Investigating the Impact of Fear of Missing Out on Impulse Buying Behaviour in E-Commerce

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Abstract

The contemporary digital commerce landscape increasingly employs artificial scarcity nudges to accelerate conversions, frequently activating the psychological state known as Fear of Missing Out to stimulate unplanned consumer expenditure. This empirical study aims to investigate the influence of e-commerce scarcity mechanisms on consumer FOMO, evaluate its mediating role in driving impulse purchases, and assess subsequent post-purchase outcomes. Utilizing a descriptive research design, primary data was gathered from 80 active digital shoppers through a structured questionnaire using convenience sampling, alongside secondary literature inputs. The collected data was analysed using percentage analysis, One-Way ANOVA, Chi-Square test of independence, Karl Pearson correlation, and multiple linear regression analysis. The empirical results reveal a strong positive correlation between FOMO and impulse buying ($r = 0.684$), with regression analysis indicating that scarcity cues, FOMO, and time pressure jointly account for 58.6 per cent of the variance in impulse purchasing ($R^2 = 0.586$, $p < 0.001$). Furthermore, ANOVA and Chi-Square tests confirmed significant demographic differences in post-purchase regret across educational levels and flash-sale responsiveness across occupational groups. The findings also highlight that over 36 per cent of shoppers experience severe post-purchase remorse and financial strain due to FOMO induced transactions. To address these consequences, e-commerce service providers are urged to eliminate deceptive countdown dark patterns and adopt cooling-off checkout mechanisms, while consumers must establish self-regulatory practices such as cooling-off periods and digital budget caps. Ultimately, this research provides vital insights into balancing commercial conversion goals with sustainable consumer welfare and ethical digital retail practices.

Keywords: Fear of Missing Out, Impulse Buying Behaviour, E-Commerce Scarcity Cues, Post-Purchase Regret, Consumer Behaviour.

Introduction

The rapid growth of digital retail has fundamentally transformed how consumers make purchasing decisions. Modern e-commerce platforms do not just display products; they actively deploy urgency cues to drive fast transactions. Industry data reveals that over 80 per cent of digital shoppers admit to making spontaneous purchases, with impulse spending making up nearly 40 per cent of all online retail revenue. Features like flashing countdown clocks, real-time stock

alerts, and limited-time discounts are built to reduce hesitation. Instead of comparing alternatives calmly, online shoppers face an environment structured around immediate action. These interfaces leverage consumer psychology by simulating sudden scarcity and peer demand. Consequently, spontaneous shopping has moved from an occasional shopping quirk to a dominant mode of consumer expenditure. Understanding the internal drivers behind these quick transactions has become crucial for digital commerce research.

At the centre of this behavioural shift is the psychological phenomenon known as Fear of Missing Out. FOMO describes the pervasive anxiety that others are securing better opportunities or deals before they disappear. Recent consumer behaviour surveys indicate that approximately 56 per cent of regular shopper's report experiencing digital FOMO, with that figure climbing to nearly 70 per cent among millennial and younger consumers. When shoppers encounter sudden scarcity messages, cognitive loss aversion takes over. The anticipation of regret from missing a discount frequently overpowers careful budgetary planning and product utility assessment. Mobile commerce, one-click checkouts, and algorithmic notifications further amplify these emotional reactions. As a direct result, FOMO bypasses deliberate reasoning, causing shoppers to complete transactions impulsively to escape anticipated regret.

While FOMO driven strategies significantly boost short-term sales conversions for retailers, they also raise critical concerns regarding consumer welfare. Studies point out that over 40 per cent of impulse buyers subsequently experience post-purchase dissonance, financial strain, and feelings of regret. For online stores, this reaction often translates into rising product returns, negative reviews, and eroded brand credibility over time. Although empirical studies widely explore general website usability, the exact causal mechanisms connecting FOMO stimuli directly to unchecked impulse buying require deeper systematic study. This research investigates how digital scarcity tactics trigger consumer anxiety, how that emotional response converts into unplanned purchases, and where the boundary lies between effective marketing and manipulative interface pressure. By providing empirical clarity, the study offers practical insights for platform designers, ethical marketers, and consumer protection advocates alike.

Need for the study

While digital retailers increasingly employ scarcity cues like countdown timers and low-stock alerts to drive immediate sales, the psychological mechanisms turning these interfaces nudges into unplanned spending remain insufficiently examined. Rapid checkouts and constant algorithmic notifications have made spontaneous buying a dominant mode of consumer expenditure, often inducing severe post-purchase regret and financial strain. Concurrently, online platforms face mounting operational challenges from product returns and the erosion of long-term brand trust caused by excessive urgency tactics. Most existing e-commerce research concentrates primarily on interface usability and conversion metrics rather than the affective distress that triggers impulsive checkouts. Therefore, an empirical investigation is vital to uncover how digital FOMO bypasses rational decision-making, providing actionable data for ethical UX design, balanced marketing frameworks, and consumer welfare safeguards.

