

AI-Powered Personalization and Impulsive Buying: An S-O-R Model Approach to Post-Purchase Emotions in Fashion E-Commerce

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Abstract

Fashion e-commerce has changed as a result of artificial intelligence (AI), which makes highly customised product recommendations possible. Although the goal of these suggestions is to improve user experience and boost sales, they may also lead to unforeseen purchases and affect customers' post-purchase emotions. This conceptual paper integrates impulsive buying behaviour (Organism), post-purchase emotions (Response), and AI-powered recommendations (Stimulus) using the Stimulus–Organism–Response (S-O-R) framework. The study develops hypotheses for further empirical research and offers a conceptual model connecting these constructs, drawing on earlier research in marketing, consumer behaviour, and AI applications. By providing insights into how AI recommendations influence consumer decision-making and post-purchase evaluations in the context of fashion e-commerce, the study seeks to advance both theory and practice.

Keywords: AI Recommendations, Personalization, Impulsive Buying, Post-Purchase Emotions, S-O-R Model, Fashion

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How to cite this article: S. Aishwariya, AI-Powered Personalization and Impulsive Buying: An S-O-R Model Approach to Post-Purchase Emotions in Fashion E-Commerce, Journal of Management and Science, 15(4) 2025 74-78. Retrieved from <https://jmseleyon.com/index.php/jms/article/view/862>

Received: 2 November 2024 **Revised:** 10 January 2025 **Accepted:** 20 April 2025 **Published:** 30 June 2025

1. INTRODUCTION

Artificial Intelligence's (AI) quick development has changed the online retail scene, especially in the fashion industry, where trends, product diversity, and aesthetic appeal are major determinants of consumer choice. Product recommendations powered by AI and produced by algorithms that examine demographic data, past purchases, browsing history, and even in-the-moment browsing behaviour have emerged as a crucial personalisation tool. These suggestions serve as convincing digital stimuli, gently pointing users in the direction of goods they might not have specifically looked for. Although they are made to make shopping more convenient and relevant, they can also lead to impulsive or unplanned purchases, which opens up new avenues for cross-selling and increased sales right away.

Impulsive purchasing, however, may have after-purchase repercussions that go beyond the initial transaction.

Impulsive purchases in the fashion e-commerce industry, where aesthetics and self-expression are frequently factors, can have a range of emotional effects, from regret or cognitive dissonance to extreme satisfaction. Long-term customer loyalty depends on these emotional reactions, but research on them is still lacking, particularly when it comes to AI-driven triggers. In order to provide a thorough understanding of the consumer journey in AI-driven fashion retail, this paper uses the Stimulus–Organism–Response (S-O-R) framework to create a conceptual model that links AI recommendations (Stimulus), impulsive buying behaviour (Organism), and post-purchase emotions like satisfaction and dissonance (Response).

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2. Industry Context

One of the retail industries in India that is expanding the fastest is fashion e-commerce. At a compound annual growth rate (CAGR) of 24.2%, the Indian fashion e-commerce market is expected to reach nearly USD 98.5 billion (₹8.2 lakh crore) by 2032, from its estimated USD 21.6 billion (₹1.8 lakh crore) in 2025. The growing use of smartphones, reasonably priced mobile internet, and digital payment methods like UPI are the main drivers of this quick growth. The fashion sector is expected to play a major role in the growth of India's e-retail market, which is valued at USD 60 billion (₹5 lakh crore) in 2024 and is projected to reach USD 170–190 billion (₹14–15 lakh crore) by 2030. Notably, Tier-2, Tier-3, and rural markets now account for more than 60% of new online buyers, demonstrating how deeply e-commerce has spread outside of major cities.

AI-driven personalisation has become a potent competitive tool for fashion e-commerce sites like Myntra, Ajio, Amazon Fashion, and Nykaa Fashion in this quickly changing market. These platforms use advanced algorithms to analyse browsing history, purchase behaviour, and demographic profiles to deliver highly relevant and appealing product recommendations. Such hyper-personalised suggestions not only enhance the shopping experience but also influence consumer decision-making by prompting product discovery and often triggering impulsive buying behaviour. The Indian fashion e-commerce industry provides a timely and pertinent context for investigating the behavioural and emotional effects of AI-powered recommendations because of its size, growth potential, and level of competition.

