



Research Article

Factors Influencing Online Purchase Intention in Flash Sales on E-commerce Platforms: Evidence from Vietnam

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Abstract

This study examines the underlying factors influencing consumers' instant online purchase intention during flash sales on popular e-commerce platforms in Vietnam. Drawing on the Task–Technology Fit (TTF) theory and the psychological concept of Fear of Missing Out (FOMO), the study proposes and empirically tests a research model comprising five factors: flash sales (FS), e-commerce platform features (WF), platform sales processes (WP), FOMO (FO), and perceived risk (PR). Data were collected from 396 valid responses from consumers who have experience purchasing on e-commerce platforms in Vietnam and were analyzed using SPSS 26. The findings reveal that four factors—FS, WF, WP, and FO—have significant positive effects on consumers' instant online purchase intention. Among these factors, FS exert the strongest influence, highlighting the critical role of time-limited promotional campaigns in stimulating immediate purchasing decisions. In contrast, PR has a negative effect on purchase intention in flash sale contexts. The main contribution of this study lies in integrating the Task–Technology Fit framework with the psychological phenomenon of FOMO to explain consumer purchasing behavior in high-pressure digital retail environments. By combining technological, process-related, and psychological perspectives, the study provides a more comprehensive understanding of consumer decision-making during flash sales on e-commerce platforms.

Keywords

Flash Sales, Task-technology Fit, FOMO, Online Purchase Intention, Vietnam E-commerce

1. Introduction

E-commerce has been present in Vietnam since the early 2000s, but its growth accelerated significantly in the post-Covid-19 period, becoming a crucial part of the national economy nowadays [24]. According to the Vietnam E-commerce Association [35], e-commerce contributes approximately 15% to 20% of the country's total retail sales. Several major domestic e-commerce platforms, including Shopee, Lazada, and Tiki, have played a significant role in this growth. By implementing regular promotional campaigns—such as date-based discounts (e.g., February 2, March 3, May

5), Flash Sales campaigns, and free shipping incentives—they have attracted millions of visits and transactions within a short period, resulting in a substantial increase in sales volume [23].

Previous research has widely adopted theoretical frameworks such as the Technology Acceptance Model (TAM), the Technology–Organization–Environment (TOE) framework, and the Diffusion of Innovation (DOI) theory to examine the determinants of online purchasing behavior. TAM emphasizes the influence of perceived usefulness and perceived ease of use on individuals' acceptance of information systems [8, 27].

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The TOE framework provides a comprehensive model for understanding the adoption of technological innovations at the organizational level by incorporating technological, organizational, and environmental contexts [32, 34]. DOI theory, on the other hand, explains the adoption of innovations based on attributes such as relative advantage, compatibility, and complexity [29, 42].

In contrast to these approaches, the present study employs the Task–Technology Fit (TTF) theory to explore consumer behavior in the context of e-commerce platforms. TTF posits that the effective use of technology is contingent upon the degree of alignment between technological functionalities and the tasks that users intend to perform [4]. In e-commerce settings, TTF can be observed in how well a platform facilitates critical activities such as product search, quality evaluation, secure and efficient payment, and order tracking [9, 21]. Recent empirical studies in Vietnam further support this theoretical perspective, suggesting that when consumers perceive a high degree of convenience and task support from an e-commerce system, their likelihood of engaging in online purchasing increases significantly [25].

In the context of rapidly evolving digital marketing, Fear of Missing Out (FOMO) has emerged as a significant psychological factor influencing online consumer behavior. FOMO is defined as a pervasive apprehension or anxiety that others might be having rewarding experiences from which one is absent [3]. This phenomenon has become increasingly prevalent in online shopping, particularly as real-time updates, social media interactions, and time-limited promotional offers amplify feelings of urgency and social comparison. Within e-commerce platforms, FOMO is especially evident in flash sales and promotional campaigns that employ psychological triggers such as countdown timers, low-stock alerts, and exclusive limited-time deals. These elements are deliberately designed to evoke a fear of “missing out on an opportunity,” thereby prompting consumers to make quick purchasing decisions with minimal deliberation [13].

From a strategic marketing perspective, FOMO is often deliberately leveraged to shorten the consumer decision-making process and increase conversion rates. Sellers utilize the principles of scarcity and urgency—two core components of FOMO—to influence consumers’ perceptions of value and timing of purchases. [16] found that individuals who frequently experience FOMO are more likely to engage in impulsive online shopping, particularly within mobile commerce environments. Furthermore, [6] demonstrated that FOMO has a positive effect on the immediate purchase intentions of young consumers in Vietnam, reflecting both cultural and generational factors. Therefore, FOMO should not be viewed merely as an individual emotional state but rather as a strategic mechanism that can be effectively integrated with interactive elements such as flash sales or gamification features in e-commerce platforms. Such integration aims to enhance consumer engagement and stimulate immediate purchasing behavior.

