ISSN: 2614-6754 (print)
ISSN: 2614-3097(online)

Halaman 22472-22483
Volume 9 Nomor 2 Tahun 2025

The Effect of Time Pressure on Impulsive Buying in E-Commerce in Indonesia: the Mediating Role of Emotions

Meisy
Institut Teknologi dan Bisnis Sabda Setia
e-mail: meisy@itbss.ac.id

Abstrak

Studi ini menyelidiki pengaruh tekanan waktu terhadap perilaku pembelian impulsif afektif dalam konteks e-commerce Indonesia, dengan menggunakan emosi sebagai variabel mediasi dalam kerangka Stimulus-Organisme-Respon (SOR). Data dikumpulkan dari 100 responden yang terlibat dalam belanja daring melalui live-streaming. Dengan menggunakan analisis SEM-PLS, hasil penelitian mengungkapkan bahwa tekanan waktu memiliki pengaruh yang signifikan terhadap emosi dan pembelian impulsif afektif. Namun, emosi tidak secara signifikan memengaruhi pembelian impulsif dan tidak memediasi hubungan antara tekanan waktu dan perilaku pembelian impulsif. Temuan ini menunjukkan bahwa tekanan waktu berfungsi sebagai pemicu eksternal utama untuk keputusan impulsif, sementara emosi tidak memainkan peran mediasi utama. Studi ini berkontribusi pada pemahaman psikologi konsumen digital dan menyoroti perlunya penelitian di masa mendatang untuk mengeksplorasi variabel mediasi atau moderasi lain seperti pengendalian diri atau keterlibatan produk untuk menjelaskan perilaku impulsif di bawah tekanan dengan lebih baik.

Kata Kunci: *Tekanan Waktu, Emosi, Pembelian Impulsif Afektif, E-Commerce, SOR*

Abstract

This study investigates the effect of time pressure on affective impulsive buying behavior in Indonesia's e-commerce context, using emotions as a mediating variable within the Stimulus-Organism-Response (SOR) framework. Data were collected from 100 respondents engaged in live-streaming online shopping. Using SEM-PLS analysis, results revealed that time pressure has a significant influence on both emotions and affective impulsive buying. However, emotions do not significantly affect impulsive buying and do not mediate the relationship between time pressure and impulsive purchase behavior. These findings suggest that time pressure serves as a primary external trigger for impulsive decisions, while emotions do not play a central mediating role. This study contributes to the understanding of digital consumer psychology and highlights the need for future research to explore other mediating or moderating variables such as self-control or product involvement to better explain impulsive behaviors under pressure.

Keywords: *Time Pressure, Emotions, Affective Impulsive Buying, E-Commerce, SOR*

INTRODUCTION

The development of e-commerce in Indonesia continues to show an increasing trend. According to the 2025 Projection Data from Pusat Data dan Sistem Informasi (PDSI) of the Kementerian Perdagangan, the number of e-commerce users is projected to reach 73.06 million, an increase of 11% compared to the previous year. This growth clearly reflects a shift in consumer behavior, with people increasingly relying on digital platforms to make purchases (Databoks, 2025). One emerging innovation in e-commerce is the use of live streaming features, which involve real-time video broadcasts that enable direct interaction between sellers and buyers. This feature not only delivers product information in a more engaging and interactive way but is also often accompanied by time-limited promotions, exclusive discounts, and limited stock availability, all of which create a sense of urgency. This strategy has proven effective in capturing consumer attention and encouraging rapid purchase decisions.

One prominent phenomenon resulting from these changes is the increasing occurrence of spontaneous, unplanned purchasing behavior known as impulsive buying (Aftiko & Ratnasari, 2024). Impulsive buying is a common consumer behavior in modern shopping activities, characterized by sudden, unplanned, and emotional purchase decisions (Sun et al., 2023). In the context of e-commerce in Indonesia, this phenomenon has escalated alongside the widespread use of marketing techniques such as live streaming, limited-time promotions, flash discounts, and intense social media advertising. This trend highlights that impulsive buying has become a crucial component of current digital marketing strategies.

