

Predicting Impulsive Buying in Tokopedia Flash Sales: A UTAUT2 Approach

¹M. Bintang Naufal Riansyah, ²Mira Afrina*, ³Ken Ditha Tania, ⁴Rizka Dhini Kurnia

^{1,2,3,4}Information System, Faculty of Computer Science, Sriwijaya University

^{1,2,3,4}Jl. Palembang-Prabumulih, KM 32 Inderalaya, Kab. Ogan Ilir, Sumatera Selatan, Indonesia

*e-mail: miraafрина@unsri.ac.id

(received: 5 February 2026, revised: 19 February 2026, accepted: 20 February 2026)

Abstract

Flash sale events have become a dominant marketing strategy to trigger rapid purchasing decisions. However, despite the massive growth of e-commerce in Indonesia, it remains unclear whether consumer participation in these events is primarily driven by the thrill of the "hunt" (hedonic) or the rational calculation of discounts (price value), particularly in developing digital markets like Palembang City. This study investigates the determinants of impulsive buying behavior during Flash Sale events on the Tokopedia platform. Drawing upon a modified Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) framework, this study investigates how Hedonic Motivation and Price Value affect Behavioral Intention, and in turn, its effect on Impulsive Buying. A quantitative methodology was applied, leveraging survey responses from 144 participants in Palembang City who had engaged in Tokopedia Flash Sales. Analysis was conducted through Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4 software. Findings reveal that both Hedonic Motivation and Price Value positively and significantly impact Behavioral Intention, with Price Value identified as the most influential predictor. Furthermore, a robust positive relationship was found between Behavioral Intention and Impulsive Buying, confirming that the intention to participate in Flash Sales significantly drives unplanned purchasing behavior. These findings suggest that while hedonic enjoyment is important, the perceived economic benefit remains the primary catalyst for consumers. Practically, platforms can optimize flash sale design by emphasizing perceived savings and enjoyable experience to effectively drive conversion.

Keywords: behavioral intention, hedonic motivation, impulsive buying, price value, UTAUT 2

1 Introduction

The Indonesian e-commerce market is currently experiencing exponential growth, establishing itself as one of the leading digital markets in Southeast Asia. In 2024, the estimated number of e-commerce users in Indonesia amounted to 65.65 million, a figure projected to continue rising significantly in the coming years [1]. This user growth correlates directly with transaction value; data from the Indonesian Ministry of Trade indicates that e-commerce transactions reached IDR 512 trillion in 2024, marking a 12.7% increase from the previous year [2]. Furthermore, the 2024 e-Economy SEA report projects that Indonesia's e-commerce Gross Merchandise Value (GMV) stood at US\$65 billion in 2024 and is expected to escalate to US\$150 billion by 2030, consolidating Indonesia's position as the largest contributor to GMV in the region [3].

This accelerated expansion of the digital economy is underpinned by maturing technological infrastructure [4]. Internet penetration in Indonesia reached 79.5% of the total population in 2024, effectively broadening online shopping access to a wider audience [5]. Additionally, Indonesia's demographics, dominated by a young and tech-savvy population, combined with rising per capita income and middle-class growth, have strengthened consumer purchasing power. Consumer behavior has also shifted significantly; as much as 67% of e-commerce transaction volume in Indonesia originates from mobile devices, and 37% of the population shops online every week, with 10% of them shopping every day [6]. These conditions create an ideal ecosystem for marketing strategies designed to stimulate rapid purchasing decisions, most notably through the Flash Sales mechanism.

This Flash Sales marketing strategy can trigger impulsive buying behavior, namely purchasing without prior planning [7]. This purchase is driven by emotional stimuli, promotional offers, or other situational factors, causing consumers to buy suddenly [8]. Impulsive buying behavior is

<http://sistemasi.ftik.unisi.ac.id>

characterized by unplanned purchasing decisions occurring suddenly on the spot, without deep analysis, triggered by stimuli and a strong feeling to buy immediately [9]. According to Verplanken & Herabadi (2001), impulsive buying is irrational purchasing because it is done quickly and without prior planning, followed by emotional impulses and conflict within the individual [10]. The Flash Sales purchasing phenomenon is increasingly prevalent, peaking every month on "double date" moments, resulting in a sense of urgency that drives impulsive buying [11].

Based on this phenomenon, to analyze consumer behavior, this study adopts the modified Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2) model and variables. In UTAUT 2, three new constructs were added to the original UTAUT model: hedonic motivation, price value, and habit [12]. This model is an extension of the original UTAUT aimed at analyzing technology adoption acceptance based on the consumer's perspective. This study will use two variables: Price Value and Hedonic Motivation. Hedonic Motivation is relevant because participation in Flash Sales is often considered a fun, entertaining, and adrenaline-inducing activity, such as a "discount war." Meanwhile, Price Value relates to the consumer's cognitive perception that the discounted price offered provides significant financial benefits compared to the cost incurred [13].

The Hedonic Motivation and Price Value variables are believed not to cause purchases directly but rather to first form Behavioral Intention, or a strong intention to utilize the Flash Sales feature. In this research framework, Behavioral Intention is emphasized as the intention to shop during a Flash Sales and functions as a crucial bridge. When a user has a high intention to monitor and participate in a Flash Sales session, they will be more susceptible to product stimuli, which ultimately results in impulsive buying. These results are in line with the findings of A'ini et al. (2025) and Nurfaiza and Prayitno (2023), who concluded that the intention to use marketing technology serves as a strong predictor of unplanned purchasing behavior [14][15].