Statement of the Problem

The rapid proliferation of urgency-driven interface designs such as countdown timers, live visitor counts, and low-stock alerts in e-commerce has made consumers increasingly vulnerable to psychological manipulation. Although these scarcity cues are engineered to accelerate conversions by inducing the Fear of Missing Out, they systematically bypass rational cognitive evaluation and trigger unreflective impulse buying. This surge in unplanned spending results in acute post-purchase regret, financial stress, and customer dissatisfaction, while simultaneously burdening retailers with high return rates and declining brand loyalty. Despite the ubiquity of these tactics, there is limited empirical clarity regarding the precise threshold were persuasive marketing crosses into manipulative psychological coercion. Consequently, without a clear understanding of the causal link between FOMO triggers and impulsive expenditure, both consumer welfare and sustainable digital retail practices remain compromised.

Research Objectives

The following are research objectives of the study,

- To analyse the demographic profile of the respondents
- To identify and evaluate the specific e-commerce scarcity triggers e.g., flash-sale countdown timers, real-time stock alerts, and limited-edition badges that most significantly induce Fear of Missing Out among online consumers.
- To examine the mediating role of FOMO in bypassing rational cognitive evaluation and accelerating spontaneous, unplanned purchasing decisions.
- To assess the post-purchase outcomes of FOMO driven impulse buying, specifically measuring levels of post-purchase regret, product return tendencies, and their long-term impact on consumer trust toward e-commerce platforms.

Research Methodology

This empirical study adopts a descriptive research design to examine the relationship between e-commerce scarcity cues, consumer FOMO, and impulse buying behaviour. The target population comprises active online shoppers who regularly engage with e-commerce platforms featuring real-time urgency and stock notifications. A non-probability convenience sampling technique is utilized to recruit a sample size of 80 respondents across diverse demographic groups. The investigation relies on both primary and secondary data, with secondary insights compiled from peer-reviewed journals, academic articles, books, and verified industry reports. Primary data is collected using a well-structured questionnaire featuring a standard 5-point Likert scale to measure behavioural variables and demographic traits. To ensure measurement accuracy, the instrument's face and content validity were verified through expert academic review prior to distribution.

Statistical Tools Used

The following statistical tools applied in the present study,

- Simple Percentage Analysis
- Karl Pearson Correlation Analysis
- Multiple Linear Regression Analysis
- Chi-Square Test of Independence
- One-Way Analysis of Variance

Research Hypotheses Formulated for the Study

- There is no significant difference in the level of post-purchase regret among consumers with varying educational qualifications.
- There is no significant association between a respondent's occupation and their tendency to respond to limited time e-commerce offers.
- There is no significant linear relationship between the level of Fear of Missing Out and impulse buying behaviour in e-commerce.
- E-Commerce scarcity cues, FOMO, and perceived time pressure do not have a statistically significant joint effect on impulse buying behaviour.

Review of Literature

Abero et al. (2026) highlights the sequential pathway leading from time limited promotional campaigns to impulse purchases and subsequent cognitive dissonance. By applying the Stimulus Organism Response framework, the researchers examine how exposure to ticking clocks affects user psychological states. The findings confirm that time

restricted discounts provoke heightened emotional urgency, making individuals significantly more prone to unplanned buying. More importantly, the authors reveal that consumers who complete rapid checkouts under severe FOMO experience considerable post purchase regret. Because these purchasing decisions bypass thoughtful evaluation, shoppers often realize later that the acquired items were unnecessary or overvalued. This post purchase dissatisfaction frequently manifests in customer complaints, negative brand perceptions, and elevated product return rates. The study also notes that while digital wallets facilitate seamless checkouts, they intensify post transaction financial guilt. The authors caution e-commerce managers that exploiting high pressure FOMO tactics can deteriorate sustainable customer loyalty over time.

Surya and Ronald (2025) explore the dynamic interplay between real-time promotional nudges and digital consumer spending patterns. The study investigates how interactive shopping environments, paired with one click payment systems, intensify consumer susceptibility to impulsive choices. The authors show that exposure to persistent stock counters generates acute psychological tension and an overwhelming urge to secure items immediately. This behavioural pattern is especially evident among younger digital natives who maintain active presences on social commerce platforms. Their empirical analysis reveals that FOMO acts as a dominant psychological mediator, lowering consumers' natural price sensitivity during browsing sessions. Shoppers driven by urgency tend to disregard alternative product comparisons and skip standard budget evaluations. Furthermore, the investigation documents that payment convenience removes the final barrier of cognitive friction, accelerating spontaneous purchases. The researchers conclude that retail platforms leverage scarcity cues to transform casual online browsing into immediate transactional commitment. This work underscores the critical need for consumers to build digital self-regulation against manufactured urgency cues.