Although both the TTF theory and the concept of FOMO have been explored within the e-commerce domain, there remains a notable gap in the literature regarding the integration of these two perspectives to explain consumer behavior in urgency-driven promotional contexts such as flash sales. TTF emphasizes the functional alignment between technological capabilities and user tasks, positing that users are more likely to adopt and utilize a system when it effectively supports their task-related needs [4, 9]. In contrast, FOMO introduces a psychological and emotional dimension, capturing the anxiety and urgency individuals feel when they perceive others gaining valuable experiences that they are missing [3, 13]. This emotional trigger often compels immediate action, particularly in time-sensitive online shopping environments.

Integrating TTF and FOMO offers a more comprehensive framework for understanding consumer behavior by accounting for both cognitive evaluations of technology and affective drivers of impulse. This study adopts a dual-theoretical approach, combining TTF and FOMO to examine the factors influencing online purchase intentions during flash sales on e-commerce platforms in Vietnam. By doing so, it contributes theoretically through the synthesis of two distinct conceptual models and provides practical insights for optimizing interface design, marketing strategies, and customer engagement mechanisms in digital retail contexts [6].

The rapid growth of e-commerce in Vietnam has significantly reshaped consumer shopping habits and opened new business opportunities. Vietnam is among the top three fastest-growing e-commerce markets in Southeast Asia, with a projected market size exceeding USD 49 billion by 2025 [35]. Major platforms such as Shopee, Tiki, and Lazada have adopted flash sales—short-term, limited-quantity promotions—as a key strategy to drive impulse purchases and increase conversion rates [35]. However, the success of such campaigns depends on the platform’s ability to align technology with user tasks, as proposed by the TTF theory [4]. Consumers are required to complete multiple actions, such as product search, product review, and payment within a limited timeframe. Thus, website design must ensure fast response, clear navigation, and effective promotional integration [37]. This study aims to offer recommendations for enhancing task–technology fit in flash sale campaigns, thereby improving user experience and reducing purchase-related risks.

2. Background Theories

2.1. Task-technology Fit

The Task–Technology Fit (TTF) theory, proposed by Dale L. Goodhue and Ronald L. Thompson, posits that the effectiveness of a technology depends on the degree of alignment between its technical characteristics and the user’s task requirements [4]. Technology is considered valuable only when it enables users to perform tasks more efficiently. In the e-commerce domain, [33] were among the first to apply TTF,

demonstrating that task–technology alignment enhances consumer shopping effectiveness. [9] later extended the model by integrating it with the Technology Acceptance Model (TAM), showing that TTF serves as a critical mediating factor influencing system usage performance.

Subsequent studies have consistently affirmed the relevance of TTF theory in digital environments. For instance, [21] found that the alignment between system features and user tasks positively influences users' attitudes and behaviors toward interactive entertainment systems. [31] reported that task–technology alignment significantly affects continued usage behavior on digital platforms, including e-commerce. [18] demonstrated that TTF directly contributes to mobile service acceptance by enhancing individual performance. Similarly, [38] showed that consumers are more likely to continue using mobile platforms when they perceive that technological features align with their routine shopping behavior.

In the e-commerce context, [37] found that the fit between website functionality and consumers' shopping needs positively influences customer satisfaction and repurchase intention. [42] further demonstrated that TTF moderates the relationship between website quality and consumer trust. In Vietnam, [12] confirmed that factors such as interface quality, system functionality, and customization capabilities strongly affect online shopping behavior through the mechanism of task–technology fit. This alignment not only enhances the user experience but also reinforces purchase intention and repeat buying behavior.

2.2. Fear of Missing Out

FOMO, defined as the fear of missing out on attractive opportunities, is an increasingly common psychological state in digital consumer behavior [3]. It is often triggered by factors such as limited-time offers, restricted product availability, or social signals from online communities [13]. In the context of e-commerce, marketing strategies that create perceptions of scarcity and urgency have proven effective in driving impulse buying behavior.

Janarthanan Balakrishnan et. al found that online content characterized by high levels of social interaction and urgency can become addictive, with FOMO acting as a key motivational driver [14]. [41] also emphasized the role of emotional factors in consumer decision-making, particularly within mobile technology environments. Incorporating FOMO into e-commerce research helps address gaps left by traditional rational-choice models such as TAM and UTAUT, which often overlook affective and impulsive dimensions of consumer behavior.