Prior research has extensively explored technology adoption in e-commerce, but gaps remain regarding specific marketing mechanisms. For instance, A'ini et al. (2025) and Nurfaiza & Prayitno (2023) successfully applied the UTAUT2 model to predict impulsive buying, but their studies were heavily focused on payment features (Paylater) rather than the promotional mechanism itself [14][15]. Similarly, while Luong et al. (2021) investigated online impulsive buying in Southeast Asia, their study relied on the original UTAUT model, which lacks crucial consumer-centric constructs like Hedonic Motivation and Price Value [16]. Furthermore, most existing studies generalize consumer behavior at the national level, overlooking the behavioral nuances of rapidly developing regional market segments like Palembang, where consumers exhibit a dual characteristic of being price-sensitive yet aspirational towards digital trends.

To address this gap, this study explicitly isolates the "Flash Sale" mechanism within the UTAUT2 framework. It investigates whether Price Value or Hedonic Motivation serves as the dominant determinant in shaping the intention and impulsive behavior of Tokopedia users in Palembang. This study offers two significant contributions: (1) Theoretical Contribution: It validates the external validity of the modified UTAUT2 model by demonstrating that Price Value and Hedonic Motivation are critical antecedents for Flash Sales adoption, specifically in a developing city context. (2) Practical Contribution: The findings provide actionable insights for e-commerce managers to optimize their interface designs. By identifying the strongest predictor, platforms can strategically decide whether to prioritize discount visibility (Price Value) or experiential enjoyment of flash sales (Hedonic Motivation) to effectively stimulate impulsive purchasing.

2 Literature Review

The evolution of consumer behavior studies within the e-commerce domain is increasingly shifting towards understanding the psychological mechanisms underlying irrational decisions, moving beyond mere analyses of conventional technology adoption. The application of the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) in contemporary literature has proven robust in explaining how technological features can trigger unplanned consumptive behavior. As demonstrated by Luong, Nguyen, and Pham (2021) in the context of Southeast Asian markets, technical variables within a platform do not merely facilitate usage but also stimulate impulsive responses. However, recent literature underscores that the relationship between technological stimuli and impulsive actions is not directly linear; rather, it requires a mediating variable in the form of cognitive readiness or

intention [16]. This is corroborated by the empirical findings of A'ini, Susilawati, and Septiani (2025), who analyzed paylater features and found that the UTAUT2 model significantly predicts Online Impulse Buying only when mediated by strong usage intention. Consequently, current academic consensus positions Behavioral Intention as the psychological prerequisite that bridges platform features with the execution of a purchase [14].

Within the specific mechanism of Flash Sales, the literature highlights two primary antecedents operating simultaneously: Price Value and Hedonic Motivation. Flash Sales are inherently designed to manipulate value perception through time constraints, which theoretically heightens sensitivity to economic benefits. Research by Nurfaiza and Prayitno (2023) on younger demographics asserts that Price Value—or the perception of "worth-for-money"—acts as the primary rational driver legitimizing the desire to purchase [15]. On the other hand, Hedonic Motivation offers emotional gratification; the sensation of "hunting" for items within a limited window creates a gamified shopping experience. Existing literature suggests that it is the synergy between the perception of savings (Price Value) and the enjoyment of the process (Hedonic) that aggressively shapes user participation intention. When users perceive high financial benefits wrapped in an entertaining interface interaction, their cognitive resistance weakens, thereby drastically increasing the probability of impulsive buying.

Despite the established nature of this theoretical framework, there is a significant scarcity of empirical evidence regarding the validity of this model when applied to specific geo-economic contexts outside of major metropolitan areas. The majority of prior studies tend to generalize consumer behavior at the national level or focus on payment instruments, thereby overlooking the behavioral nuances of rapidly developing regional market segments such as Palembang. This gap is critical because consumers in developing cities often exhibit a dual characteristic: they are aspirational towards digital lifestyle trends yet possess tighter budget constraints compared to capital city consumers. To date, there is no comprehensive mapping regarding whether Price Value or Hedonic Motivation serves as the dominant determinant in shaping the intention and impulsive behavior of Tokopedia users in this region. The absence of this contextual analysis leaves open questions regarding whether the UTAUT2 model, valid at the national level, possesses equal explanatory power within more specific consumer sub-cultures.

This article is focused on bridging this gap by testing the external validity of the UTAUT2 framework within the Flash Sale ecosystem in Palembang. This research does not merely replicate the model but aims to isolate the pathway of influence from hedonic motivation and price value toward impulsive buying through the mediation of behavioral intention. Through this approach, the study targets to provide theoretical clarity on the mechanism of converting intention into action among consumers who are price-sensitive yet technologically adaptive. This analysis is expected to enrich information systems literature by demonstrating that, in the context of Flash Sales, interface elements triggering enjoyment and perceptions of savings are critical predictor variables determining the success of customer retention strategies in regional digital markets.

3 Research Method

3.1 Research Flow

Figure 1 depicts the systematic research methodology applied in this study, encompassing the stages from problem identification through to scientific publication.

