

Influence of E-Commerce Flash Sales on Impulsive Buying Among Youth

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Abstract

The rapid growth of e-commerce in India has increased the use of flash sales as a promotional strategy, often triggering impulsive purchases among young consumers. Although impulsive buying has been widely studied, limited research has examined the impact of flash sales on youth in semi-urban Indian contexts and the resulting post-purchase dissonance (PPD). This study investigates the influence of e-commerce flash sales on impulsive buying behavior among youth and its effect on post-purchase dissonance. Using primary data collected from 90 respondents aged 18–30 years in Vaikom Municipality, Kerala, the study applies non-parametric tests, regression analysis and ranking techniques. The findings reveal that income significantly influences impulsive buying, whereas gender differences are insignificant. Impulsive buying during flash sales significantly increases post-purchase dissonance. This study extends consumer behavior theory by linking flash sale urgency with post-purchase cognitive responses and offers practical insights for responsible e-commerce promotion strategies.

Keywords: Flash sales; Impulsive buying; Youth consumers; Post-purchase dissonance; E-commerce; Consumer behaviour

Introduction

The rapid expansion of e-commerce has fundamentally reshaped consumer behavior worldwide, with India emerging as one of the most dynamic and rapidly growing markets. Valued at Rs. 10,82,875 crore (US\$125 billion) in FY24, the Indian e-commerce industry is projected to reach Rs. 29,88,735 crore (US\$345 billion) by FY30, reflecting a compound annual growth rate (CAGR) of 15% (IBEF, 2025). This growth trajectory is supported by factors such as widespread Internet penetration, the affordability of smartphones, the adoption of digital payment systems such as the Unified Payments Interface (UPI), and shifting consumer preferences towards convenience-driven online shopping (EY India, 2025). In this highly competitive environment, flash sales have emerged as a strategic mechanism for platforms to accelerate consumer engagement and purchase decisions.

Flash sales, characterised by steep discounts offered for a limited duration, are designed to induce urgency and shorten decision-making timeframes.

In India, festive-season flash sales, particularly during Diwali, contribute nearly 30–40% of annual revenues, with sales volumes often multiplying by 2.5–3 times during these events (Google India E-commerce Report, 2023). Youth consumers are particularly susceptible to such promotions given their digital fluency, price sensitivity, and responsiveness to time-bound offers (Appel et al., 2020). While flash sales significantly enhance revenue and customer acquisition, they also heighten impulsive buying tendencies, which may subsequently generate dissatisfaction or post-purchase dissonance.

Despite extensive studies on impulsive buying behavior and online promotional strategies, limited research has specifically examined the influence of flash sales on youth consumers, particularly in semi-urban India. Most existing studies focus on general online shoppers or metropolitan markets, with relatively little attention paid to post-purchase experiences arising from urgency-driven flash sales. Moreover, the relationship between impulsive buying triggered by flash sales and post-purchase dissonance remains unexplored. Addressing these gaps, the present study examines the influence of e-commerce flash sales on impulsive buying behavior among semi-urban youth and analyses its effect on post-purchase dissonance.

Objectives of the Study

1. To explore the role of demographic factors in impulsive buying tendencies during flash sales among youth.
2. To evaluate post-purchase dissonance in impulsive buying during flash sales,

Review of Literature

Lee and Kim (2012) found that emotions, social commerce effectiveness, and discounts are important drivers of impulsive buying. Similarly, Cho et al. (2014) reported that situational factors significantly influenced impulse purchases among Vietnamese supermarket consumers, while Mathai and Haridas (2014) showed that personality traits were closely associated with impulsive buying behavior among consumers in Cochin.

With the rapid growth of e-commerce, researchers have increasingly focused on impulsive buying in online shopping. Joshi and Domb (2017) examined the impact of flash sales on Indian e-commerce, whereas Hertanto et al. (2020) reported that flash sales had a significant positive effect on consumers' purchase decisions. Lazim et al. (2020) found that both internal and external stimuli influence impulsive buying and post-purchase regret. Likewise, Yulianto et al. (2021) demonstrated that shopping festivals and cash-on-delivery options encourage impulsive buying behavior.

Recent studies have highlighted the role of promotional strategies in influencing online consumer behavior. Lamis et al. (2022) reported that limited-time promotions strongly encourage impulsive buying, whereas Vannisa et al. (2020) identified scarcity cues and urgency as key triggers of unplanned purchases. Al Mutanafisa and Retnaningsih (2021) found that promotional offers are the strongest determinant of impulsive buying. Rani and Catherine (2023) emphasized the influence of demographic and psychographic characteristics, whereas Lerrick et al. (2023) linked Internet addiction, browsing behavior, and hedonistic lifestyles with higher levels of impulsive buying. Recent evidence also suggests that flash sales, limited-time offers, and scarcity cues continue to increase online impulse buying behavior (Anoop & Rahman, 2025; Bhardwaj et al., 2026; Kathuria & Bakshi, 2024).