2.3. An Integrated Model of Task–technology Fit and Fear of Missing Out in E-commerce

Although TTF and FOMO originate from distinct

disciplines—information systems and social psychology, respectively—both influence consumer behavior in modern e-commerce environments. Integrating these two concepts enables a dual-perspective analysis of user behavior, combining cognitive aspects (e.g., perceived usefulness and performance) with emotional drivers (e.g., fear of missing out).

In fast-paced digital shopping contexts, FOMO can heighten the urgency of decision-making, while TTF ensures that the technology platform adequately supports such behavior. According to [2], users are more likely to adopt and use technologies they perceive as secure, convenient, and responsive to their needs. When these technological attributes are reinforced by the emotional trigger of FOMO, purchase behavior may be activated more strongly and rapidly.

The integrated TTF–FOMO framework thus extends the theoretical foundation for understanding online consumer behavior and offers practical implications for e-commerce platform designers seeking to optimize user experience and conversion performance.

2.4. Online Quick Purchase Intention

Online quick purchase intention refers to the consumer's willingness and readiness to make immediate purchase decisions through e-commerce platforms such as Shopee, Tiki, and Lazada during flash sales campaigns. This behavioral construct is considered a key predictor of actual online purchasing behavior in digital environments [27].

Such intention is influenced not only by technological factors—such as perceived ease of use and perceived usefulness [8] but also by psychological and emotional drivers, notably the FOMO, which is frequently triggered in time-limited promotional settings [13]. Furthermore, the degree of TTF, defined as the alignment between technological features and users' task requirements, significantly shapes the user experience and ultimately impacts online purchase decisions [4].

In the highly competitive landscape of e-commerce, measuring and predicting quick purchase intention provides critical insights for digital marketers and platform designers to refine strategic campaigns and improve conversion rates.

3. Research Hypotheses and Model

3.1. Research Hypotheses

In the e-commerce environment, platform design plays a critical role in supporting consumers to complete their shopping tasks efficiently. According to the TTF theory, when platform functionalities—such as product search engines, review systems, and personalized recommendations—are aligned with consumer needs and shopping behaviors, users perceive greater convenience and utility, which in turn enhances their intention to purchase online [9, 21]. [42] further noted that this alignment not only improves user experience but also

strengthens consumer trust and motivation.

H1: Well-designed e-commerce platform functionalities positively influence consumers' online purchase intention.

In online shopping environments, transactional processes—such as payment, delivery, return policies, and customer support—are essential in shaping consumer experience. When these processes are clear, fast, and transparent, they enhance consumer satisfaction and confidence, leading to stronger purchase intentions [7]. [27] found that effective transaction processes can reduce perceived risk and encourage online buying behavior. Similarly, [36] emphasized that the completeness and optimization of transactional systems contribute to perceived value and influence consumer decision-making.

H2: Efficient transactional processes on e-commerce platforms positively influence consumers' online purchase intention.

In the increasingly competitive e-commerce landscape in Vietnam, platforms such as Shopee, Tiki, and Lazada have widely adopted flash sales as a strategic approach to attract consumer attention and stimulate purchasing behavior. The time-bound and quantity-limited nature of flash sales creates a strong sense of urgency and scarcity, which activates the psychological mechanism known as the FOMO, a powerful emotional driver of consumer behavior. Signals such as countdown timers, real-time stock depletion notices, and steep time-limited discounts often lead consumers to make rapid purchase decisions with limited deliberation [6]. Prior research has shown that flash sales not only increase conversion rates but also play a critical role in shaping online purchase intentions, particularly among younger consumers who are more responsive to promotional stimuli and digital interaction [28]. In an environment where consumer loyalty is fragile and purchase behavior is highly dynamic, leveraging time and scarcity effectively can serve as a strategic tool to enhance user engagement and drive purchase intentions on e-commerce platforms.

H3: Flash sales campaigns on e-commerce platforms positively influence consumers' online purchase intention.

FOMO can have both positive and negative effects on online purchase intention, depending on the implementation context and consumer characteristics. [3] describe FOMO as a motivation for individuals to stay constantly connected in fear of missing out on valuable experiences. In the e-commerce context, [13] found that FOMO positively influences purchase decisions, particularly when urgency cues (e.g., limited-time offers, remaining stock alerts, and social proof) are clearly communicated. However, excessive exploitation of FOMO may result in negative outcomes, such as consumer stress, post-purchase regret (buyer's remorse), or feelings of manipulation—ultimately eroding trust in the platform over time [19]. When urgency is not supported by sufficient information transparency, consumers may perceive the experience as coercive, leading to lower intention to purchase or disengagement from the platform.