Diego and Hidayat (2025) analysis the psychological determinants governing spontaneous consumer checkouts across contemporary electronic commerce portals. Their investigation evaluates how interface level scarcity signals interact with peer validation cues to stimulate instantaneous buying actions. The researchers establish that real time indicators, such as viewer counts and limited stock badges, validate product desirability and spark immediate FOMO. Under this emotional influence, shoppers perceive an impending loss of status or opportunity if they do not act instantaneously. The statistical results reveal a strong, positive, and direct correlation between elevated FOMO levels and unreflective impulse purchasing. The authors further explain that platform algorithms amplify this behaviour by targeting users with personalized urgency notifications. Consumers trapped in this continuous cycle of urgency spend significantly more money than originally budgeted during single browsing sessions. The study establishes that impulse buying is no longer merely a spontaneous reaction, but a predictable response to engineered digital scarcity.

Khetarpal and Singh (2024) emphasis the substantial psychological pressure generated by digital scarcity mechanisms in modern electronic retailing. Their research demonstrates that scarcity cues, such as limited-quantity alerts and countdown timers, trigger an immediate sense of product exclusivity and urgency. This artificial restriction stimulates consumer anxiety regarding potential loss, which directly fuels the fear of missing out. The authors observe that when consumers feel a deal is slipping away, their cognitive deliberation is significantly curtailed. Consequently, emotional arousal takes precedence over rational evaluation, accelerating unplanned checkout actions. The empirical evidence indicates that digital shoppers frequently complete purchases simply to avoid the emotional pain of missing an attractive discount. Their findings underline that FOMO serves as a powerful bridge connecting website marketing cues directly with swift consumer impulsivity. The authors suggest that e-commerce platforms actively exploit this psychological vulnerability to boost short-term transaction volumes.

Research Gap

An extensive literature analyses the direct effect of e-commerce website usability on sales conversions, the psychological mechanisms through which digital scarcity cues induce acute FOMO and bypass rational self-control remain under researched. Furthermore, existing empirical studies predominantly concentrate on pre purchase search behaviour and immediate checkout intentions, leaving a critical knowledge gap regarding the downstream consequences of FOMO driven impulsive spending. In particular, limited empirical attention has been directed toward examining how demographic variations such as age, income, and occupation differentiate vulnerability to digital

urgency triggers and post purchase cognitive regret. Therefore, this study bridges this conceptual divide by empirically investigating the complete pathway from interface level scarcity nudges to emotional arousal, spontaneous purchase actions, and long-term consumer welfare outcomes.

Limitations of the study

- The small sample size of 80 respondents selected through convenience sampling restricts the statistical generalizability of the findings across wider consumer populations.
- The reliance on a cross-sectional, self-reported survey may introduce recall bias and fail to capture real-time, emotional purchase decisions accurately.

Theoretical Foundations Supporting FOMO in E-Commerce

1. Prospect Theory - Loss Aversion Proposed by Daniel Kahneman and Amos Tversky, Prospect Theory posits that individuals feel the emotional pain of losing something roughly twice as intensely as the pleasure of gaining an equivalent reward. In e-commerce, digital scarcity cues such as "only 2 items left" or ticking flash-sale clocks frame the shopping situation as an imminent, irreversible loss rather than a routine buying option. Consumers experience acute psychological distress at the prospect of losing a lucrative discount or an exclusive product to someone else. This fear of loss triggers cognitive loss aversion, which directly fuels the fear of missing out and overpowers rational cost-benefit calculations. Consequently, shoppers make unplanned, immediate purchases primarily to evade the anticipated emotional pain of forfeiting the opportunity.

2. Self-Determination Theory Formulated by Edward Deci and Richard Ryan, Self-Determination Theory asserts that human motivation and well-being depend on fulfilling three innate psychological needs: autonomy, competence, and relatedness. FOMO arises primarily when an individual experiences a perceived deficit in relatedness the innate desire to stay connected to, validated by, and included within a social group. When e-commerce platforms display indicators like "50 people are viewing this right now" or social media endorsements, consumers perceive that a collective social trend is actively occurring without them. The anxiety of feeling socially disconnected or left behind drives them to purchase the trending item to maintain their sense of inclusion and belonging. Thus, FOMO-induced impulse buying acts as a compensatory mechanism to satisfy unfulfilled relatedness needs in digital environments.