Although previous studies have examined the determinants of impulsive buying and the effectiveness of promotional strategies, relatively little attention has been paid to how flash sales influence youth consumers in semi-urban areas. In particular, the relationship between flash sale-induced impulsive buying and post-purchase dissonance remains insufficiently explored. This study addresses these gaps by examining the influence of e-commerce flash sales on impulsive buying behavior among youth and its effect on post-purchase dissonance. Based on the literature, the following hypotheses were formulated:

H₁: There is a significant difference in the mean ranks of impulsive buying behavior between male and female youth during e-commerce flash sales.

H₂: There is a significant difference in the mean ranks of impulsive buying among youth of different income levels.

H₃: Impulsive buying behaviour has a positive influence on post-purchase dissonance.

H₄: There is a significant difference in the ranking of preferred product categories during e-commerce flash sales.

Research Design and Methodology

This study follows an analytical and descriptive design, focusing on youth online shoppers in the Vaikom municipality of Kottayam District, Kerala. A total of 90 respondents aged between 18 and 30 years were selected using convenience sampling, as they represented active participants in e-commerce flash sales. The sample size of 90 respondents was considered adequate for the statistical analyses employed in the study and was consistent with recommendations for exploratory behavioral research (Hair et al., 2019). Convenience sampling was adopted because no sampling frame of youth consumers participating in flash sales was available, and respondents with relevant shopping experience

were easily accessible. Primary data were collected using a structured questionnaire that included demographic details and items related to impulsive buying, perceptions of flash sales, and post-purchase dissonance, measured mainly on a five-point Likert scale. The survey was administered both online and in person, with voluntary participation and anonymity maintained to ensure the reliability of the responses.

Descriptive statistics, such as percentages and means, were used to summarize consumer characteristics. The reliability of the instrument was tested using Cronbach's alpha. Correlation techniques (Spearman's rho and Pearson) and regression analyses were employed to identify relationships among variables. The Kruskal–Wallis H and Mann–Whitney U tests were applied to examine group differences when parametric assumptions were not met. This approach ensured the systematic collection and interpretation of data, making the study replicable for future research on impulsive buying in e-commerce flash sales.

Results and Discussion

Demographic details of respondents

Table 1 Respondents' Demographics (n = 90)

Variable	Category	f	Percentage
Gender	Male	27	30.0
	Female	63	70.0
Age	Below 18	3	3.3
	18–22	54	60.1
	23–27	32	35.5
	Above 27	1	1.1
Educational Qualification	Plus Two	11	12.2
	UG/Diploma	39	43.3
	PG	40	44.4
Monthly Income (₹)	Below 25,000	72	80.0
	25,001–50,000	9	10.0
	50,001–100,000	6	6.7
	Above 100,000	3	3.3

Computed by the authors

The sample was dominated by female respondents (70%), with men accounting for 30%. Most participants were young, as 60.1% belonged to

the 18–22 age group. A large share (80%) reported monthly incomes below ₹25,000, reflecting the early career nature of this group. In terms of education,

most participants were pursuing or had completed undergraduate (43.3%) or postgraduate (44.4%) studies. Among the platforms, Flipkart was the most popular choice for flash sale shopping, while electronics emerged as the leading product category

purchased.

The role of gender and income in impulsive buying during e-commerce flash sales

Table 2 Gender wise Differences in Impulsive Buying Behaviour during E-Commerce Flash Sales (Mann–Whitney U Test)

Impulsive buying behaviour	Gender	Mean Rank	Chi Square	Df	p-value
	Male	45.334	846.000	1	0.968
	Female	45.572			

Computed by the authors

The Mann–Whitney U Test was conducted to examine the differences in impulsive buying behavior between male and female respondents. The results indicated no statistically significant difference between the two groups ($U = 846.000$, $p = .968$ [$>.05$]). The mean ranks for female (45.57) and male

(45.33) respondents were nearly identical. Thus, the null hypothesis could not be rejected, suggesting that gender does not significantly influence impulsive buying behavior during e-commerce flash sales among the youth.

Table 3 Differences in Impulsive Buying Behaviour by Monthly Income (Kruskal–Wallis H Test)

Impulsive Buying	Monthly Income	Mean Rank	Chi Square	Df	p-value
	Below 25000	48.442	8.334	3	0.040
	25001 to 50000	22.059			
	50001 to 100000	44.011			
	Above 100000	48.334			

Computed by the authors

The Kruskal–Wallis H test was conducted to examine differences in impulsive buying behavior across income groups. The results revealed a statistically significant difference among respondents of different monthly income levels ($\chi^2(3) = 8.334$, $p = .040$). The mean ranks indicate that participants earning below ₹25,000 (Mean rank = 48.44) and above ₹100,000 (Mean rank = 48.33) exhibited higher impulsive buying tendencies than those in

the ₹25,001–50,000 income group (Mean rank = 22.06). Therefore, the null hypothesis was rejected, suggesting that impulsive buying behavior during e-commerce flash sales varies significantly by income level among the youth.