H4: FOMO negatively influences consumers' online purchase intention.

In today's dynamic e-commerce environment, flash sales have become a widely adopted strategy by platforms such as Shopee, Tiki, and Lazada to stimulate immediate purchases and increase conversion rates. However, along with the accelerated pace of transactions, consumers are often exposed to significant perceived risks in online shopping, including concerns about product quality, information transparency, return policies, and payment security [5, 30]. In the context of flash sales, these risks may be intensified due to shortened decision-making time and the urgency created by countdown timers or limited-quantity alerts.

Previous research has identified perceived risk as a critical barrier to online purchase intention [7, 39]. When consumers feel uncertain or lack trust in post-purchase processes, they may delay or avoid purchases—even when promotions are highly attractive. Thus, in time-sensitive sales campaigns like flash sales—where urgency is high but perceived reliability may be questioned—managing perceived risk becomes essential to ensure campaign effectiveness.

H5: Perceived risk in flash sales on e-commerce platforms negatively influences consumers' online purchase intention.

3.2. Research Model

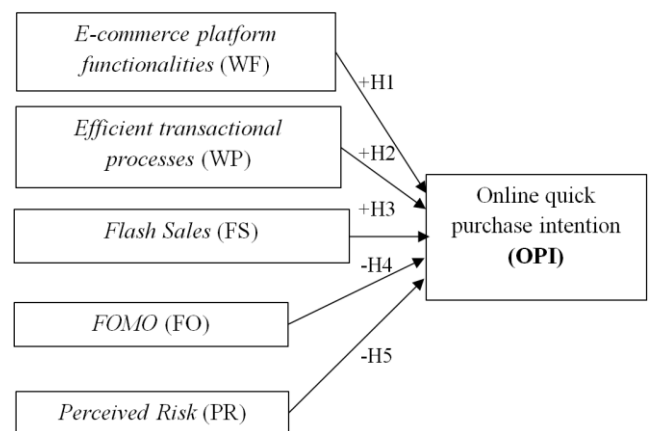


Figure 1. Proposed research model.

4. Research Methodology

4.1. Data Collection

To test the statistical significance of the hypotheses in the proposed research model, the authors collected data from Vietnamese consumers who had made purchases during Flash Sales programs on three major e-commerce platforms: Tiki, Lazada, and Shopee. The survey comprised demographic questions and a series of Likert-scale items designed to measure the extent to which various factors influence online purchase intention. All 23 questions employed a 5-point Likert

scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Before sampling, the required sample size was determined to ensure both sample representativeness and suitability for exploratory factor analysis.

According to the guidelines proposed by [17], the minimum sample size should be greater than 5 times the number of observed questions (n) related to influencing factors. Therefore, with 23 observed questions included in the survey, the minimum required sample size is greater than 115. In addition, according to [10], for multiple regression analysis, the minimum required sample size is greater than $50 + 8 \cdot m$, where m is the number of independent variables. In the proposed research model, where $m = 5$, so the minimum sample size is 90.

The questionnaire was distributed via social media during the first two weeks of May 2025. A total of 396 valid responses were obtained and considered appropriate for data analysis. This sample size meets the requirements for representativeness and fulfills the assumptions necessary for subsequent statistical analyses. Of the 396 respondents, 58% were female and 42% were male. In terms of age distribution, 20% were over 45 years old, 45% were between 18 and 45 years old, and the remaining 35% were under 18 years old. Regarding purchasing frequency during Flash Sales, 72% of respondents had made more than three purchases, while 28% had purchased between one and three times. All participants stay in Hanoi. The questionnaire for investigating online purchase intention in Flash Sales programs was adopted from previous studies (see Table 1).

Table 1. Survey questions.