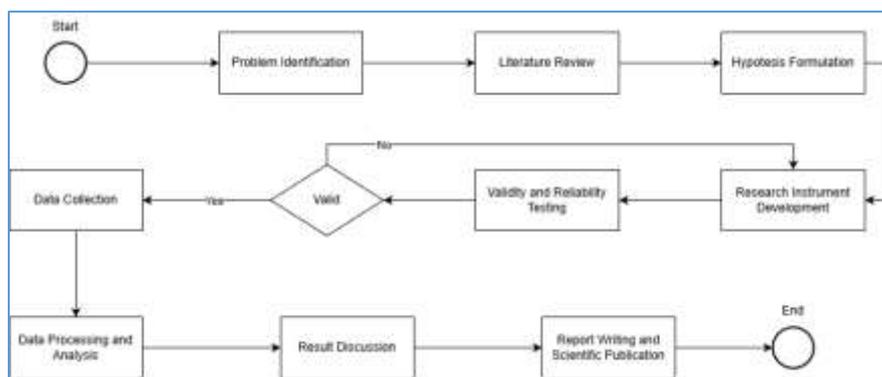


Figure 1 Research flow

1. **Planning and Conceptualization:** The study initiated with Problem Identification, recognizing the phenomenon of impulsive buying in e-commerce flash sales and the lack of empirical studies in Palembang. This was followed by a comprehensive Literature Review to ground the study in the UTAUT2 framework, which served as the basis for Hypothesis Formulation (H1, H2, and H3).
2. **Instrument Development:** The Research Instrument (questionnaire) was developed by adapting established scales from Venkatesh et al. (2012). To ensure data quality, Validity and Reliability Testing was conducted. As shown in the flow, a decision check was implemented: if the instrument was deemed invalid, it was revised and re-tested until it met the required standards.
3. **Data Collection:** Once the instrument was declared valid, the data collection phase has been initiated. The survey was administered to the target population (Tokopedia users in Palembang) using purposive sampling techniques.
4. **Analysis and Conclusion:** The collected data underwent Data Processing and Analysis using the PLS-SEM approach through SmartPLS 4 software. The findings were then interpreted in the Result Discussion phase to answer the research problem. Finally, the process concluded with Report Writing and Scientific Publication to disseminate the research contributions.

3.2 Research Design

Utilizing a quantitative approach with a causal research design, this study investigates the factors driving impulsive buying behavior. The theoretical foundation is built upon the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2). While the original UTAUT (Venkatesh et al., 2003) synthesized eight prominent acceptance models, the extended UTAUT2 (Venkatesh, Thong, & Xu, 2012) incorporates consumer-centric constructs. This adaptation significantly enhances the model's explanatory power regarding behavioral intention and technology usage [17].

The research model modifies UTAUT2 by focusing on two specific independent variables relevant to the Flash Sales context: Hedonic Motivation and Price Value, with Behavioral Intention with their effect on Impulsive Buying. **Figure 2** presents the proposed research model.

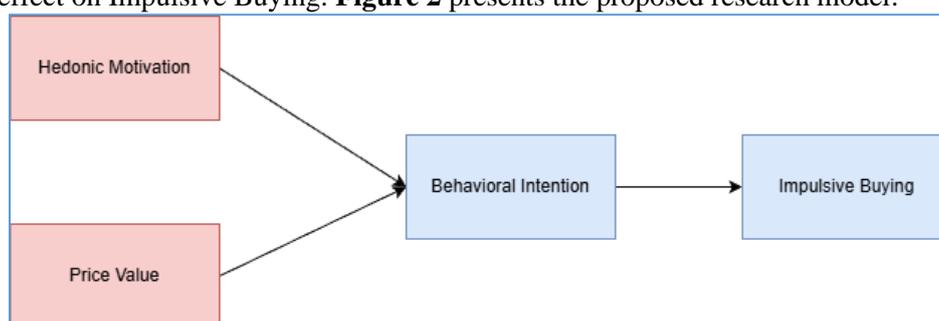


Figure 2 Research design

As depicted in **Figure 2**, to provide conceptual clarity and ensure consistency with the research framework, the following section explains each construct employed in this study:

1. Hedonic Motivation

Hedonic motivation refers to aspects of fun or emotional satisfaction in the activity of using technology, such as attractive visual elements and designs [13]. According to Venkatesh et al. (2012), hedonic motivation pertains to the pleasure or enjoyment derived by individuals from engaging with technology. Hedonic motivation plays a role in shaping consumer shopping behavior, particularly behavior oriented towards fun and entertainment. Consumers with this orientation tend to seek enjoyable shopping experiences, making them more prone to impulsive buying and allocating more time when browsing online shopping sites [18].

2. Price Value

Price value pertains to the perceived financial advantages, where discounts, promotions, and loyalty programs play pivotal roles [13]. As outlined by [17] within the UTAUT2 framework, price value is defined as the customer's perspective in weighing the benefits obtained from using technology against the cost that must be paid. When perceived benefits exceed the associated costs, the product's perceived value becomes elevated, which will drive consumer intention to use or purchase the product [19][17].

3. Behavioral Intention

In technology adoption contexts, behavioral intention is defined as an individual's readiness or predisposition to perform a specific behavior. Within the UTAUT2 framework, this construct serves as a gauge of how strongly an individual has developed a deliberate plan to execute a prospective behavior (Venkatesh, 2012). The Theory of Reasoned Action (TRA), as one of the foundational theories of UTAUT, states that an individual's behavior (impulsive buying) is based on the intention to perform said behavior. Thus, the behavioral intention construct functions as a key determinant influencing the usage behavior (impulsive buying) under investigation in this study [14]. In this study, behavioral intention specifically refers to the motivation to engage in shopping through Tokopedia's Flash Sales feature.

4. Impulsive Buying

This Flash Sales marketing strategy can trigger impulsive buying behavior, defined as purchasing without prior planning [7]. This type of purchase is driven by emotional stimuli, promotional offers, or other situational factors, resulting in sudden consumer purchases [8]. Impulsive buying behavior is characterized by unplanned purchase decisions occurring suddenly on the spot without in-depth analysis, triggered by stimuli and a compelling urge to purchase immediately [9]. Furthermore, impulsive buying is distinguished by decisions made quickly, spontaneously, and often emotionally, lacking deep rational evaluation regarding needs or consequences [20].

In the context of this research framework, the original Use Behavior variable from the UTAUT2 model is modified to Impulsive Buying. While the standard UTAUT2 model posits Use Behavior as the final outcome of technology acceptance, this study adapts the construct to specifically represent the buying behavior relevant to Flash Sales [14].

3.3 Research Hypothesis

Utilizing the theoretical foundation and the modified UTAUT2 model, several hypotheses have been developed to examine the interrelationships among the constructs. The proposed conceptual model is depicted in **Figure 3**.

