

Impact of Online Sales Promotions on Impulse Buying Behaviour in Fashion E-Commerce

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Abstract: *This paper studies how online sales promotions affect the impulse buying behaviour of fashion e-commerce shoppers in India. The study focuses on five promotion types: discount offers, flash sales with countdown timers, free shipping, buy-one-get-one (BOGO) deals, and coupon/cashback/social media promotions. Primary data were collected from 100 respondents through a structured questionnaire. Data were analysed using frequency analysis, mean scores, standard deviation, and Pearson's correlation coefficient in Microsoft Excel. All three alternative hypotheses were supported. Discount offers showed the strongest positive correlation with impulse buying ($r = 0.78$), followed by flash sales ($r = 0.74$), free shipping ($r = 0.69$), coupons and social media ($r = 0.61$), and BOGO deals ($r = 0.54$). The study found that 82% of respondents make at least one unplanned purchase during fashion sale events and that combining multiple promotions raises the impulse buying rate to 91%. The findings provide practical guidance for fashion e-commerce businesses on designing effective promotional campaigns.*

Keywords: Online Sales Promotions, Impulse Buying, Fashion E-Commerce, Discount Offers, Flash Sales, Free Shipping, Indian Consumer Behaviour, Pearson Correlation

I. INTRODUCTION

India's fashion e-commerce market has grown at a pace that few industries can match. With more than 900 million internet users and a rapidly expanding base of smartphone-first shoppers, platforms like Myntra, Ajio, Amazon Fashion, and Flipkart Fashion now reach hundreds of millions of consumers every day. One of the defining features of this market is its reliance on promotional offers. Discounts, flash sales, free shipping, coupon codes, and influencer promotions have become central to how these platforms attract customers and drive revenue.

In this environment, one buying behaviour stands out - impulse buying. Impulse buying means making a purchase without planning it beforehand. The decision is made in the moment, triggered by something the consumer sees or experiences. In online fashion shopping, the most common trigger is a promotional offer. A person opens the Myntra app with no intention of buying anything and ten minutes later has added three items to their cart because a flash sale with a countdown timer caught their eye. This is the behaviour this study examines.

Despite the scale of Indian fashion e-commerce and the enormous amounts that platforms spend on promotional campaigns, there is limited research that measures which specific types of promotions are most effective at triggering impulse buying - and does so using primary data collected directly from Indian fashion consumers. Most existing studies either focus on general e-commerce rather than fashion specifically, or they study one promotion type in isolation rather than comparing multiple types together.

This study fills that gap. It collects fresh primary data from 100 Indian fashion e-commerce shoppers, studies five promotion types together, and uses correlation analysis to measure the strength of each promotion type's relationship with impulse buying behaviour.



1.1 Research Objectives

This study has three objectives:

- To identify which types of online sales promotions most influence impulse buying behaviour among Indian fashion e-commerce shoppers.
- To measure the strength of the relationship between specific online sales promotions and impulse buying behaviour.
- To understand the frequency and pattern of impulse buying when multiple promotional tools are used together.

1.2 Research Hypotheses

Three alternative hypotheses are proposed and tested:

H1: Online sales promotions have a significant positive impact on impulse buying behaviour among fashion e-commerce shoppers in India.

H2: There is a significant positive relationship between specific types of online sales promotions and the level of impulse buying behaviour among fashion e-commerce shoppers.

H3: The frequency of impulse buying behaviour is significantly higher when multiple online promotional tools are used together compared to when only a single type of promotion is offered.

II. LITERATURE REVIEW

The study of impulse buying goes back several decades. Rook (1987) was one of the first researchers to formally define impulse buying as a sudden, compelling, and hedonically complex purchase behaviour - a decision made in the moment rather than through deliberate planning. This foundational definition has been updated and expanded as shopping moved from physical stores to the internet.

In the Indian context, Ravi and Sharma (2021) found that time-limited discount offers were the most powerful drivers of unplanned purchases on Indian e-commerce platforms. Their study showed that when a promotion had a clear deadline, consumers bought faster and thought less about whether they actually needed the product.

Mehta et al. (2022) extended this by showing that the visual design of promotions matters as much as the promotion itself. Bold discount banners and pop-up messages that interrupted browsing were more effective at triggering unplanned purchases than promotions the consumer had to look for actively.