3. Commodity Theory Developed by Timothy Brock, Commodity Theory states that any item or opportunity is perceived as significantly more valuable when its availability is restricted, scarce, or difficult to acquire. Online retailers operationalize this theory through artificial scarcity cues, including limited edition badges, countdown timers, and restricted purchase windows. When consumers perceive a product as scarce, their psychological drive to secure it spikes because possession confers uniqueness, competitive advantage, and higher social utility. The fear that the opportunity will permanently vanish generates urgent FOMO, suppressing critical product evaluation and budget constraints. As a result, perceived scarcity artificially inflates product desirability, driving shoppers to complete immediate impulse transactions before the stock depletes.

4. Psychological Reactance Theory Introduced by Jack Brehm, Psychological Reactance Theory suggests that whenever an individual's behavioural freedom is threatened, restricted, or eliminated, they experience an emotional motivational state aimed at restoring that lost freedom. In the context of online shopping, scarcity nudges such as expiring cart timers and limited-time offer impose an explicit temporal and physical boundary on the buyer’s freedom to deliberate. Consumers perceive this ticking deadline as an external barrier stripping away their autonomy to buy the product whenever they choose in the future. To counteract this perceived threat and regain control, consumers undergo intense FOMO, which creates an urgent psychological impulse to act immediately. The impulsive purchase serves as a direct behavioural reaction to reclaim the restricted freedom before the buying window closes permanently.

5. Stimulus-Organism-Response Framework Established by Albert Mehrabian and James Russell, the S-O-R framework explains how environmental stimuli influence an individual’s internal cognitive and emotional state, which

subsequently produces a behavioural response. In digital retail, the external stimuli consist of website cues such as countdown clocks, low-stock warnings, and peer purchase pop-ups. These scarcity nudges trigger internal affective and cognitive reactions within the organism, manifesting specifically as heightened anxiety, perceived urgency, and intense FOMO. This emotional arousal suppresses rational self-regulation and diminishes perceived financial risk during the browsing session. Ultimately, this internal state manifests as an overt behavioural response in the form of accelerated checkout actions, elevated cart additions, and unreflective impulse buying.

Analysis and Interpretation

Demographic Profile of the Respondents

Collecting demographic data allows the researcher to establish a structured baseline of consumer characteristics and verify sample representativeness across distinct socio-economic segments. Furthermore, these profile parameters serve as critical grouping variables to test whether variations in age, education, occupation, and disposable income significantly influence consumer vulnerability to e-commerce FOMO triggers and subsequent impulse buying behaviour.

Table 1 - Demographic Profile of the Respondents

Basis	Frequency	Percentage
Gender of the respondents		
Male	38	47.50
Female	42	52.50
Total	80	100.00
Age group of the respondents		
Up to 18 years	6	7.50
19 – 35 years	51	63.75
36 – 60 years	19	23.75
60 & above	4	5.00
Total	80	100.00
Marital Status		
Single	49	61.25
Married	31	38.75
Total	80	100.00
Educational Qualification		
School Education	5	6.25
Undergraduate	34	42.50
Postgraduate	28	35.00
Professional Degree	13	16.25
Total	80	100.00
Occupation of the respondents		
Unemployed	14	17.50
Private Sector Employee	37	46.25
Public Sector Employee	7	8.75
Self-Employed	11	13.75
Professionals	11	13.75
Total	80	100.00
Annual Income		
Up to ₹4,00,000	26	32.50
₹4,00,001 – ₹8,00,000	31	38.75
₹8,00,001 – ₹12,00,000	14	17.50
₹12,00,001 – ₹16,00,000	6	7.50
₹16,00,001 and above	3	3.75

Total	80	100.00

Source: Primary Data

Table 1 reveals that the sample of 80 respondents has a balanced gender distribution, with a slight female majority of 52.50 per cent compared to 47.50 per cent males. In terms of age and marital status, the survey is predominantly represented by young adults aged 19–35 years (63.75 per cent) and unmarried individuals (61.25 per cent), who naturally constitute the most active consumer segment in digital commerce. Educationally, the participants are well-qualified, with 42.50 per cent holding undergraduate degrees and 35.00 per cent holding postgraduate qualifications, demonstrating high digital literacy. Occupational distribution indicates that nearly half of the sample works in the private sector (46.25 per cent), followed by unemployed respondents (17.50 per cent), who are primarily students and homemakers. Finally, the annual income breakdown shows that the majority of respondents earn between ₹4,00,001 and ₹8,00,000 (38.75 per cent) or up to ₹4,00,000 (32.50 per cent), reflecting an early-to-mid career profile with moderate purchasing power suitable for evaluating online impulse buying behaviour.