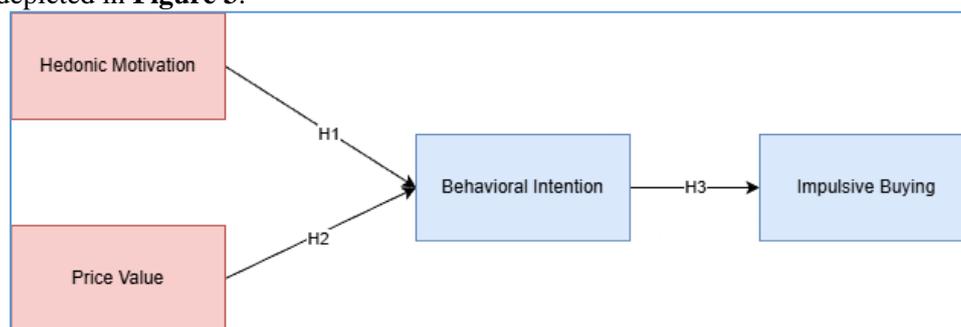


Figure 3 Hypothesized of the research

Referring to the structural pathways established in **Figure 3**, this study proposes three main hypotheses to be empirically tested:

H1: Hedonic Motivation (HM) positively and significantly influences Behavioral Intention (BI).

H2: Price Value (PV) positively and significantly influences Behavioral Intention (BI).

H3: Behavioral Intention (BI) positively and significantly influences Impulsive Buying.

3.4 Research Object and Subject

This research utilizes the Tokopedia e-commerce platform as its empirical locus, specifically analyzing its Flash Sales feature, which is defined by time-limited offers and product scarcity [21]. The study's respondents comprised Tokopedia users residing in Palembang City, Indonesia, who possess prior experience in purchasing items during Flash Sales events. This specific context was chosen because the intense promotional stimuli inherent in the Flash Sales mechanism are hypothesized to significantly disrupt cognitive decision-making, thereby triggering impulsive buying behavior.

3.5 Population and Sample

This research focuses on the Tokopedia mobile application, while the research subjects are active users of Tokopedia. In research, a population is defined as the entire set of subjects or elements possessing specific characteristics that become the focus of the study. A population may encompass individuals, objects, events, or any elements pertinent to the research subject [22]. In this study, the specific number of active Tokopedia users domiciled in Kota Palembang is not known with certainty. Consequently, the population is categorized as an infinite population. To ascertain the sample size from this population of unknown extent, the Lemeshow formula is utilized, as presented in **Equation 1** [23].

$$n = \frac{z^2 \times p \times (1-p)}{d^2} \quad (1)$$

Description: n = Sample Size, Z = Z-Score at 95% confidence = 1.96, P = Maximal estimation (0.50), d = Margin error = 0.10 (10%).

$$n = \frac{1.96^2 \times 0.5 \times (1-0.5)}{0.10^2}$$

$$n = \frac{3.8416 \times 0.5 \times 0.5}{0.01}$$

$$n = \frac{0.9604}{0.01}$$

$$n = 96.04$$

Based on the sample size calculation using the Lemeshow formula, the minimum number of participants required for this study is 97 respondents. To enhance data adequacy and to account for potential outliers or non-analyzable data, this number was rounded up and determined to be at least 100 respondents.

The respondents in this study were obtained through a non-probability sampling approach using purposive sampling. This approach was employed to ensure that the selected participants met specific criteria that are directly aligned with the aims of the research. To be eligible as a respondent, the following inclusion criteria were established:

1. Aged at least 17 years (considered legally capable of making independent purchasing decisions).
2. Active e-commerce user within the last 6 months.
3. Has purchased a product during a Flash Sale program on Tokopedia.
4. Willing to complete the questionnaire honestly.

Data collection was carried out using an online questionnaire disseminated through social media platforms (Facebook, WhatsApp, and X). Respondent eligibility was confirmed through initial screening questions included at the start of the survey.

3.6 Research Instrument

Respondent eligibility was confirmed through preliminary screening questions placed at the outset of the survey. The operational variables and their corresponding measurement items employed in this study are presented in **Table 1**.

Table 1 Research instrument

No	Variabel	Item	Question Variabel	Source
1	Hedonic Motivation	HM1	Shopping during Flash Sales on Tokopedia is fun.	[23]
		HM2	Shopping during Flash Sales on Tokopedia is very entertaining due to the many attractive product choices.	
		HM3	I feel excited when shopping on Tokopedia.	[14]
		HM4	Shopping on Tokopedia makes me feel like I am in my own world.	
		HM5	I buy items on Tokopedia to look more attractive.	
2	Price Value	PV1	Product prices during Flash Sales on Tokopedia are more affordable compared to normal prices.	[24]
		PV2	Flash Sale offers provide good value for the price I pay.	
		PV3	With the discounts during Flash Sales, shopping on Tokopedia provides good value and benefits for me.	
		PV4	I feel that the products offered in Tokopedia Flash Sales have a quality that matches their price.	[23]
		PV5	I feel that the prices offered during Tokopedia Flash Sales are commensurate with the product quality I receive.	
3	Behavioral Intention	BI1	I intend to shop during Flash Sales on Tokopedia assuming I have access to the application.	[15]
		BI2	I plan to shop during Flash Sales on Tokopedia if the price and situation are suitable for me.	
		BI3	I intend to shop during Flash Sales on Tokopedia in the future.	[14]
		BI4	I plan to use Flash Sales on Tokopedia when purchasing products I need.	
		BI5	I will continue to shop during Flash Sale events on Tokopedia as my regular shopping method.	
4	Impulsive Buying	IB1	I often buy products spontaneously during Flash Sales on Tokopedia.	[15]
		IB2	"Buy now, think later" describes my shopping style during Flash Sales on Tokopedia.	
		IB3	Sometimes I feel a sudden urge to buy something when I see large discounts during Flash Sales on Tokopedia.	
		IB4	I buy products based on my feelings at the moment when viewing Flash Sale products on Tokopedia.	
		IB5	I tend to make purchasing decisions without careful planning during Flash Sales on Tokopedia.	

