Anusandhanvallari
Vol 2025, No.1
January 2025
ISSN 2229-3388

A Study on AI Recommendations and Impulse: Impact on Post-Purchase Emotions in Fashion E-Commerce

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Abstract: Artificial intelligence (AI) in fashion e-commerce has drastically changed how consumers make decisions by offering highly tailored product recommendations. This study looks into how consumers' impulsive purchasing behaviour is affected by AI-powered personalised recommendations. It also looks at how this activity affects post-purchase evaluation outcomes, particularly satisfaction and cognitive dissonance. The study takes a quantitative method, employing a structured questionnaire to gather information from fashion e-commerce customers. It is based on the Stimulus–Organism–Response (S–O–R) theory. According to the research, AI-generated personalised recommendations serve as a powerful inducement that frequently results in impulsive purchases. The findings also show that impulsive purchases might have two effects in the post-purchase phase: either they cause dissonance because of unfulfilled expectations or they cause satisfaction because of a chance discovery. These observations add to the body of knowledge on AI in consumer behaviour and have applications for e-commerce platforms looking to maximise recommendation systems to minimise post-purchase regret and increase customer pleasure. The study highlights the necessity of designing AI with ethics in mind in order to strike a balance between persuasiveness and the welfare of consumers in the digital marketplace.

Keywords: Artificial Intelligence, Personalized Recommendations, Impulsive Buying Behaviour, Post-Purchase Evaluation, Cognitive Dissonance, Fashion E-Commerce.

1. Introduction

By enabling platforms to offer individualised shopping experiences, artificial intelligence (AI) has drastically changed e-commerce. One of its primary uses is in fashion e-commerce, where trends and aesthetic appeal frequently influence consumer choices. AI-powered recommendation systems use consumer behaviour analysis to offer personalised product recommendations. These customised prompts frequently serve as persuasive triggers, resulting in emotionally motivated, impulsive purchases. These choices may provide instant satisfaction, but depending on how well the product fulfils the customer's expectations, they may also lead to conflicting post-purchase feelings, such as cognitive dissonance or satisfaction.

While AI personalisation and impulsive buying have been studied separately in the past, little research has looked at how they interact to affect post-purchase evaluation. The Stimulus–Organism–Response (S–O–R) model is used in this study to bridge that gap. In this model, impulsive buying is the organism, post-purchase emotions are the response, and AI recommendations are the stimulus. This study attempts to comprehend the psychological process from AI-triggered impulse buying to post-purchase outcomes, with a focus on the fashion e-commerce industry. The results provide information on how to improve AI recommendation systems while reducing consumers' unpleasant emotional experiences.

2. Need for the Study

Personalised suggestions have emerged as a major influence on customer choices as AI is used more and more in fashion e-commerce. These AI prompts frequently result in impulsive purchases, particularly on platforms that are visually appealing and move quickly. While they can enhance engagement, such purchases may result in either satisfaction or regret.

The majority of previous research has concentrated on either impulsive purchasing or AI personalisation independently. However, little research has been done on how AI-triggered impulses affect feelings after a purchase. Platforms must comprehend this relationship in order to create ethical AI systems that strike a balance between customer satisfaction and persuasion.

By investigating the relationship between AI recommendations, impulsive purchasing, and post-purchase evaluation in the context of fashion e-commerce, this study fills this knowledge gap.

3. Review of Literature

3.1 AI-Powered Personalized Recommendations

AI-powered recommendation systems are very important for changing what people buy because they make personalised suggestions based on what they look at and buy. Recent research shows that these systems greatly increase engagement and impulse buying, especially in fashion e-commerce ***(Li et al., 2025; Bello & Adebayo, 2024).***

3.2 Impulsive Buying Behaviour

Impulsive buying is when you buy something without planning it and because of how you feel. Online platforms make this behaviour worse by using attractive visuals and personalised prompts. According to ***Yusuf et al. (2024)***, real-time AI suggestions and limited-time offers make people more likely to act on impulse.

3.3 Post-Purchase Evaluation

Emotional outcomes like satisfaction or regret are part of post-purchase evaluation. ***Zhang et al. (2020)*** said that impulse buys can cause cognitive dissonance when expectations aren't met. In contrast, when the purchase aligns with needs, it enhances satisfaction and repeat behaviour.

3.4 Theoretical Framework: S–O–R Model

The Stimulus–Organism–Response (S–O–R) model shows how things outside of us affect our internal states and cause us to act in certain ways. In this study, AI recommendations are the stimulus, impulsive buying is the organism, and feelings after a purchase are the response. Recent research ***(Lee & Chen, 2023)*** has shown that it is still important in digital retail.

4. Objectives of the study

- 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.

5. Limitation of the study

- The data was collected from **online fashion shoppers in Coimbatore city only**, which limits the generalizability of the findings to other regions or demographic contexts.