Factors	Questions	Reference
E-commerce platform functionalities (WF)	The product search function on the e-commerce platform allows me to locate items quickly and efficiently (WF1)	[9, 37, 42]
	The personalized product recommendations provided by e-commerce platforms are relevant to my shopping preferences (WF2)	
	The features provided by the e-commerce platform have significantly facilitated my online shopping experience. (WF3)	
	The website's real-time updates (e.g., countdown timers, stock indicators) increase my intention to buy quickly (WF4).	
Sales process of e-commerce platform (WP)	The purchasing process on this e-commerce platform is transparent and user-friendly (WP1)	[7, 27, 40, 42]
	I feel that the steps from ordering to payment are optimized to save time (WP2)	
	I am satisfied with the transparency and efficiency of the sales process on this platform (WP3)	
	The platform's efficient sales process increases my intention to make future purchases on it (WP4)	
Flash Sales program (FS)	Flash Sales provide benefits to me when shopping online, such as cost savings and timely purchase opportunities (FS1).	[26]
	I perceive Flash Sales on platforms such as Shopee, Tiki, and Lazada as highly appealing and effective in capturing my attention (FS2).	
	I frequently participate in Flash Sales offered on e-commerce platforms (FS3)	
	I experience a fear of missing out when I do not make purchases during Flash Sales (FS4).	
FOMO	I feel pressured when I see that other consumers have purchased a promotional item before me (FO1).	[13]
	Limited-time promotions create a sense of urgency that motivates me to make immediate purchase decisions (FO2).	
	Notifications indicating limited stock availability prompt me to make faster purchase decisions (FO3).	
	I am concerned that products purchased during Flash Sales may not match their descriptions on the e-commerce platform (PR1).	
Perceived Risk (PR)	I am concerned about the lack of assurance regarding the quality of products offered in Flash Sales (PR2).	[5, 7]
	I am uncertain about the reliability of the information provided about products and sellers during Flash Sales (PR3).	
	I am afraid of potential financial loss or not receiving the product after making a purchase during Flash	

Factors	Questions	Reference
Intention to purchase quickly online (OPI)	Sales (PR4)	[13, 31, 37]
	I intend to shop online through Flash Sales programs because the platform enables me to make purchases easily and efficiently (OPI1).	
	I am willing to make immediate purchase decisions when I see platform features that support quick search and ordering (OPI2).	
	I experience a fear of missing out on attractive deals if I do not buy immediately during a Flash Sales program. (OPI3).	
	I often decide to purchase quickly when the platform displays remaining stock or limited promotion time (OPI4).	

Source: Authors

4.2. Data Analysis

Reliability Analysis Using Cronbach's Alpha: The results of the reliability analysis for the constructs in the research model indicate that all five independent variables and the dependent variable exhibit high internal consistency. The Cronbach's Alpha coefficients range from 0.701 to 0.883, exceeding the commonly accepted threshold of 0.70, thereby confirming the reliability of the measurement scales. The

item-total correlation coefficients for all observed variables exceeded the acceptable threshold of 0.30, with the lowest being for variable PR3 (0.540) and the highest for variable FS1 (0.810), except for variable FS4, which had a coefficient below 0.30. These results indicate that the research constructs, as measured by the observed variables, demonstrated good internal consistency and measurement reliability. Following the reliability analysis, 22 observed variables were retained for subsequent analysis (see Table 2).

Table 2. Results of Construct Reliability Testing in the Research Model.

Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item PR: Cronbach's Alpha = 0,701, N of items = 4		
PR1	0.573	0.657
PR2	0.643	0.654
PR3	0.540	0.582
PR4	0.611	0.710
Item FOMO: Cronbach's Alpha = 0, 729, N of items= 3		
FOMO1	0.567	0.655
FOMO2	0.565	0.634
FOMO3	0.590	0.648
Item WF: Cronbach's Alpha = 0, 740, N of items = 4		
WF1	0.646	0.698
WF2	0.671	0.700
WF3	0.690	0.704
WF4	0.702	0.738
Item FS: Cronbach's Alpha = 0, 883, N of items = 3		
FS1	0.810	0.855
FS2	0.787	0.841

Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
FS3	0.754	0.820
Item OPI: Cronbach's Alpha = 0, 781, N of items = 4		
OPI1	0.740	0.755
OPI2	0.687	0.741
OPI3	0.654	0.720
OPI4	0.636	0.675
Item WP: Cronbach's Alpha = 0, 817, N of items = 4		
WP1	0.665	0.734
WP2	0.690	0.748
WP3	0.741	0.762
WP4	0.752	0.776

Source: By Authors

Exploratory Factor Analysis (EFA): An Exploratory Factor Analysis (EFA) was performed on 22 observed variables that had met the reliability threshold established by Cronbach's Alpha testing. To evaluate the appropriateness of factor analysis, several diagnostic measures were applied, including the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, inter-item correlation assessment, total variance explained, and factor extraction tests. A KMO value of 0.5 or higher ($0.5 \leq \text{KMO} \leq 1$) is considered acceptable, indicating that the data are suitable for factor analysis. Conversely, a KMO value below 0.5 suggests that the sample may not be appropriate for this method. Bartlett's Test of Sphericity is employed to assess whether the observed variables within a factor are sufficiently correlated to justify the use of Exploratory Factor Analysis (EFA). A necessary condition for conducting EFA is that the observed variables, which

represent different dimensions of the same underlying construct, must exhibit significant correlations. Bartlett's Test is considered statistically significant when the associated p-value (sig.) is less than 0.05, indicating that the correlation matrix is not an identity matrix and that factor analysis is appropriate. In addition, the Eigenvalue criterion is commonly used to determine the number of factors to retain in EFA. According to this criterion, only factors with an Eigenvalue greater than 1.0 are considered meaningful and are retained in the factor solution.