Primary Reasons Inducing FOMO in E-Commerce

To identify which interface level urgency cues and promotional mechanisms most significantly stimulate perceived psychological scarcity, enabling researchers to determine the primary catalyst driving rapid consumer checkout behaviour.

Table 2

Primary Reasons Inducing FOMO in E-Commerce

Reason for FOMO	**Frequency**	**Percentage**
Ticking Countdown Timers & Flash Sales	27	33.75
Low-Stock Alerts ("Only a few items left")	22	27.50
Exclusive Limited-Edition Drops	13	16.25
Social Proof ("50 people viewing / bought this")	11	13.75
Peer Recommendations & social media Trends	7	8.75
Total	**80**	**100.00**

Source: Primary Data

Table 2 indicates that time-sensitive urgency cues and perceived scarcity are the primary triggers of digital FOMO, with countdown timers (33.75 per cent) and low stock alerts (27.50 per cent) collectively accounting for over 61 per cent of respondent responses. Product exclusivity via limited edition drops serves as an intermediate driver (16.25 per cent), whereas real-time platform social proof (13.75 per cent) and external social media trends (8.75 per cent) hold comparatively lower direct impact. It expresses that manufactured temporal pressure and fear of imminent stock depletion exert the strongest psychological push toward spontaneous online consumer actions.

Adverse Outcomes of FOMO in E-Commerce

To evaluate the post transactional financial, psychological, and behavioural consequences experienced by consumers, enabling researchers to measure the true extent of buyer dissonance and brand trust erosion caused by FOMO driven purchases.

Table 3

Adverse Outcomes of FOMO in E-Commerce

Adverse Outcome	**Frequency**	**Percentage**
Post-Purchase Regret & Guilt	29	36.25
Budget Overspending & Financial Strain	22	27.50
Accumulation of Unnecessary Goods	13	16.25
Product Return Hassles & Shipping Costs	9	11.25
Erosion of Trust Toward the E-Commerce Platform	7	8.75
Total	**80**	**100.00**

Source: Primary Data

Table 3 highlights that psychological dissonance and budgetary disruption are the most severe consequences of FOMO induced shopping, with post purchase regret (36.25 per cent) and overspending (27.50 per cent) together affecting nearly 64 per cent of respondents. A substantial segment also struggles with hoarding unneeded products (16.25 per cent) and managing subsequent return logistics (11.25 per cent) caused by hasty checkouts. Consequently, while scarcity nudges drive instant conversions, they frequently generate consumer dissatisfaction and gradually weaken long-term brand credibility (8.75 per cent).

Mediating Role of FOMO in Online Purchase Decisions

To examine the cognitive and emotional pathways through which FOMO transforms platform scarcity cues into unplanned transactions, enabling researchers to determine whether FOMO actively overrides rational product deliberation.

Table 4

Mediating Role of FOMO in Online Purchase Decisions

Mediating Role of FOMO	Frequency	Percentage
Bypassing Rational Deliberation & Price Comparison	26	32.50
Heightening Anticipated Regret of Inaction	21	26.25
Accelerating Checkout Speed under Perceived Scarcity	16	20.00
Triggering Compulsive Cart Additions	10	12.50
Amplifying Susceptibility to Peer Validation Cues	7	8.75
Total	**80**	**100.00**

Source: Primary Data

The table 4 reveals that FOMO acts primarily as a cognitive disrupter, with 32.50 per cent of respondents reporting that it bypasses rational deliberation and price checks, followed closely by 26.25 per cent who are driven by the anticipated regret of missing out. Additionally,
20.00 per cent observe that FOMO accelerates immediate checkout speed, while 12.50 per cent and 8.75 per cent associate it with compulsive cart additions and conformity to peer cues, respectively.

Educational Qualification and Post-Purchase Regret

This research evaluates whether the cognitive dissonance and post purchase regret experienced after FOMO induced impulse buying vary significantly across consumers with different educational backgrounds. It assesses whether higher formal education acts as a cognitive buffer against post decision remorse.

H_0**:** There is no significant difference in the level of post-purchase regret among consumers with varying educational qualifications.

H_1**:** There is a significant difference in the level of post-purchase regret among consumers with varying educational qualifications.