3.7 Data Analysis Technique

This study employs Partial Least Squares Structural Equation Modeling (PLS-SEM) as its analytical framework. Recognized as a variance-based or composite SEM approach, this method is instrumental in estimating the causal linkages connecting latent constructs to their respective indicators. Its primary focus lies in predictive capability and the explanation of variance in endogenous constructs [25]. This method was selected due to its strong orientation toward prediction and explanation, aiming to maximize the explained variance R^2 of the dependent variables. Furthermore, PLS-SEM offers superior analytical flexibility compared to CB-SEM, particularly in generating robust estimates even when confronted with non-normal data distributions or limited sample sizes [25].

3.7.1 Outer Model

The evaluation of the measurement model (outer model) constitutes the initial crucial step in PLS-SEM analysis, aimed at confirming the validity and reliability of the constructs. This assessment is based on three key criteria. First, convergent validity is evaluated by confirming that outer loadings exceed 0.708 and Average Variance Extracted (AVE) values surpass 0.50. Second, internal consistency reliability is measured using Cronbach's Alpha and Composite Reliability (ρ_c), both requiring thresholds above 0.70. Finally, discriminant validity is verified through the Fornell-Larcker criterion and Heterotrait-Monotrait ratio (HTMT), with HTMT values maintained below 0.90 to ensure distinctiveness among latent variables [26].

3.7.2 Inner Model

A thorough assessment of the inner model is performed to confirm the relationships within the research framework. The process initiates with a Multicollinearity Test via VIF values, which must remain below the threshold of 5 to ensure predictor independence. Subsequently, The explanatory power of the model is evaluated using the Coefficient of Determination (R^2), while the substantive impact of exogenous constructs is determined by the Effect Size (F^2). The analysis concludes by verifying the Predictive Relevance (Q^2), with a value exceeding zero to verify the model's predictive capability for future observations [26].

4 Results and Analysis

A total of 144 valid responses constituted the final sample for this study. To empirically validate the proposed framework derived from the modified UTAUT2 model, the data were processed using SmartPLS 4 software. This evaluation employed a two-stage approach, incorporating both measurement model validation and structural model assessment. The visualization of the outer model resulting from this analysis is depicted in **Figure 4**.

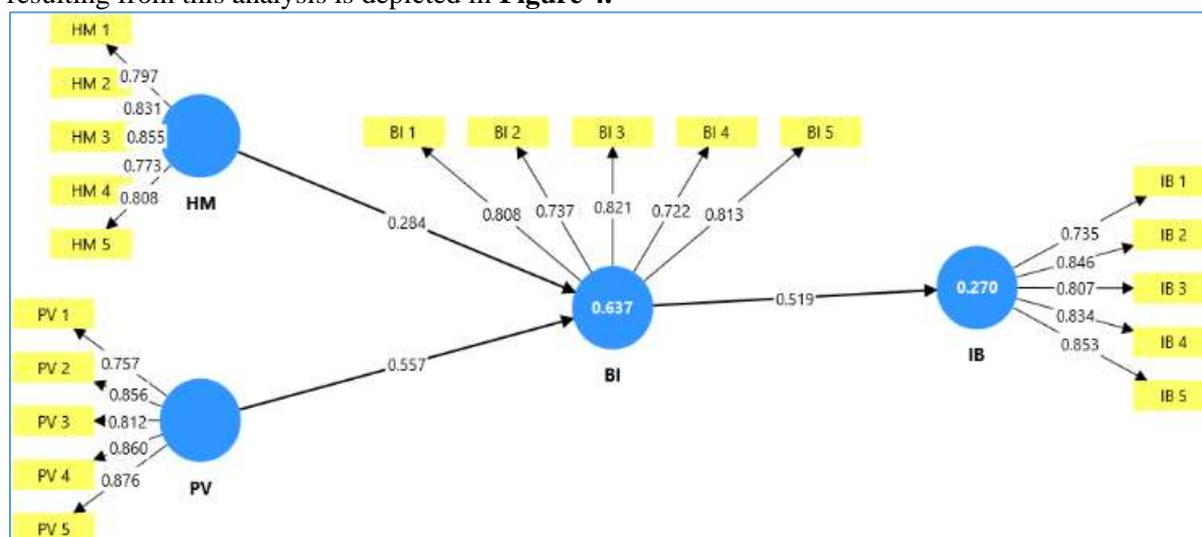


Figure 4 Outer model results using SmartPLS 4

The path diagram in **Figure 4** visualizes the initial output of the measurement model, detailing the factor loadings of each indicator. Based on this initial model, the comprehensive

evaluation will proceed through three critical phases, namely the outer model assessment, the inner model evaluation, and the hypothesis testing.

4.1 Outer Model

1) Convergent Validity

The assessment of the measurement model begins with convergent validity. As summarized in **Table 2**, the evaluation focuses on Outer Loadings and Average Variance Extracted (AVE).