As shown in Table 3, the KMO value is 0.766, indicating an acceptable level of sampling adequacy for factor analysis. Furthermore, the significance value of Bartlett's Test is less than 0.05, confirming that the 18 observed variables representing the five independent constructs are sufficiently correlated to justify the use of Exploratory Factor Analysis.

Table 3. KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.766
Bartlett's Test of Sphericity	Approx. Chi-Square	1759.411
	Df	120
	Sig.	.000

Similar to the EFA analysis of the dependent variable, the KMO value is 0.867, and the significance value of Bartlett's Test is less than 0.05, confirming that the observed variables are sufficiently correlated to proceed with Exploratory Factor Analysis (EFA). In Table 4, *Total Variance Explained* shows

that one factor was extracted with an eigenvalue of 2.245 (greater than the threshold of 1.0), accounting for 72.339% of the total variance among the three observed variables included in the analysis.

Table 4. Total Variance Explained.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%
1	2.245	76.137	76.137	2.245	76.137	76.137

Extraction Method: Principal Component Analysis.

Test of Extracted Variance for 18 Independent Variables: As shown in Table 5, the cumulative variance value in row 5, column Cumulative%, is 68.590%, which exceeds the commonly accepted threshold of 50%, indicating that the

extracted factors explain a substantial proportion of the total variance. Furthermore, the Eigenvalues of the first five factor groups are all greater than 1.0, satisfying the criteria for factor retention in Exploratory Factor Analysis.

Table 5. Total Variance Explained.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%
1	4.553	28.458	28.458	4.553	28.458	28.458	2.980	18.627	18.627
2	1.968	12.301	40.759	1.968	12.301	40.759	2.396	14.973	33.600
3	1.748	10.923	51.682	1.748	10.923	51.682	1.929	12.056	45.656
4	1.473	9.208	60.891	1.473	9.208	60.891	1.908	11.925	57.582
5	1.232	7.699	68.590	1.232	7.699	68.590	1.761	11.008	68.590
6	.803	5.018	73.608						
...									
18	.095	.595	100.000						

Extraction Method: Principal Component Analysis

Table 6. Rotated Component Matrix^a.

	Component				
	1	2	3	4	5
WP1	.856				
WP2	.835				
WP4	.726				
WP3	.591				
FO1		.920			
FO3		.890			
FO2		.734			

Component					
	1	2	3	4	5
FS1			.856		
FS3			.835		
FS2			.819		
WF2				.798	
WF1				.736	
WF4				.677	
WF3				.659	
PR3					.804
PR2					.719
PR1					.663
PR4					.575

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Source: By Authors

The results of the rotated component matrix (see Table 6) display only factor loadings equal to or greater than 0.4. The analysis shows that the 18 observed variables are grouped into five distinct factors. All observed variables have factor loadings exceeding 0.5, indicating strong associations with their respective factors and confirming that no problematic items were identified in the analysis.

4.3. Pearson Correlation Analysis

The purpose of conducting Pearson correlation analysis is to examine the strength of the linear relationship between the dependent variable and the independent variables, as well as to identify potential multicollinearity issues when independent variables are highly correlated with one another. As noted in [11], while the Pearson correlation coefficient provides a

measure of linear association between two variables, it is important to test whether this correlation is statistically significant. If the significance value ($p < 0.05$), the correlation is considered statistically significant, indicating a linear relationship. Conversely, if the significance value is greater than 0.05, there is insufficient evidence to conclude a significant linear association, assuming a 5% significance level ($\alpha = 0.05$).

The Pearson correlation results are presented in Table 7. The *Sig. (2-tailed)* values for the correlations between the five independent variables: WF, PR, FO, WP, and FS, and the dependent variable: OPI, are all less than 0.05. This indicates that each independent variable is significantly and linearly correlated with the dependent variable, thereby satisfying the assumption of linear relationships for further regression analysis.

Table 7. Correlations.