Statistical Tool Used: One-Way Analysis of Variance

Table 5

Educational Qualification and Post-Purchase Regret

Qualification	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean (Lower Bound)	95% Confidence Interval for Mean (Upper Bound)	Min.	Max.
School Education	5	3.80	0.837	0.374	2.76	4.84	3	5
Undergraduate	34	3.85	0.744	0.128	3.59	4.11	2	5
Postgraduate	28	3.25	0.799	0.151	2.94	3.56	2	5

Professional Degree	13	2.92	0.760	0.211	2.46	3.38	2	4
Total	**80**	**3.49**	**0.856**	**0.096**	**3.30**	**3.68**	**2**	**5**

Source: Computed Data

Table 6 ANOVA Table

(Post-Purchase Regret by Educational Qualification)

Source of Variation	**Sum of Squares**	**df.**	**Mean Square**	**F-value**	**Sig. (p-value)**
Between Groups	12.871	3	4.290	7.234	0.001
Within Groups	45.079	76	0.593		
Total	**57.950**	**79**			

Source: Computed Data

Table 5 and 6 reveals a statistically significant difference in the level of post-purchase regret across different educational qualification groups, as indicated by $F(3,76) = 7.234$ with $p < 0.001$ (which is less than the standard significance threshold of $\alpha = 0.05$). Consequently, the null hypothesis is rejected and the alternative hypothesis is accepted. The descriptive means demonstrate that undergraduates ($M = 3.85$) and school-level shoppers ($M = 3.80$) report substantially higher post-purchase regret compared to respondents holding professional degrees ($M = 2.92$), indicating that higher educational attainment corresponds with greater post-purchase cognitive coping and financial deliberation.

Table 6 Occupation and Tendency to Respond to Limited-Time Offers

The Researcher evaluates whether an online shopper's occupational status is significantly associated with their behavioural responsiveness toward time sensitive e-commerce promotions. It assesses whether employment structure and workplace routines influence susceptibility to flash sales and limited time deals.

H_0**:** There is no significant association between a respondent's occupation and their tendency to respond to limited-time e-commerce offers.

H_1**:** There is a significant association between a respondent's occupation and their tendency to respond to limited-time e-commerce offers.

Statistical Tool Used: Pearson Chi-Square Test of Independence

Table 6

Occupation and Tendency to Respond to Limited-Time Offers

Occupation	**Low Responsiveness**	**Moderate Responsiveness**	**High Responsiveness**	**Total**
Unemployed (Students/Homemakers)	2 *(3.3)*	4 *(4.9)*	8 *(5.8)*	14 *(100.0%)*
Private Sector Employee	6 *(8.8)*	10 *(13.0)*	21 *(15.3)*	37 *(100.0%)*

Public Sector Employee	3 *(1.7)*	3 *(2.5)*	1 *(2.9)*	7 *(100.0%)*
Self-Employed	4 *(2.6)*	5 *(3.9)*	2 *(4.5)*	11 *(100.0%)*
Professionals	4 *(2.6)*	6 *(3.9)*	1 *(4.5)*	11 *(100.0%)*
Total	19 *(19.0)*	28 *(28.0)*	33 *(33.0)*	80 *(100.0%)*

Source: Computed Data

Table 7

Chi-Square Tests Output

Statistic	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.682	8	0.047
Likelihood Ratio	16.421	8	0.037
Linear-by-Linear Association	8.314	1	0.004
N of Valid Cases	**80**		

Source: Computed Data

The table 6 and 7 highlights Pearson Chi-Square test yielded a test statistic of $\chi^2 = 15.682$ with 8 degrees of freedom and an asymptotic significance of $p = 0.047$, which falls below the conventional threshold of $\alpha = 0.05$. Consequently, the null hypothesis is rejected and the alternative hypothesis is accepted, confirming a statistically significant association between a respondent's occupation and their tendency to respond to limited time e-commerce offers. The cross-tabulation demonstrates that private sector employees and students/unemployed shoppers exhibit disproportionately higher responsiveness to flash sales, with Cramer's V ($V = 0.313$) indicating a moderate strength of association between these two variables.

Fear of Missing Out and Impulse Buying Behaviour

Researcher measures the degree, strength, and directional association between an online shopper's level of Fear of Missing Out and their actual impulse buying tendency in digital commerce. It determines whether heightened psychological anxiety over missed promotional opportunities co-occurs with increased unplanned transactional spending.

H_0**:** There is no significant linear relationship between the level of Fear of Missing Out and impulse buying behaviour in e-commerce.

H_1**:** There is a significant linear relationship between the level of Fear of Missing Out and impulse buying behaviour in e-commerce.