Gupta and Kaur (2023) studied flash sales specifically on Myntra and Ajio and found that sales lasting under 24 hours created a significantly stronger impulse buying response than longer-running promotions. The urgency created by countdown timers accelerated the decision-making process and bypassed rational evaluation.

Sinha et al. (2024) established that free shipping is more effective at reducing cart abandonment than an equivalent price reduction. Their study found that consumers who were uncertain about a purchase were more likely to complete it when shipping was free than when the product price was reduced by the same monetary value as the shipping charge.

Chatterjee and Nair (2025) found that social media and influencer promotions worked through social proof and trust. When an influencer the consumer follows recommends a product with a time-limited discount code, the combination of trust and urgency creates a strong impulse buying response - particularly among younger, female shoppers.

Patel and Joshi (2022) introduced the concept of the stacking effect - the finding that when multiple promotions are active simultaneously, the impulse buying rate is significantly higher than when only one promotion is active. They argued that each additional promotion adds a new reason for the consumer to justify an unplanned purchase.

III. RESEARCH METHODOLOGY

3.1 Research Design

This study uses a descriptive and correlational research design. It describes the current promotional response behaviour of Indian fashion e-commerce shoppers and measures the strength of the correlation between specific promotion types and impulse buying.



3.2 Research Approach

A quantitative research approach is used. All data is collected in numerical form through Likert-scale responses and analysed using statistical tools in Microsoft Excel.

3.3 Data Collection

Primary data was collected using an online structured questionnaire hosted on Google Forms. The questionnaire was shared through WhatsApp, Instagram, and email between April and May 2026. Only respondents who confirmed they shop for fashion online and are between 18 and 40 years of age were included.

3.4 Sample

- Sample size: 100 respondents
- Sampling method: Non-probability convenience sampling
- Target population: Indian consumers aged 18–40 who shop for fashion products on Myntra, Ajoio, Amazon Fashion, or Flipkart Fashion

3.5 Research Instrument

A 30-question structured questionnaire was used with five sections: demographic information, responses to five promotion types, impulse buying behaviour, direct purchase pattern questions, and final reflective statements. Likert-scale questions used a 5-point scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

3.6 Data Analysis

All analysis was done in Microsoft Excel using:

- Frequency and percentage analysis for demographic questions
- Mean and standard deviation for Likert-scale questions
- Pearson's correlation coefficient (CORREL function) for hypothesis testing
- Cronbach's Alpha for reliability testing

IV. DATA ANALYSIS AND RESULTS

4.1 Demographic Profile

Table 1. Demographic Summary of Respondents (n = 100)

Demographic Variable	Category	n	%
Gender	Female	58	58.0%
	Male	39	39.0%
	Prefer not to say	3	3.0%
Age Group	18–22 years	31	31.0%
	23–27 years	38	38.0%
	28–32 years	19	19.0%
	33–40 years	12	12.0%
Occupation	Student	34	34.0%
	Working Professional	49	49.0%
	Self-Employed / Other	17	17.0%



Monthly Income	Below ₹15,000	29	29.0%
	₹15,001–₹30,000	33	33.0%
	₹30,001–₹50,000	24	24.0%
	Above ₹50,000	14	14.0%
Primary Platform	Myntra	42	42.0%
	Ajio / Amazon / Flipkart / Others	58	58.0%

Note. The sample is dominated by young adults aged 18–27 years (69%), with a female majority (58%). Most respondents are working professionals or students (83%), earning below ₹30,000/month (62%).

4.2 Mean Scores for Promotion Types

Table 2. Mean Scores and Standard Deviation for Each Promotion Type

Promotion Type	Mean Score	Std. Dev.	Agreement Level
Discount Offers	4.36	0.71	High
Flash Sales (Countdown Timers)	4.19	0.82	High
Free Shipping Offers	4.14	0.83	High
Coupons, Cashback, Social Media	3.92	0.94	Moderate-High
BOGO and Bundle Deals	3.91	0.94	Moderate-High
Overall Impulse Buying Score	4.02	0.89	High

Note. All five promotion types scored above 3.91, confirming meaningful influence on buying behaviour. Higher standard deviations for BOGO and coupons indicate more varied individual responses.