Table 2 Summary of measurement model evaluation

Item	Indicator	Outer Loading	AVE	Result
Hedonic Motivation (HM)	HM 1	0.797	0.662	VALID
	HM 2	0.831		
	HM 3	0.855		
	HM 4	0.773		
	HM 5	0.808		
Price Value (PV)	PV 1	0.757	0.695	VALID
	PV 2	0.856		
	PV 3	0.812		
	PV 4	0.860		
	PV 5	0.876		
Behavioral Intention (BI)	BI 1	0.808	0.611	VALID
	BI 2	0.737		
	BI 3	0.821		
	BI 4	0.722		
	BI 5	0.813		
Impulsive Buying (IB)	IB 1	0.735	0.666	VALID
	IB 2	0.846		
	IB 3	0.807		
	IB 4	0.834		
	IB 5	0.853		

Table 2 displays the measurement model evaluation, with particular emphasis on convergent validity. All outer loading values exceed the recommended threshold of 0.708, ranging from 0.722 (BI4) to 0.876 (PV5). Additionally, the Average Variance Extracted (AVE) values for all constructs range between 0.611 (BI) and 0.695 (PV), all above the 0.50 threshold [26]. These findings confirm that the indicators are valid and effectively measure their respective latent variables.

2) Discriminant Validity

Discriminant validity is evaluated to confirm that each construct is empirically unique from the others. The primary method applied is the Heterotrait-Monotrait (HTMT) ratio, with findings shown in **Table 3**.

Table 3 HTMT ratio matrix for discriminant validity

	BI	HM	IB	PV
BI				
HM	0.825			
IB	0.586	0.518		
PV	0.889	0.883	0.601	

Table 3 displays the results of the HTMT analysis used to assess discriminant validity [26]. All values remain below the 0.90 threshold. The highest correlation is observed between Price Value and Behavioral Intention at 0.889, verifying the empirical distinctiveness of the study's variables. Discriminant validity is further confirmed via the Fornell-Larcker criterion, as illustrated in **Table 4**.

Table 4 Fornell-Larcker for discriminant validity

	BI	HM	IB	PV
BI	0.781			
H M	0.717	0.813		
IB	0.519	0.467	0.816	
PV	0.778	0.777	0.546	0.834

Table 4 illustrates the discriminant validity evaluation using the Fornell-Larcker criterion. The square root of the AVE for each latent variable yields the largest value in its corresponding row and column. Thus, the constructs demonstrate clear distinction from one another, fulfilling the discriminant validity requirements [26].

3) Internal Consistency Reliability

Internal consistency reliability was evaluated using Cronbach's Alpha and Composite Reliability (rho_a and rho_c), requiring a minimum threshold of 0.70. The findings from this evaluation are detailed in **Table 5** [26].

Table 5 Internal consistency reliability

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)
BI	0.840	0.847	0.887
HM	0.872	0.876	0.907
IB	0.875	0.882	0.909
PV	0.890	0.895	0.919

Table 5 Internal consistency reliability was assessed utilizing Cronbach's Alpha and Composite Reliability (rho_a and rho_c), with a recommended threshold of 0.70. The empirical data reveals that all constructs demonstrated robust reliability, with values exceeding 0.80. Notably, the Price Value construct exhibited the highest consistency (Cronbach's Alpha = 0.890; rho_c = 0.919). Consequently, the measurement instrument is deemed highly reliable and consistent.

4.2 Inner Model

Following the measurement model validation, the inner model is analyzed to examine structural paths. This process aims to forecast causal relationships among latent variables and test the hypotheses outlined in the research framework.

1) Variance Inflation Factor (VIF)

Before hypothesis testing, the Variance Inflation Factor (VIF) is examined to detect any collinearity problems among predictor variables. VIF values must fall below 5, with the results presented in **Table 6**.

Table 6 Multicollinearity assessment results (VIF)

	VIF
PV → BI	2.527
HM → BI	2.527
BI → IB	1.000

Based on the **Table 6**, the highest VIF value is 2.527 (for the relationships HM → BI and PV → BI). This indicates that there are no multicollinearity issues within the structural model, thereby ensuring that the path coefficient estimates are unbiased.

2) Coefficient of Determination (R²)

The R² values indicate how well the proposed model accounts for variations in the dependent variables. The coefficient results for each endogenous variable are detailed in **Table 7**.

Table 7 R² coefficient

	R ² - square	R ² Adjusted
BI	0.637	0.632
IB	0.270	0.265

Table 7 indicates that the R² value for Behavioral Intention (BI) is 0.637, classified as moderate, meaning Price Value and Hedonic Motivation account for 63.7% of the variance in intention. For Impulsive Buying (IB), the R² is 0.270, deemed weak, implying that Behavioral Intention explains 27% of the variance in impulsive purchasing behavior, with the other 73% attributed to unmodeled factors [26].

3) Predictive Relevance (Q²)

The primary assessment criterion is the Q² value. If the Q² value for an endogenous variable is positive ≥ 0 , the model is declared to have good predictive relevance. Conversely, if the value is negative, the model is considered to lack predictive capability [26]. The predictive relevance of this model is evaluated in **Table 8**.

Table 8 Predictive relevance (Q²)

	Q ² predict
BI	0.613
IB	0.265

Table 8 confirms the model's predictive relevance when Q² values exceed zero. The results indicate Q² for BI at 0.613 and for IB at 0.265. Since both values are substantially above zero, this research model demonstrates good predictive validity regarding unobserved data.

4) Effect Size (f²)

The f² statistic is analyzed to quantify each predictor's individual impact on the dependent variable's variance [26], as detailed in **Table 9**.

Table 9 Effect Size (f²) Values

	f-square
PV → BI	0.339
HM → BI	0.088
BI → IB	0.369

Based **Table 9**, the relationship between Behavioral Intention (BI) and Impulsive Buying (IB) yields a value of 0.369, exceeding the 0.35 threshold, which indicates a large effect. Meanwhile, the influence of Price Value (PV) on BI (f² = 0.339) approaches the upper threshold but remains classified as a moderate effect. In contrast, the relationship between Hedonic Motivation (HM) and BI (f² = 0.088) falls below 0.15, demonstrating a small effect.

4.3 Hypothesis Testing Results

The structural model was evaluated to examine the proposed hypotheses. Path coefficient estimation results are shown in **Table 10**.