Influence of impulsive buying on post-purchase dissonance

Table 4 Effect of impulsive buying on post-purchase decision (Simple linear regression)

Predictor	B	SE	β	t	p
(Constant)	5.631	1.296	–	4.344	0.001
Impulsive Buying	0.454	0.084	0.499	5.407	0.001
R ²	0.250				

Note. Dependent variable = Post-purchase dissonance; N = 90.

Computed by the authors

The regression analysis examined the effect of impulsive buying on post-purchase dissatisfaction.

The model was statistically significant, $F(1, 88) = 29.24$, $p 0.001$, indicating that impulsive buying

behavior is a meaningful predictor of post-purchase dissonance. The coefficient of determination ($R^2 = 0.25$) shows that about 25% of the variation in post-purchase dissonance can be explained by impulsive buying tendencies, suggesting a moderate level of predictive power. The unstandardized coefficient ($B = 0.454$, $SE = 0.084$) indicates that post-purchase dissonance increases by nearly half a unit for every one-unit increase in impulsive

buying. The standardized coefficient ($\beta = 0.499$, $p = 0.001$) further confirms a moderate positive effect, demonstrating that stronger impulsive buying behavior is associated with higher levels of post-purchase dissonance.

Preferred product categories during e-commerce flash sales.

Table 5 Friedman Test Results for Differences in Ranking of Preferred Product Categories during E-Commerce Flash Sales

Categories	Mean Rank
Electronics	2.50
Cloths	2.52
Beauty and personal care	2.71
Books and stationery	3.41
Home Decors	3.86
Friedman test result:	$\chi^2 (4) = 52.658$, $p = 0.00$

Computed by the authors

The Friedman test indicated a statistically significant difference in the ranking of product category preferences ($\chi^2 (4) = 52.66$, $p < .001$). Therefore, the null hypothesis was rejected, confirming that consumers' preference rankings significantly differ across product categories during e-commerce flash sales. Based on the mean ranks, home décor (mean rank = 3.86) and books and stationery (mean rank = 3.41) were the most preferred categories, while electronics (mean rank = 2.50) and clothes (mean rank = 2.52) ranked lowest.

Suggestions

For marketers: Because impulsive buying during flash sales significantly increases post-purchase dissonance, e-commerce platforms should focus on responsible promotional strategies rather than creating excessive urgency to purchase. Providing clear product descriptions, transparent pricing, customer reviews, and flexible return policies can help consumers make informed decisions and reduce post-purchase dissatisfaction levels. As income significantly influences impulsive buying behavior, marketers may also design value-based promotional offers that cater to different income groups without encouraging unnecessary purchases.

For consumers: Youth consumers should avoid making purchase decisions solely because of limited-time discounts or scarcity messaging. Comparing prices, evaluating product requirements, and preparing a shopping list before participating in flash sales can help minimize impulsive buying and reduce post-purchase dissonance.

For policymakers: Consumer protection authorities should encourage greater transparency in flash sale promotions by monitoring misleading discount claims and artificial scarcity tactics. Digital consumer awareness programs should also be strengthened to educate young consumers about responsible online shopping and informed purchase decisions.

Conclusion

This study highlights how e-commerce flash sales influence the impulsive buying behavior of youth in Vaikom Municipality (Kottayam District, Kerala) and the implications for businesses. Among the demographic factors, income emerged as a significant determinant: youth in lower-income groups displayed impulsive buying driven by the fear of missing out, while higher-income youth exhibited similar tendencies because of their greater

purchasing power. These findings suggest the need for tiered flash-sale strategies that combine value-oriented offers for price-sensitive consumers with exclusive promotions for higher-income segments.

The study further reveals that impulsive purchases during flash sales often lead to post-purchase dissonance. While flash sales enhance short-term sales performance, they may generate dissatisfaction if consumers feel pressured to make quick decisions. To mitigate this, e-commerce platforms should emphasize transparent product information, flexible return policies, and effective post-sale support.

Additionally, the stronger preference for home décor and stationery over electronics and fashion indicates a shift toward practical and lifestyle-oriented purchases among the youth. This study has certain limitations. It was confined to youth consumers in Vaikom Municipality, Kerala; therefore, the findings may not be generalizable to other regions. Furthermore, the use of convenience sampling and a relatively small sample size may limit the broader applicability of our results. Future studies should employ larger and more diverse samples and adopt longitudinal designs, incorporating psychological factors such as fear of missing out and self-control, to further deepen our understanding of impulsive buying in e-commerce and emerging social commerce environments.

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