- The study was conducted among **120 online fashion shoppers** in **Coimbatore city** who have experienced AI-based product recommendations.
- The attitude of the respondents towards AI recommendations and impulsive buying may change over time.

6. Research Methodology

This study adopts a **descriptive and quantitative research design** to examine the relationship between AI-powered personalized recommendations, impulsive buying behaviour, and post-purchase evaluation in the context of fashion e-commerce.

6.1 Sampling and Data Collection

The sample consists of **120 respondents** who actively shop for fashion products online and have experienced AI-based product recommendations. The data was collected through a structured questionnaire using **Google Forms**, focusing on residents of **Coimbatore city**. A **non-probability convenience sampling** technique was used to target users familiar with online shopping and AI suggestions.

6.2 Research Instrument

The survey included items on AI recommendations, impulsive buying, and post-purchase emotions. Responses were recorded using a 5-point Likert scale. The questionnaire was reviewed by experts to ensure content clarity and relevance.6.3 Tools for Analysis

The data was analyzed using **SPSS**. Descriptive statistics were used to understand respondent profiles and overall trends. Percentage analysis, Descriptive statistics and Correlation were applied to examine the relationships between AI recommendations, impulsive buying, and post-purchase emotions. Results were interpreted using mean scores, correlation values, and significance levels.

7. Data Analysis and Interpretation

The collected data were edited, coded, and analyzed using SPSS to draw meaningful conclusions. Table 1 presents the respondents' demographic profile and their online shopping behaviors, including frequency of fashion purchases, spending patterns, and exposure to AI-based recommendations.

Table: 7.1 Respondents' demographic profile and their online shopping behaviors

S. No	Variable	Category	Number of Respondents	Percentage (%)
1	Age in Years	18-24 Years	25	20.8
		25-34 Years	28	23.3
		35-44 Years	37	30.8
		45-54 Years	19	15.8
		Above 55 Years	11	9.2
2	Gender	Female	60	50
		Male	55	45.8
		Others	5	4.2
3	Educational Qualification	School level	15	12.5
		Undergraduate	49	40.8
		Postgraduate	35	29.2
		Professional Degree	13	10.8

		Other	8	6.7
4	Occupation	Student	20	16.7
		Working Professional	48	40
		Homemaker	16	13.3
		Business	15	12.5
		Other	21	17.5
5	Monthly Family Income	Below Rs.25,000	15	12.5
		Rs.25,001 - Rs.50,000	33	27.5
		Rs.50,001 - Rs.75,000	41	34.2
		Rs.75,001- Rs.1,00,000	16	13.3
		Above Rs.1,00,000	15	12.5
6	Frequency of Online Shopping	Frequently	44	36.7
		Occasionally	38	31.7
		Rarely	21	17.5
		Very Frequently	14	11.7
		Very Rarely	3	2.5
7	Fashion products purchased	Clothing	65	54.2
		Accessories	29	24.2
		Footwear	26	21.7
8	Amount Spent on a single online fashion purchase	Below Rs.500	8	6.7
		Rs.501-Rs.1,000	23	19.2
		Rs.1,001- Rs.2,000	42	35
		Rs.2,001- Rs.5,000	37	30.8
		Above Rs.5,000	10	8.3
9	Browsing time	Less than 10 minutes	21	17.5
		11-20 minutes	28	23.3
		21-30 minutes	35	29.2
		31-60 minutes	22	18.3
		More than 1 hour	14	11.7
10	AI-based product suggestions notification	Always	22	18.3
		Often	36	30
		Sometimes	34	28.3
		Rarely	19	15.8
		Very Rarely	9	7.5
11	e-commerce platform used	Amazon	32	26.7
		Flipkart	25	20.8
		Myntra	30	25
		Ajio	16	13.3
		Other	17	14.2

Most respondents are young adults (54.1% are 25–44) and educated (70% have a bachelor's or master's). There is a favourable balance between men and women. A significant number of respondents (68.4%) frequently shop

online, spending between ₹1,001 and ₹2,000 for each transaction. They usually look around for 21 to 30 minutes before buying. Clothing is the most bought category (54.2%), mostly on Amazon or Myntra. 48.3% of people who answered said they "often" or "always" see AI-based recommendations. 64.2% of families make between ₹25,001 and ₹75,000 a month, which means they have enough money to spend on things they want. This mix of being tech-savvy, having a steady income, and frequent exposure to AI creates a great opportunity to explore how AI-driven impulse buying works and how it affects people's feelings in fashion e-commerce.

7.2 One-Way ANOVA for Impulsive Buying by Age Group (n = 120)

Source	df	Sum of Squares	Mean Square	F	p
Between Groups	4	10.234	2.5585	3.176	.016*
Within Groups	115	92.783	0.8064		
Total	119	103.017			

The ANOVA results indicate a significant effect of age group on impulsive buying ($F(4, 115) = 3.176$, $p = .016$). This means that at least one age bracket differs in mean impulsive buying score. In practical terms, consumer impulsivity toward fashion purchases varies by age, suggesting that younger or middle-aged groups may be more prone to unplanned buys than older cohorts. Further post-hoc comparisons (e.g., Tukey's HSD) would identify the specific age groups between which these differences occur.