3. Literature Review

a. AI-Powered Recommendations in Fashion E-Commerce

Fashion e-commerce platforms are increasingly using AI-powered recommendation systems to offer customers tailored product recommendations. In order to improve relevance and engagement, these systems use algorithms that analyse consumer data, including browsing history, past purchases, demographic information, and real-time behaviour (Jannach & Adomavicius, 2016). Platforms such as Myntra, Ajio, and Amazon Fashion use artificial

intelligence (AI) to customise shopping experiences in India, which affects consumer behaviour (Kumar et al., 2023). According to studies, customised suggestions can raise average order values, click-through rates, and conversion rates. However, there has been little investigation into the behavioural and emotional effects of recommendation algorithms, with the majority of current research concentrating on their technical effectiveness.

b. Impulsive Buying Behaviour in Online Fashion Retail

Impulsive buying is defined as unplanned, impulsive purchases that are motivated more by psychological and emotional cues than by conscious decision-making. Time-limited promotions, visual appeal, and tailored suggestions are important motivators for fashion e-commerce purchases. Impulsive buying tendencies are further exacerbated by the accessibility and convenience of mobile shopping (Lim et al., 2018). AI-driven suggestions can serve as persuasive cues, gently persuading customers to buy things they might not have otherwise thought about, according to recent studies (Sharma & Aggarwal, 2022). However, little is known about the relationship between AI personalisation and impulsive fashion e-commerce purchases, particularly in developing nations like India.

c. Post-Purchase Emotional Outcomes: Satisfaction and Dissonance

While post-purchase dissonance describes feelings of uncertainty or regret following a purchase, post-purchase satisfaction represents a consumer's favourable assessment of a purchase decision. Impulsive purchases in the context of fashion e-commerce can have a range of emotional effects. Finding unusual products makes some customers very happy, while unfulfilled expectations or financial worries make others regret their purchases. By encouraging impulsive purchases, AI-powered recommendations may unintentionally raise the risk of this dissonance in the event that the product does not live up to the customer's expectations (Zhao & Xie, 2020). Despite this, there is a dearth of research, especially in the Indian market, that combines AI recommendations, impulsive buying, and post-purchase emotions.

d. The S-O-R Framework in Digital Consumer Behaviour

E-commerce recommendations driven by AI function as persuasive stimuli that draw in customers and influence their purchase decisions, according to the Stimulus-Organism-Response (S-O-R) framework (Jeong, 2022; Zhao et al., 2021). Emotional and cognitive states like pleasure, arousal, trust, or flow are reflected in the organism as a result of these stimuli (Li et al., 2022; Huo et al., 2023). These states then drive the response, which is frequently viewed as impulsive buying behaviour. Personalisation, social presence, and promotional cues have been found to significantly increase impulse purchases in fashion and live-stream shopping contexts (Xia et al., 2024; Rahman et al., 2023). Fewer studies have looked at how AI-driven recommendations in fashion e-commerce affected post-purchase emotions like satisfaction or dissonance, despite the fact that a large body of research has studied AI's technical accuracy or impact on purchase intentions. This disparity emphasises the need for additional research, especially in the Indian context, linking AI personalisation to impulsive purchasing and the emotional fallout that results from it.

4. Need for the Study

Although AI-powered recommendations are increasingly being used in fashion e-commerce, little is known about how they may affect consumer behaviour and emotional reactions more broadly. The majority of current research focusses on AI systems' technical capabilities or their capacity to affect consumers' intentions to buy. Research on impulsive purchasing behaviour brought on by these suggestions and the ensuing feelings of satisfaction or dissonance, particularly in the context of Indian fashion e-commerce, is, however, scarce.

5. Statement of the Problem

In the fashion e-commerce industry, little is known about how AI-driven personalisation influences consumers' impulsive purchasing behaviour and emotional reactions after making a

purchase. E-commerce managers run the risk of concentrating on immediate sales increases at the expense of long-term client loyalty and satisfaction if they lack such insights.

6. Research Gap

- Post-purchase evaluation is frequently ignored in AI recommendation studies.
- Research on impulsive buying is usually separated from triggers based on artificial intelligence.
- AI recommendations and impulsive purchases are rarely studied in conjunction with post-purchase emotions like satisfaction and dissonance.