	OPI	WF	PR	FO	WP	FS
Pearson Correlation	1	.102*	-.012	.091	.122*	.890**
OPI Sig. (2-tailed)		.044	.011	.034	.017	.000
N	396	396	396	396	396	396

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

4.4. Regression Model Analysis

The regression results are presented in Table 8. The adjusted

R-squared value is 0.799, indicating that the five independent variables included in the model collectively explain 79.9% of the variance in the dependent variable OPI.

Table 8. Model Summary^b.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.895 ^a	.801	.799	.2422	1.450

a. Predictors: (Constant), FS, PR, WF, FOMO, WP

b. Dependent Variable: OPI

The ANOVA test yields a significance value (Sig.) of 0.000, which is less than the threshold of 0.05, indicating that the linear regression model is statistically significant and appropriate for explaining the relationship between the variables (see Table 9).

Table 9. ANOVA^a.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	92.257	5	18.451	314.427	.000 ^b
	Residual	22.886	390	.059		
	Total	115.143	395			

a. Dependent Variable: OPI

b. Predictors: (Constant), FS, PR, WF, FOMO, WP

To assess the degree of correlation among independent variables in the regression model, the Variance Inflation Factor (VIF) is commonly used. In economic research, a VIF value greater than 1 but less than 2 is generally considered acceptable and indicative of no serious multicollinearity [9]. As

shown in Table 10, all VIF values fall within this acceptable range, suggesting that multicollinearity is not a concern in the regression model.

Table 10. Coefficients^a.

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	.604	.125		4.813	.000		
	WF	.072	.023	.072	3.127	.002	.963	1.038
	PR	-.050	.025	-.057	-1.961	.048	.603	1.657
	FO	.058	.020	.068	2.927	.004	.932	1.073
	WP	.050	.020	.073	2.506	.013	.608	1.645
	FS	.686	.018	.877	38.502	.000	.983	1.018

a. Dependent Variable: OPI

Unstandardized linear regression equation:

$$\text{OPI} = 0.604 + 0.072 \cdot \text{WF} - 0.050 \cdot \text{PR} + 0.058 \cdot \text{FO} + 0.050 \cdot \text{WP} + 0.686 \cdot \text{FS} \quad (1)$$

In Equation (1), the unstandardized regression coefficients represent the extent of change in the dependent variable when one unit of an independent variable changes, assuming all other independent variables are held constant. Specifically, when Flash Sales (FS) increases by one unit, Online Purchase

Intention (OPI) increases by 0.686 units. Conversely, when Perceived Risk (PR) increases by one unit, OPI decreases by 0.050 units, all else being equal.

The standardized linear regression equation is presented as follows:

$$\text{OPI} = 0.072 \cdot \text{WF} - 0.057 \cdot \text{PR} + 0.068 \cdot \text{FO} + 0.073 \cdot \text{WP} + 0.877 \cdot \text{FS} \quad (2)$$

When using the unstandardized regression coefficients in Equation (1), direct comparison between variables is not possible due to differences in measurement units and standard deviations. Therefore, standardized coefficients are employed to transform all variables to a common scale, enabling meaningful comparison of their relative effects. According to the standardized regression equation (2), four factors: WF, FO, WP, and FS positively influence consumers' online purchase intention (OPI) during Flash Sales programs. In contrast, Perceived Risk (PR) exerts a negative effect on OPI in this context.

5. Research Results

5.1. Hypothetical Conclusion and Discussion

H1: Well-designed e-commerce platform functionalities positively influence consumers' online purchase intention (Accept)

H2: Efficient transactional processes on e-commerce platforms positively influence consumers' online purchase intention (Accept)

H3: Flash sales campaigns on e-commerce platforms positively influence consumers' online purchase intention (Accept)

H4: FOMO negatively influences consumers' online purchase intention (Reject)

H5: Perceived risk in flash sales on e-commerce platforms negatively influences consumers' online purchase intention (Accept).

The analysis results indicate that all five factors exert an influence on users' quick online purchase intention during flash sales on e-commerce platforms. Accordingly, all proposed hypotheses are accepted. The regression coefficients demonstrate the extent to which each independent variable affects the dependent variable. Specifically, the factors FS, WP, WF and FO positively contribute to users' intention to make quick online purchases during flash sale events. In contrast, Perceived Risk (PR) has a negative impact on online purchase intention (OPI). It is noteworthy that the FS factor exhibits a substantially higher coefficient compared to the remaining four variables, whose effects are relatively minor. This suggests that the implementation of flash sales programs by e-commerce platforms plays a dominant role in driving users'

quick online purchase intentions.