Table 10 Path coefficient estimation results

Item	Original Sample (O)	Sample mean (M)	Standard deviation (STDEV)	T-Value	P-Value	Desc
PV → BI	0.557	0.559	0.087	6.402	0.000	Accepted
HM → BI	0.284	0.286	0.100	2.829	0.005	Accepted
BI → IB	0.519	0.526	0.071	7.301	0.000	Accepted

Drawing from the path coefficient findings shown in **Table 10**, all hypothesized relationships in this study are empirically supported, indicating that the proposed structural model is robust. The detailed discussion of each hypothesis is as follows:

1. **H1 is accepted. Hedonic Motivation on Behavioral Intention**

The testing results indicate a path coefficient of 0.284 with a T-statistic of 2.829 (> 1.96) and a P-value of 0.005 (< 0.05). This provides evidence that Hedonic Motivation has a positive and significant influence on Behavioral Intention. The higher the enjoyment or hedonic motivation perceived by users during a Flash Sales, the higher their intention to shop during Flash Sales on Tokopedia.

2. **H2 is accepted. Price Value on Behavioral Intention**

The results of the analysis reveal a meaningful relationship, with a path coefficient reaching 0.557, a T-statistic value of 6.402 (> 1.96), and a P-value of 0.000 (< 0.05). These findings confirm that Price Value exerts a significant positive influence on Behavioral Intention. Consequently, Price Value acts as the dominant predictor motivating consumer intention to participate in flash sales.

3. **H3 is accepted. Behavioral Intention on Impulsive Buying**

A positive and significant influence was found between Behavioral Intention and Impulsive Buying, with a path coefficient of 0.519, a T-statistic of 7.301 (> 1.96), and a P-value of 0.000 (< 0.05). This finding indicates that the formed behavioral intention significantly drives the occurrence of impulsive buying behavior during Flash Sales.

The hypothesis testing results validate the proposed structural model, confirming that all hypothesized relationships are statistically significant. Specifically, both Hedonic Motivation and Price Value serve as critical antecedents that drive users' Behavioral Intention, with Price Value demonstrating a slightly stronger influence compared to Hedonic Motivation. Furthermore, the robust positive correlation between Behavioral Intention and Impulsive Buying establishes that the intention to participate in Flash Sales directly translates into actual impulsive purchasing behavior on the Tokopedia platform.

5 Conclusion

This study successfully validates the adaptation of the UTAUT2 model in explaining the determinants of impulsive buying behavior among users of the Tokopedia Flash Sale feature in Palembang City. The empirical results conclude that all proposed hypotheses are supported, wherein Price Value and Hedonic Motivation are proven to be significant antecedents shaping Behavioral Intention, which subsequently manifests as actual impulsive buying behavior. Specifically, Price Value is identified as the most dominant determinant with the highest path coefficient, confirming that the perceived economic benefit—manifested as substantial price reductions—serves as the primary driver of user participation intention, surpassing mere hedonic motivation. Structurally, the model demonstrates strong predictive power, explaining 63.7% of the variance in user intention, and establishes a robust trajectory from intention to unplanned purchasing behavior. These findings imply that e-commerce management should prioritize the transparency of economic benefits—such as highlighting strikethrough prices and discount percentages—over complex interface elements. However, as the model accounts for only 27% of the variance in Impulsive Buying, subsequent studies are recommended to investigate additional factors like scarcity or FOMO, broaden the geographical coverage, and implement longitudinal designs to more comprehensively capture the unexplained dynamics of consumer behavior.

References

- [1] J. K. U. Putri, "Data *e-commerce* Indonesia: Panduan Lengkap," Tech in Asia. Accessed: Sep. 08, 2025. [Online]. Available: <https://id.techinasia.com/data-ecommerce-indonesia-panduan-lengkap>
- [2] S. Sayekti, "Industri E-Commerce Indonesia: Antara Inovasi, Efisiensi & Regulasi yang mendukung," *Kontan.co.id*, Jakarta, Mar. 13, 2025.
- [3] F. Hoppe, W. Chang, A. Baijal, S. Chadha, and W. F. Hoong, "*Profits on the Rise, Harnessing SEA's Advantage*," Nov. 2024.
- [4] L. A. Kusumatriana, N. A. Hasyiyati, C. Pravitasari, T. Sutarsih, and C. V. Wulandari, *Statistik E-Commerce 2023*, Vol. Volume 6. Indonesia: Badan Pusat Statistik/BPS-Statistics Indonesia, 2025.