7. Research Objectives

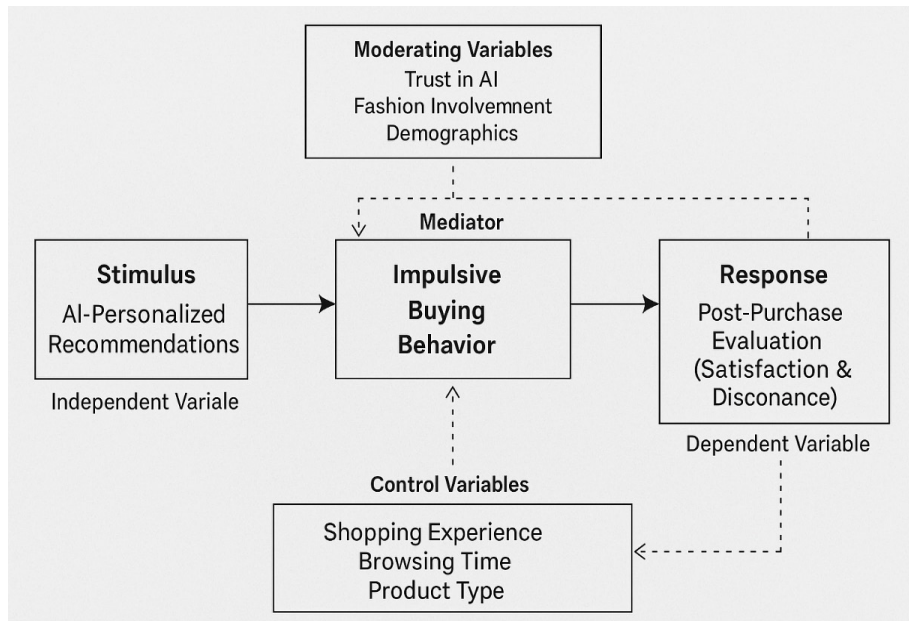
- To examine the impact of AI-powered personalized recommendations on consumers' impulsive buying behaviour in fashion e-commerce platforms.
- To analyze the influence of impulsive buying behaviour on post-purchase evaluation outcomes such as satisfaction and dissonance.

8. Scope of the Study

Customers of Indian fashion e-commerce who have used AI-powered product recommendations are the subject of this study. It looks at how these suggestions affect impulsive purchasing and feelings after a purchase using the Stimulus-Organism-Response (S-O-R) framework. The suggested conceptual model offers an organised perspective on the emotional and behavioural pathways at play. It also provides a starting point for additional empirical studies using comparable target populations and market environments.

9. Theoretical Background – S-O-R Model

The Stimulus - Organism - Response (S-O-R) model originates from environmental psychology and is widely used in consumer behaviour studies.



- **Stimulus:** AI-powered recommendations.
- **Organism:** Internal processes, represented here by impulsive buying behaviour.
- **Response:** Post-purchase emotions such as satisfaction and dissonance.

10. Proposed Conceptual Framework & Hypotheses

- **H1:** AI-powered personalized recommendations positively influence impulsive buying behaviour.
- **H2:** Impulsive buying behaviour positively influences post-purchase satisfaction.
- **H3:** Impulsive buying behaviour positively influences post-purchase dissonance.
- **H4:** AI-powered personalized recommendations indirectly affect post-purchase emotions via impulsive buying behaviour.

11. Methodology

Despite being a conceptual study, a quantitative research design aimed at fashion e-commerce customers may be used for future empirical validation. To find responders, sampling techniques like purposive or snowball sampling may be employed. To test the suggested relationships, data can be gathered using structured questionnaires and analysed statistically using methods like regression and mediation analysis.

12. Theoretical & Managerial Implications

Theoretical: The Stimulus-Organism-Response (S-O-R) framework is expanded in this study to include AI-powered suggestions in digital fashion e-commerce⁵. It contributes to the body of research on online consumer behaviour by showing how tailored

AI stimuli can affect consumer emotions, decision-making, and post-purchase assessments.

Managerial: The results provide e-commerce managers with useful advice on how to strike a balance between tactics that guarantee client happiness and loyalty and convincing AI recommendations¹. Managers can create recommendation systems that increase sales without jeopardising long-term relationships by taking into account the possibility of both impulsive purchases and post-purchase dissonance.

13. Limitations of the Conceptual Model

This model's generalisability is limited because it only considers fashion e-commerce and ignores cultural and demographic moderators.

14. Future Research Directions

To evaluate this model's generalisability, future research can test it empirically across a range of e-commerce categories and cultural contexts¹. The association between AI-powered recommendations, impulsive buying, and post-purchase emotions may also be influenced by other mediating or moderating variables, such as perceived value, trust, or cultural considerations.

15. Conclusion

In the context of fashion e-commerce, this conceptual paper offers an S-O-R-based framework that connects AI-powered recommendations to impulsive purchasing behaviour and the feelings that follow a purchase. By applying the S-O-R model to AI-driven online retail, it offers both theoretical contributions and useful insights for enhancing recommendation systems. Future empirical studies

to confirm and improve these relationships can also be built upon the framework.

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