The present study confirms that multiple factors significantly influence users' quick online purchase intention during flash sales on e-commerce platforms. These results are consistent with prior empirical findings in the literature.

To begin with, WF positively influence online purchase intention, supporting the findings of [15], who demonstrated that high-quality website attributes—such as ease of navigation, visual appeal, and informative content—enhance consumer trust and lead to greater purchase intention in online settings. In addition, the factor WP was shown to positively affect consumers' quick online purchase intention. This finding is in line with [27], who emphasized that transaction efficiency and process reliability play critical roles in reducing uncertainty and facilitating consumer acceptance in e-commerce environments.

Moreover, FO emerged as a significant driver of purchase intention. This finding is consistent with prior research suggesting that FOMO creates a sense of urgency and stimulates impulsive behavior, especially during limited-time promotional events, which increases the likelihood of immediate purchase decisions [1]. It is noteworthy that although Hypothesis H4 was rejected, the FO factor still demonstrated a positive effect on purchase intention, albeit with a relatively small impact coefficient. This finding contrasts with the results of previous studies by [19, 42], which reported a more substantial influence of FO on consumer purchase intention.

The FS factor was found to exert the most substantial positive effect on online purchase intention. This result is congruent with [20], who found that flash sales leverage time pressure and perceived exclusivity to motivate consumers toward immediate purchasing actions.

Conversely, the factor PR was negatively associated with purchase intention. This aligns with the study by [5], which revealed that concerns regarding product quality, transaction security, and privacy significantly reduce consumers' willingness to engage in online purchases.

This study presents findings that diverge from those of several previous investigations regarding factors influencing online purchase intention during flash sales. Notably, while [22] identified FO as the most influential factor driving online purchase behavior—emphasizing its role in creating urgency and promoting impulsive buying—our results indicate that FS

exert the strongest effect. This suggests that the structural design of sales events (e.g., time-limited offers, scarcity strategies) may be more impactful than psychological motivations alone in shaping consumer behavior.

Additionally, the study challenges earlier findings regarding the role of PR. For instance, [5] found that PR had an insignificant or moderated effect in high-trust e-commerce environments. In contrast, our results reveal that PR has a statistically significant negative impact on users' quick online purchase intention. This indicates that concerns about transaction security, product authenticity, and delivery reliability remain salient even in promotional contexts like flash sales.

These discrepancies suggest that the relative influence of psychological and system-related factors may vary depending on market conditions, platform credibility, and user experience, underscoring the need for a contextualized approach to online consumer behavior research.

5.2. Implications

This study offers several key implications for e-commerce platform managers and digital marketing strategists. Among the five factors identified as influencing quick online purchase intention, the implementation of flash sales programs emerged as the most influential. This underscores the critical importance of structuring time-sensitive sales events—such as limited-time discounts, countdown timers, and low-stock notifications—to effectively stimulate consumers' urgency and encourage immediate purchasing behavior. Enhancing the design, clarity, and frequency of such campaigns may significantly improve conversion rates during promotional periods.

Other variables, including WF, WP, and FO also demonstrated positive effects on purchase intention, though to a lesser extent. In the context of well-established and reputable e-commerce platforms, these factors appear to play a more supportive role. When consumer trust in the platform is already high, elements such as interface design and emotional triggers like FO may have a relatively diminished impact on purchasing decisions.

However, the study also reveals that PR maintains a statistically significant negative influence on quick online purchase intention. Despite the attractiveness of flash sales, concerns related to product quality, transaction security, and delivery reliability remain salient. This finding highlights the necessity for platforms to implement robust risk mitigation strategies, including clear return policies, verified seller programs, and secure payment mechanisms, to maintain consumer confidence in high-pressure sales environments.

6. Conclusion

This study offers a novel contribution to the field of online consumer behavior by developing and validating a five-factor model of quick online purchase intention, grounded in the TTF theory and the psychological construct of FOMO. The

proposed model integrates website features (WF), the sales process of e-commerce platforms (WP), FO, flash sales programs (FS), and perceived risk (PR). Empirical findings indicate that FS is the most significant driver of quick online purchase intention, while PR exerts a negative influence. The incorporation of TTF and FOMO provides a comprehensive framework that captures both technological alignment and psychological urgency, offering new insights into consumer decision-making in time-sensitive online shopping environments. This research thus enhances theoretical understanding and offers practical guidance for optimizing flash sales strategies on digital platforms.

Abbreviations

TTF	Task-Technology Fit
FOMO	Fear of Missing Out; E-commerce: Electronic Commerce

Conflicts of Interest

The authors declare no conflicts of interest.

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