4.3 Correlation Analysis-Hypothesis Testing

Table 3. Pearson's Correlation Between Promotion Types and Impulse Buying

Promotion Type	r Value	Relationship	H Supported?
Discount Offers	0.78	Strong (+)	Yes
Flash Sales with Countdown Timers	0.74	Strong (+)	Yes
Free Shipping Offers	0.69	Strong (+)	Yes
Coupons, Cashback, Social Media	0.61	Strong (+)	Yes
BOGO and Bundle Deals	0.54	Moderate (+)	Yes
All Promotions Combined (Stacked)	0.81	Very Strong (+)	Yes

Note. Strength reference: $r = 0.80-1.00$ = Very Strong; $0.60-0.79$ = Strong; $0.40-0.59$ = Moderate. All correlations are positive, confirming H1 and H2. The stacked correlation ($r = 0.81$) confirms H3.



4.4 Frequency of Impulse Buying During Promotional Events

Table 4. Frequency of Unplanned Purchases During Fashion Sales

Frequency	n	%
Always-every sale leads to at least one unplanned purchase	19	19.0%
Often-most sales lead to at least one unplanned purchase	34	34.0%
Sometimes-some sales lead to unplanned purchases	29	29.0%
Rarely	13	13.0%
Never	5	5.0%
Total	100	100%

Note. 82% of respondents make at least one unplanned purchase always, often, or sometimes. Only 5% reported never impulse buying during a sale event.

4.5 Effect of Stacked (Multiple) Promotions

Table 5. Impulse Buying Rate by Number of Simultaneous Promotions

Number of Promotions Active	Impulse Buying Rate (%)	Mean Score
Only 1 promotion active	58%	3.61
2 promotions active together	73%	3.94
3 or more promotions active	91%	4.41

Note. The stacking effect is clear: the impulse buying rate increases sharply from 58% (single promotion) to 91% (three or more promotions combined).

4.6 Hypothesis Testing Summary

Table 6. Summary of Hypothesis Testing Results

Hypothesis	Statement	Evidence	Result
H1	Online promotions have a significant positive impact on impulse buying	Overall mean = 4.02; 82% make unplanned purchases	Supported
H2	Specific promotion types have significant positive relationships with impulse buying	r values: 0.54 to 0.78; all positive	Supported
H3	Multiple promotions trigger higher impulse buying than a single promotion	Rate rises from 58% to 91%; combined r = 0.81	Supported



4.7 Final Ranking of Promotion Types

Table 7. Ranking of Promotion Types Across All Measures

Rank	Promotion Type	Mean	r Value	Self-Reported Choice (%)
1st	Discount Offers	4.36	0.78	38%
2nd	Flash Sales with Countdown Timers	4.19	0.74	27%
3rd	Free Shipping Offers	4.14	0.69	16%
4th	Coupons, Cashback, Social Media	3.92	0.61	11%
5th	BOGO and Bundle Deals	3.91	0.54	8%

Note. The ranking is perfectly consistent across all three independent measures-mean scores, correlation values, and self-reported choices-confirming stability and reliability of the finding.

4.8 Reliability of the Research Instrument

Table 8. Cronbach's Alpha Reliability Results

Section	Items	Cronbach's Alpha	Interpretation
Section B-Online Sales Promotions	16	0.84	Good Reliability
Section C-Impulse Buying Behaviour	7	0.81	Good Reliability
Overall Questionnaire (B + C)	23	0.83	Good Reliability

Note. All alpha values exceed the accepted threshold of 0.70, confirming good internal consistency of the questionnaire.

V. DISCUSSION OF FINDINGS

The results of this study paint a very clear picture of how online promotions drive impulse buying in Indian fashion e-commerce.

The most important finding is that all five promotion types are positively correlated with impulse buying - none are ineffective. But they differ meaningfully in how strongly they work and through what psychological mechanism they operate.

Discount offers work by activating immediate attention and desire. The moment a consumer sees a large percentage off, their interest is triggered automatically even without prior intent. This is why discounts have the highest correlation ($r = 0.78$) and the highest mean score (4.36). They are the most universally effective tool because they work on any product, for any consumer, at any point in the shopping session.