Impulsive buying behavior can be influenced by various factors, one of which is time pressure. Previous studies have reported that time pressure positively impacts the acceleration of decision-making (Sun et al., 2023). Although several studies have shown that time pressure plays a significant role in encouraging impulsive buying behavior, there are discrepancies in the findings. For example, Sun et al. (2023) found that time pressure has a significant positive relationship with both affective and cognitive types of impulsive buying. In contrast, Liu et al. (2022) discovered that time pressure correlates positively only with affective impulsive buying, without a significant relationship with the cognitive aspect. These differences suggest that the relationship between time pressure and impulsive buying remains unclear and requires further investigation in specific contexts, such as the Indonesian market. Under high time pressure conditions, consumers tend to rely on their feelings and make spontaneous decisions, particularly for hedonic products that provide emotional satisfaction. This is consistent with research indicating that affective impulsive buying is driven by emotional information processing, with time pressure acting as a key factor in such situations (Liu et al., 2022). Therefore, it can be concluded that time pressure not only speeds up the decision-making process but also stimulates consumer emotions, making them more susceptible to unplanned purchases.

According to the Stimulus-Organism-Response (SOR) Theory, time pressure can be categorized as an external stimulus that triggers consumer responses. These responses are not direct but are mediated by the organism i.e., the consumer's internal state such as emotions. In this study, emotion serves as a mediator between time pressure and impulsive buying behavior. Thus, when consumers experience time pressure, both positive and negative emotional reactions can influence their tendency to make impulsive purchases (Sun et al., 2023). This finding provides a crucial basis for understanding how emotions shape the psychological mechanisms linking time pressure and impulsive buying decisions. However, the mediating role of emotion in the relationship between time pressure and impulsive buying has not been widely explored, particularly in the context of Indonesian society, which exhibits diverse cultural characteristics and consumer behaviors. This suggests that emotional aspects need deeper investigation to comprehensively understand consumer decision-making patterns (Aftiko & Ratnasari, 2024).

Therefore, this study aims to examine the influence of time pressure on impulsive buying behavior in Indonesia, with emotion as a mediating variable based on the Stimulus-Organism-Response (SOR) theoretical framework. By focusing exclusively on the affective aspect of impulsive buying, this study is expected to provide an in-depth explanation of how time pressure and emotion interact in shaping spontaneous consumer purchasing decisions. This approach is anticipated not only to enrich academic understanding of consumer behavior but also to offer strategic insights for e-commerce industry players in designing marketing approaches that are more adaptive to consumers' emotional responses under time pressure.

Stimulus-Organism-Response (SOR)

The Stimulus-Organism-Response (SOR) theory was proposed by Houland et al. in 1953. In the context of consumer behavior, this theory has been widely adopted to explain how consumers respond to stimuli in shopping environments, both physical and digital. The model consists of three main components: stimulus (S), which acts as an external trigger; organism (O), representing internal psychological or emotional processes; and response (R), which is the actual behavior taken by the individual, such as the purchase decision. In this study, the SOR theory is employed to explain consumers' impulsive buying behavior in decision-making, particularly in digital environments.

In this context, time pressure is positioned as the stimulus—an external condition experienced by consumers when shopping online, especially during live-streaming e-commerce sessions where promotions are often limited in time and urgent (Aftiko & Ratnasari, 2024). Hosts during live-streaming sessions frequently use sales techniques that create a sense of urgency, such as countdown timers for discounts or limited purchase quotas, which directly induce time pressure. This triggers psychological reactions in consumers who often lack sufficient time to consider decisions rationally. Emotion serves as the organism, representing internal responses arising from the time pressure experienced while watching live streams. The interactive, dynamic, and real-time format of live streaming can evoke a range of emotions, from pleasure and excitement to anxiety over missing out (fear of missing out). This situation intensifies consumers' emotional involvement with the stimulus presented. The heightened emotion then acts as the psychological mechanism mediating the influence of time pressure on actual consumer responses (Sun et al., 2023).

