource efficiency, artificial intelligence technology may promote sustainable consumption habits.
5. The quick commerce services' explosive growth and popularity among urban consumers might be attributed to the incorporation of AI into digital retail platforms.

SUGGESTIONS

In light of the above findings, the following suggestions are proposed:

1. To increase supply chain efficiency and cut down on operational waste, quick commerce businesses should increase their use of artificial intelligence technologies.
2. By suggesting eco-friendly goods and sustainable packaging options, digital retail platforms may encourage environmentally conscious consumption.
3. To cut delivery times and enhance resource efficiency, businesses should invest in AI-driven logistics optimization tools.

4. To promote long-term environmental sustainability, policymakers and industry stakeholders may promote the adoption of sustainable practices within digital retail platforms.

IX. CONCLUSION

India's digital retail scene has drastically changed as a result of the fast commerce platforms' explosive growth. These platforms' incorporation of artificial intelligence has changed consumer behavior, increased consumer convenience, and boosted operational efficiency. Recommendation systems, demand forecasting tools, and logistics optimization models are examples of AI-driven technologies that allow businesses to analyze customer preferences and provide tailored services in fiercely competitive digital markets.

The study's conclusions show that artificial intelligence has a significant impact on how consumers make decisions on fast commerce platforms. Customers are encouraged to make speedier and more convenient purchases by data-driven marketing methods and personalized product recommendations. AI-based operational solutions also assist businesses in streamlining delivery networks and inventory management, which can lead to better resource use and fewer operational inefficiencies.

Additionally, inside digital retail ecosystems, artificial intelligence may promote sustainable purchase habits. AI-driven systems can help consumers make better decisions by promoting eco-friendly items and enhancing demand predictions. It will become more crucial to include environmental concerns into technology-driven retail systems as fast commerce grows in India's urban areas.

The current study offers valuable insights into the connection between artificial intelligence and sustainable consumer behavior in rapid commerce platforms, albeit being based on secondary data. Future studies may go deeper into empirical consumer attitudes and behavioral reactions to AI-driven digital retail platforms.

In conclusion, the successful incorporation of AI into quick commerce platforms can support responsible and sustainable consumption habits in the changing digital retail landscape in addition to increasing operational effectiveness and enhancing customer experiences.

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