- [5] APJII, "APJII Jumlah Pengguna Internet Indonesia Tembus 221 Juta Orang," APJII Asosiasi Penyelenggara Jasa Internet Indonesia.
- [6] PCMI, "*A Comprehensive Look at Indonesia's E-Commerce Market*," PCMI Payments & Commerce Market Intelligence.
- [7] S. Maslihatul, M. ' Ah, and S. Andarini, "*The Effect of Flash Sale and Free Shipping on Impulsive Buying Through Positive Emotions as Intervening Variables (Case Study of Shopee Application Users in Surabaya Area)*," 2025.
- [8] N. L. P. E. Mertaningrum, I. G. A. K. Giantari, N. W. Ekawati, and P. Y. Setiawan, "Perilaku Belanja Impulsif secara Online," *Jurnal Ilmu Sosial dan Humaniora*, Vol. 12, No. 3, pp. 605–616, Dec. 2023, DOI: 10.23887/jish.v12i3.70463.
- [9] A. Redine, S. Deshpande, C. Jebarajakirthy, and J. Surachartkumtonkun, "*Impulse Buying: A Systematic Literature Review and Future Research Directions*," Jan. 01, 2023, *John Wiley and Sons Inc.* DOI: 10.1111/ijcs.12862.
- [10] M. Mar'atul, I. N. I. Zulva, O. N. Malida, and Y. Oktafia, "Analisis Psikopatologi Kecenderungan Impulsive Buying pada Salah Satu Mahasiswa Universitas Negeri Semarang (*Psychopathological Analysis of the Tendency of Impulsive Buying to One of Universitas Negeri Semarang Students*)," *Jurnal Ilmiah Psikologi Mind Set*, Vol. 12, No. 2, pp. 117–124, 2021.
- [11] A. Amalaa, "Awat Impulsif Flash Sale setiap Tanggal Cantik di E-Commerce," RRI Radio Republik Indonesia.
- [12] F. Audriyani and W. Meiranto, "Penerapan Model UTAUT 2 terhadap Niat Penggunaan *Electronic Payment Shopeepay* di Kota Semarang," *Diponegoro Journal of Accounting*, Vol. 12, No. 3, pp. 1–14, 2023, [Online]. Available: <http://ejournal-s1.undip.ac.id/index.php/accounting>
- [13] K. Jha, "*UTAUT2 and Its Impact on Online Consumer Behavior: An Empirical Study in the Context of Fashion Apparel*," 2025.
- [14] N. Qurrota A'ini, W. Susilawati, H. Laxmi, and D. Septiani, "Analisis Penerimaan Layanan *Spaylater* menggunakan Model UTAUT 2 dan Dampaknya terhadap Perilaku *Online Impulse Buying*," *Jurnal Pendidikan Ekonomi dan Kewirausahaan*, Vol. 9, No. 2, 2025, DOI: 10.29408/jpek.v9i2.31160.
- [15] N. Nurfaiza and S. Basuki Prayitno, "*Exploring Factors Influencing Gen Z's Paylater Usage Intention and Its Impact on Impulsive Buying*," Vol. 20, No. 2, p. 97, 2023, DOI: 10.26487/jbmi.v20i2.27711.
- [16] H. T. Luong, T. T. Nguyen, and H. M. Pham, "*Applying the Unified Theory of Acceptance and Use of Technology (UTAUT) in Investigating Online Impulsive Buying Behavior of Vietnamese Consumers*," *European Journal of Business and Management*, Mar. 2021, DOI: 10.7176/ejbm/13-6-19.
- [17] V. Venkatesh, S. M. Walton, J. Y. L. Thong, and X. Xu, "*Consumer Acceptance and use of Information Technology: Extending the Unified Theory of Acceptance and use of Technology*," 2012. [Online]. Available: <http://ssrn.com/abstract=2002388>
- [18] A. R. Ashraf, N. Thongpapanl Tek, A. Anwar, L. Lapa, and V. Venkatesh, "*Perceived Values and Motivations Influencing m-Commerce use: A Nine-Country Comparative Study*," *Int. J. Inf. Manage.*, Vol. 59, p. 102318, 2021, DOI: <https://doi.org/10.1016/j.ijinfomgt.2021.102318>.
- [19] F. Parhamnia, "*Investigating Mobile Acceptance in Academic Library Services based on Unified Theory of Acceptance and Use of Technology Model (UTAUT-2)*," *The Journal of Academic Librarianship*, Vol. 48, No. 5, p. 102570, 2022, DOI: <https://doi.org/10.1016/j.acalib.2022.102570>.
- [20] H. Gao, X. Chen, H. Gao, and B. Yu, "*Understanding Chinese Consumers' Livestreaming Impulsive Buying: An Stimulus-Organism-Response Perspective and the Mediating Role of Emotions and Zhong Yong Tendency*," *Front. Psychol.*, Vol. 13, Jul. 2022, DOI: 10.3389/fpsyg.2022.881294.
- [21] M. Afrina, N. Kawadha, A. Ariani, and M. F. Febriady, "*The Effect of Chatbot Usage on Customer Satisfaction: A Quantitative Study of Shopee, Tokopedia, and Lazada using SmartPLS*," *Jurnal Sisfokom (Sistem Informasi dan Komputer)*, Vol. 14, No. 1, pp. 114–122, Jan. 2025, DOI: 10.32736/sisfokom.v14i1.2380.

- [22] Asrulla, Risnita, M. S. Jailani, and F. Jeka, "Populasi dan Sampling (Kuantitatif), serta Pemilihan Informan Kunci (Kualitatif) dalam Pendekatan Praktis," *Jurnal Pendidikan Tambusai*, Vol. Volume 7, No. Nomor 3 Tahun, pp. 26320–26332, 2023.
- [23] L. Setiyani, I. Natalia, and G. T. Liswadi, "Analysis of Behavioral Intentions of E-Commerce Shopee Users in Indonesia using UTAUT2," *ADI Journal on Recent Innovation (AJRI)*, Vol. 4, No. 2, pp. 160–171, Jan. 2023, DOI: 10.34306/ajri.v4i2.861.
- [24] G. Firellsya, A. S. Kembau, D. Y. Bernanda, and L. Christin, "Tren Belanja Online Wanita Gen-Z: Eksplorasi Faktor-Faktor di Balik Dominasi Wanita Gen-Z pada Platform Shopee menggunakan Model UTAUT2," *Jurnal Informatika Ekonomi Bisnis*, pp. 184–196, Mar. 2024, DOI: 10.37034/infeb.v6i1.826.
- [25] J. Hair and A. Alamer, "Partial Least Squares Structural Equation Modeling (PLS-SEM) in Second Language and Education Research: Guidelines using an Applied Example," *Research Methods in Applied Linguistics*, Vol. 1, No. 3, p. 100027, 2022, DOI: <https://doi.org/10.1016/j.rmal.2022.100027>.
- [26] J. F. Hair, G. Tomas M. Hult, Christian M. Ringle, Marko Sarstedt, Nicholas P. Danks, and Soumya Ray, "Partial Least Squares Structural Equation Modeling (PLS-SEM) using R," 2021.