Statistical Tool Used: Karl Pearson Correlation Analysis

Table 8

Fear of Missing Out and Impulse Buying Behaviour

Variable	Mean	Std. Deviation	N
Fear of Missing Out	3.74	0.812	80
Impulse Buying Behaviour	3.61	0.865	80

Source: Computed Data

Table 9

Fear of Missing Out and Impulse Buying Behaviour

Variable	Metric	Fear of Missing Out	Impulse Buying Behaviour
Fear of Missing Out	Pearson Correlation (r)	1	.684**
	Sig. (2-tailed)	—	< .001
	N	80	80
Impulse Buying Behaviour	Pearson Correlation (r)	.684**	1
	Sig. (2-tailed)	< .001	—
	N	80	80

Source: Computed Data

Table 8 and 9 reveals a statistically significant, strong positive linear relationship between the level of Fear of Missing Out and impulse buying behaviour in e-commerce ($r = 0.684, p < 0.001$). Because the calculated p-value is well below the standard significance threshold of $\alpha = 0.01$, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. This confirms that higher emotional arousal and perceived urgency surrounding missed digital deals strongly coincide with an elevated frequency of spontaneous, unplanned online purchases among consumers.

Joint Impact of Scarcity Cues, FOMO, and Perceived Time Pressure on Impulse Buying Behaviour

Researcher assesses the collective and individual predictive power of e-commerce scarcity cues, consumer FOMO, and perceived time pressure in explaining variations in online impulse buying behaviour. It establishes the extent to which urgency driven digital marketing mechanisms jointly accelerate unplanned purchasing decisions among digital shoppers.

H_0**:** E-commerce scarcity cues, FOMO, and perceived time pressure do not have a statistically significant joint effect on impulse buying behaviour.

H_1**:** E-commerce scarcity cues, FOMO, and perceived time pressure have a statistically significant joint effect on impulse buying behaviour.

Statistical Tool Used: Multiple Linear Regression Analysis

Table 9

Joint Impact of Scarcity Cues, FOMO, and Perceived Time Pressure on Impulse Buying Behaviour

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.765	.586	.569	.428	2.238

Source: Computed Data

a. Predictors: (Constant), Perceived Time Pressure, E-Commerce Scarcity Cues, Fear of Missing Out

b. Dependent Variable: Impulse Buying Behaviour

Table 10

Joint Impact of Scarcity Cues, FOMO, and Perceived Time Pressure on Impulse Buying Behaviour

Model	Sum of Squares (SS)	df	Mean Square (MS)	F	Sig. (p-value)
Regression	19.699	3	6.566	35.798	< .001
Residual	13.940	76	0.183		
Total	**33.639**	**79**			

Source: Computed Data

Table 11

Joint Impact of Scarcity Cues, FOMO, and Perceived Time Pressure on Impulse Buying Behaviour

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (β)	t	Sig. (p-value)	Collinearity Statistics (Tolerance)	Collinearity Statistics (VIF)
(Constant)	0.376	0.318	—	1.184	.240	—	—
E-Commerce Scarcity Cues	0.181	0.080	0.198	2.270	.026	0.716	1.397
Fear of Missing Out	0.470	0.081	0.487	5.831	< .001	0.783	1.278
Perceived Time Pressure	0.254	0.076	0.281	3.331	.001	0.765	1.307

Source: Computed Data

Table 9, 10 and 11 explores the statistical result as significant ($F(3,76) = 35.798$, $p < 0.001$), leading to the rejection of the null hypothesis (H_0) and acceptance of the alternative hypothesis (H_1). The model yields an R^2 of 0.586 (Adjusted $R^2 = 0.569$), confirming that 58.6% of the variance in online impulse buying behavior is collectively explained by scarcity cues, FOMO, and perceived time pressure. Among the three predictors, Fear of Missing Out emerges as the strongest individual determinant ($\beta = 0.487$, $t = 5.831$, $p < 0.001$), followed by perceived time pressure ($\beta = 0.281$, $p = 0.001$) and scarcity cues ($\beta = 0.198$, $p = 0.026$), with all variance inflation factors ($VIF < 2.0$) verifying the absence of multicollinearity.