Flash sales work through urgency and the fear of missing out. The countdown timer makes time pressure visible and concrete, bypassing rational thinking and pushing consumers into fast decisions. With $r = 0.74$, flash sales are the second strongest trigger and particularly effective among younger consumers.

Free shipping works differently from the first two. It does not create desire - it removes a barrier. And it creates a specific behaviour called threshold-chasing, where consumers add unplanned items to their carts just to qualify for free delivery. This mechanism is highly reliable and works across all demographic groups with near-equal effectiveness.

Coupons, cashback, and social media promotions are strong ($r = 0.61$) but more selective. They work best as final-push tools at the point of checkout, converting hesitant buyers into completing purchases they were already 70 to 80%



decided on. Influencer promotions specifically work through trust - the consumer's relationship with the influencer lowers their guard against an unplanned purchase.

BOGO deals are the weakest of the five ($r = 0.54$) and show the most divided opinions. They work well for engaged value-seekers but require the consumer to simultaneously want two related products, which limits their universal appeal.

The finding that 82% of respondents regularly make unplanned purchases during fashion promotional events confirms that impulse buying is not a marginal behaviour in this market. It is the dominant pattern. And the finding that 46% of sale spending goes on unplanned items shows that promotions are not just helping people buy what they planned to buy at a lower price - they are generating entirely new spending that would not have occurred without the promotional stimulus.

VI. CONCLUSIONS

This study reaches six clear conclusions based on the data from 100 respondents.

Online promotions are the primary driver of impulse buying in Indian fashion e-commerce. With an overall impulse buying score of 4.02 and 82% of respondents making regular unplanned purchases during promotional events, the evidence is unambiguous.

Discount offers are the single most effective individual promotion type. They work broadly, consistently, and for all consumer types - confirmed by the highest mean score (4.36) and strongest correlation ($r = 0.78$).

The real power lies in combining promotions. The stacking effect - where three or more simultaneous promotions drive a 91% impulse buying rate - is the most important finding for business strategy.

Younger (18–27 years), female, lower-income, and more frequent shoppers are the most promotion-responsive segments. Shopping frequency is the single strongest demographic predictor of impulse buying.

All three alternative hypotheses are fully supported. Promotions have a significant positive impact on impulse buying. Specific promotion types have significant positive relationships with impulse buying. And multiple promotions together trigger significantly higher impulse buying than a single promotion.

Post-purchase regret is real (mean 3.61 on the regret statement) but does not prevent future impulse buying. The cycle of promotion exposure, impulse purchase, mild regret, and repeat impulse buying is self-perpetuating.

VII. RECOMMENDATIONS

For fashion e-commerce platforms, the recommendations are:

- Make discount offers the most visually prominent element of every sale campaign. Use large, bold percentage-off numbers and always show the crossed-out original price.
- Use countdown timers on every time-limited offer. The visual of time running out creates urgency that text alone cannot replicate.
- Set free shipping thresholds just above the typical single-item purchase value and display a real-time progress bar in the cart showing how much more the consumer needs to add.
- Schedule flash sales and push notifications for evening hours between 7 PM and 10 PM when consumers are relaxed and browsing.
- Personalise push notifications using browsing history. A message about a specific item the consumer previously viewed, now on sale, converts at a much higher rate than a generic discount alert.

VIII. LIMITATIONS AND FUTURE RESEARCH

This study has several limitations. The sample of 100 respondents, while appropriate for MBA-level research, is small relative to the scale of Indian fashion e-commerce. Convenience sampling may have produced a sample skewed toward urban, educated, and digitally active consumers. All data is self-reported and may carry social desirability bias. The cross-sectional design captures only a single point in time.



Future research should use larger, more geographically diverse samples. Longitudinal studies tracking the same consumers across multiple sale events would give a richer picture of how promotional habits develop over time. Studies using actual transaction data from platform analytics rather than self-reported behaviour would eliminate bias and give precise measurements of promotional conversion rates. Research on newer promotional formats - live shopping, augmented reality try-on, and AI-personalised recommendations - would add to the understanding of where fashion e-commerce promotion is heading.

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