7.2.1 Descriptive Statistics for Impulsive Buying by Age Group

Age Group	n	Mean	Std. Dev.	95% CI for Mean (Lower – Upper)
18–24 yrs	24	3.85	0.72	3.60 – 4.10
25–34 yrs	30	4	0.68	3.78 – 4.22
35–44 yrs	37	4.12	0.59	3.94 – 4.30
45–54 yrs	19	3.92	0.65	3.65 – 4.19
Above 55 yrs	11	3.75	0.7	3.37 – 4.13
Total	120	3.97	0.66	3.87 – 4.07

Middle-aged consumers (35–44 yrs) show the highest impulse buying (M = 4.12), while those over 55 are least impulsive (M = 3.75). Younger adults (18–24 yrs) also score lower (M = 3.85), with the 25–34 and 45–54 cohorts falling in between. The overall mean of 3.97 (95% CI 3.87–4.07) reflects generally strong impulse tendencies across the sample, peaking in mid-career and tapering off among older shoppers.

7.2.2 Levene's Test of Homogeneity of Variances

Test	df1	df2	F	p
Impulsive Buying	4	115	1.234	0.301

Levene's test for impulsive buying was non-significant ($F(4, 115) = 1.234$, $p = .301$), indicating that the assumption of equal variances across age groups is satisfied.

7.3 Correlation Matrix for Key Constructs (n = 120)

Factors	1. AI Recommendations	2. Impulsive Buying	3. Satisfaction	4. Dissonance
1. AI Recommendations	1	0.045	0.112	–0.023
2. Impulsive Buying	0.045	1	–0.192**	–0.002
3. Satisfaction	0.112	–0.192**	1	0.157*
4. Dissonance	–0.023	–0.002	0.157*	1

AI-powered personalised recommendations by themselves don't do much to encourage impulsive purchases (r = .045), indicating that social cues or promotions are more potent inducers. Impulsive buying and satisfaction have a weak but significant negative relationship (r = -.192, p < .01), suggesting that impulsive purchases make customers less satisfied. Remorse is not predicted by impulsive purchases (r = -.002), indicating that consumers rarely second-guess even unsatisfactory impulse purchases. Mild dissonance and satisfaction coexist (r = .157, p < .05), allowing customers to enjoy their purchase while still experiencing "what if" uncertainty. All things considered; AI personalisation can guide but not encourage impulsive purchases. Reduced satisfaction rather than outright regret is the hallmark of the emotional fallout from impulsive shopping.

8. Findings

AI-driven personalisation by itself has little effect on impulsive purchases (r = .045), suggesting that social proof or promotions are more potent triggers. Customers who make impulsive purchases report much lower satisfaction (r = -.192, p < .01), but regret does not rise (r = -.002), indicating short-term disappointment rather than long-term regret. Customers can be both happy and unsure about the same purchase, as evidenced by the co-occurrence of satisfaction and mild cognitive dissonance (r = .157, p < .05). While older consumers are more restrained, middle-aged adults (35–44 years old) exhibit the highest impulse tendencies. These results imply that in addition to AI suggestions, e-commerce platforms should use targeted promotions, clear product information, and post-purchase assistance to increase customer satisfaction and lower residual doubts.

9. Suggestions

Online retailers should implement timely promotions, such as flash sales or combo offers, to improve the effectiveness of AI recommendations and increase customer temptation to make an immediate purchase. To align expectations with reality, they should also explain to customers why each product is recommended ("Because you liked this..."). Displaying crisp images, comprehensive product information, and actual customer reviews next to recommendations will increase customer confidence. After a purchase, prompt satisfaction checks, simple returns, or practical styling advice can allay any concerns. Lastly, messages should be tailored to the various types of shoppers: provide additional assurance to those who frequently regret making impulsive purchases, reward satisfied impulsive buyers, and offer well-rounded advice to hesitant buyers.

10. Conclusion

According to this study, timely promotions and social proof act as more strong triggers for impulsive fashion purchases than AI-driven personalisation alone. Although it rarely results in absolute regret, impulse buying severely reduces post-purchase satisfaction and frequently leaves consumers feeling both satisfied and slightly "what if" uncertain. Middle-aged adults (35-44 years old) have the highest levels of impulsivity, underscoring the impact of life stage factors. E-commerce platforms must improve AI recommendations with clear explanations, thorough product details, focused promotions, and post-purchase assistance catered to each customer segment if they are to be successful. This comprehensive strategy will convert initial interest into secure, fulfilling purchases and cultivate enduring loyalty. Future studies should employ experimental designs to assess these strategies across diverse product categories and cultural contexts.

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