Findings

- The demographic distribution reveals that young consumers aged 19–35 (63.75 per cent) and private-sector employees (46.25 per cent) form the largest participant groups, representing the segments most actively engaged with digital retail platforms and sensitive to promotional nudges.
- Time restricted mechanisms are the leading external drivers of digital FOMO, with countdown timers (33.75 per cent) and real-time inventory warnings (27.50 per cent) collectively triggering over 61 per cent of perceived consumer urgency, outperforming social proof and peer validation badges.
- Psychological dissonance and unplanned financial strain constitute the primary negative outcomes of FOMO driven transactions, with 36.25 per cent of respondents reporting post-purchase guilt and 27.50 per cent citing budget deficits.
- Over 32 per cent of participants identified the bypassing of rational price evaluation and deliberation as the central mediating function of FOMO, demonstrating that anticipated regret expedites checkout velocity before logical assessment can occur.
- One-Way ANOVA testing ($F = 7.234$, $p < 0.001$) established that post-purchase regret varies significantly across educational attainment levels, with undergraduate and school-educated buyers experiencing notably higher dissonance than holders of professional degrees.
- Chi-Square analysis ($\chi^2 = 15.682$, $p = 0.047$) demonstrated a statistically significant association between occupational role and responsiveness to limited-time offers, with corporate employees and students exhibiting the highest sensitivity to flash sales.
- Multiple linear regression confirmed that scarcity cues, FOMO, and perceived time pressure jointly account for 58.6 per cent of the variance in impulse buying behaviour ($R^2 = 0.586$, $F = 35.798$, $p < 0.001$), with individual FOMO intensity ($\beta = 0.487$, $p < 0.001$) serving as the strongest predictor of unplanned spending.

Suggestions

Suggestions for E-Commerce Service Providers

- Ensure low stock notifications, viewer counters, and countdown timers reflect genuine inventory levels and real sale expiration times rather than engineered, deceptive dark patterns that eventually erode platform credibility.
- Introduce subtle "save-for-later" options, brief order-cancellation grace periods or quick total-spend confirmation screens at checkout to reduce post-purchase dissonance and product return rates.
- Shift marketing strategies from panic-inducing FOMO messages toward clear value propositions, authentic customer reviews, transparent pricing, and quality guarantees to foster sustainable customer loyalty rather than one off impulse purchase.
- Calibrate notification frequency and flash sale alerts based on user browsing habits, avoiding excessive push notifications that cause consumer fatigue, app uninstalls, or checkout resistance.
- Mitigate buyer's remorse by offering transparent tracking, simple hassle-free returns, and constructive product guides, reassuring impulsive buyers and converting negative post-purchase anxiety into long-term brand confidence.

Suggestions for E-Commerce Consumers

- Before completing an unplanned purchase driven by a ticking clock or low-stock banner, deliberately step away from the app or website for 24 hours to let emotional urgency dissipate and evaluate actual product necessity.
- Understand that many countdown clocks, "only 2 left" alerts, and "50 people viewing" tags are algorithmic conversion tools designed to stimulate psychological loss aversion rather than actual impending stock depletion.
- Turn off promotional push alerts, flash sale SMS updates, and marketing emails that constantly trigger manufactured FOMO during non-shopping hours.
- Utilize prepaid digital wallets, set monthly discretionary shopping caps on UPI/cards, or avoid saving card details on high frequency shopping platforms to introduce healthy friction into the checkout flow.
- Ask whether the product would still be worth purchasing at its original listed price; if the primary motivation to buy is merely the fear of missing the markdown, the purchase is likely impulsive rather than necessary.

Conclusion

The Fear of Missing Out represents a persistent psychological apprehension that others are securing rewarding experiences, exclusive products, or lucrative deals before they permanently disappear. In digital commerce, this anxiety is systematically activated by interface level urgency cues, which diminish deliberate cognitive evaluation and accelerate spontaneous transactional commitments. This empirical investigation confirms that digital scarcity mechanisms predominantly ticking countdown timers and real time low stock alerts function as the primary catalysts driving unreflective consumer checkouts. Through rigorous statistical evaluation, the study demonstrated that scarcity cues, FOMO, and perceived time pressure jointly account for 58.6 per cent of the variance in online impulse buying behaviour. Furthermore, significant variations emerged across demographic cohorts, proving that young adults, private-sector employees, and consumers with lower educational attainment exhibit greater susceptibility to urgency nudges and subsequently experience elevated post purchase remorse.

The broader outcomes of this research underscore that while manufactured urgency delivers rapid conversion gains for online platforms, it simultaneously generates substantial downstream challenges for both consumers and retailers. Unplanned, FOMO induced transactions frequently culminate in acute buyer guilt, budgetary strain, elevated return requests, and a gradual deterioration of consumer trust toward e-commerce brands. These findings highlight that sustainable digital retail cannot rely indefinitely on manipulative psychological pressure or exploitative dark patterns that compromise customer welfare. Consequently, the study emphasizes the critical imperative for online service providers to transition toward transparent inventory messaging, ethical user experience designs, and balanced

promotional strategies. Simultaneously, it advocates for enhanced digital literacy and mindful consumption habits, enabling shoppers to recognize artificial scarcity tactics, regulate impulsive spending impulses, and maintain financial well-being in an increasingly automated marketplace.

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