The application of the SOR theory in this context is considered appropriate as it comprehensively explains the dynamics between digital environments and consumer shopping behavior. This model has also been proven effective in various previous studies. Nieves et al. (2023) emphasized that the SOR model provides a strong conceptual framework for analyzing how human interaction with technology affects value and purchase decisions in the digital realm. Wu et al. (2021) added that digital designs, such as limited-time promotions, can trigger specific emotions that influence impulsive buying decisions on online platforms.

Furthermore, the application of the SOR model to the Indonesian market context is increasingly relevant given the significant growth of local e-commerce, particularly through the rising popularity of live-commerce features on platforms such as TikTok, Shopee, and Tokopedia Live (Sun et al., 2023). Consumer exposure to intensive technology-based stimuli makes time pressure and emotions critical components in the process of forming purchase decisions. This approach not only allows for theoretical understanding of the influence of time pressure during live-streaming sessions on impulsive buying but also provides an empirical basis to examine the mediating role of emotions in this process. Thus, the SOR theory offers a solid theoretical foundation for explaining the interrelationship between time pressure, emotions, and affective impulsive buying behavior, especially in the dynamic live-streaming context. The model also opens opportunities for complex mediation path analysis, supporting in-depth exploration of contemporary consumer decision-making processes.

Hypothesis Development

The Influence of Time Pressure on Emotions and Affective Impulsive Buying

Based on the study conducted by Sun et al. (2023), time pressure is known to have a positive influence on impulsive buying behavior. In addition, emotions also play an important role in this relationship. Positive emotions are known to strengthen the effect of time pressure on impulsive buying, whereas negative emotions tend to weaken the relationship between time pressure and affective impulsive buying. Other research findings also show that time pressure has a positive effect on impulsive buying behavior in e-commerce during live-streaming events (Atfiko et al., 2024). In the study by Huang et al. (2024), time pressure, acting as a mediating factor, was shown to trigger emotions, thus increasing consumer engagement and driving impulsive buying. Furthermore, Liu et al. (2022) explain that time pressure is broadly viewed as a situational variable that influences impulsive buying behavior.

This study will examine how time pressure affects consumers' emotions and how it influences affective impulsive buying. Based on the aforementioned explanation, the hypotheses developed are:

H_{1a}: *Time pressure has a significant influence on emotions*
H_{1b}: *Time pressure has a significant influence on affective impulsive buying*

The Influence of Emotions on Impulsive Buying

Based on the research conducted by Wulandari & Edastama (2022), emotions have a positive influence on impulsive buying. Positive emotions have a significant and positive impact on

impulsive buying behavior (Setiawan & Ardani, 2022). The study by Larasati & Yasa (2021) also indicates a positive and significant effect on impulsive buying. This is further supported by the findings of Sun et al. (2023), which show that positive emotions have a stronger and more significant relationship with impulsive buying compared to negative emotions.

Therefore, previous research suggests that emotions are a strong factor that can drive individuals to make impulsive purchases. Based on this explanation, the hypothesis proposed is:
H_2: *Emotions have a significant influence on affective impulsive buying.*

The Mediating Role of Emotions in the Relationship Between Time Pressure and Affective Impulsive Buying

Previous research has shown that emotions positively moderate the influence of time pressure on impulsive buying (Sun et al., 2023). This study also explains that when positive emotions are high, impulsive buying behavior tends to increase significantly in response to increased time pressure. However, in a study conducted by Aftiko et al. (2024), emotions as a moderating variable did not show a significant influence on the relationship between time pressure and impulsive buying.

Lee et al. (2021), in their study, stated that emotions that arise such as pleasure from obtaining a product with a specific promotion tend to enhance the perception of enjoyment and encourage consumers to make impulsive purchases.

Thus, this explanation indicates that emotions play a mediating role in the relationship between time pressure and impulsive buying. Positive emotions generated from high time pressure can increase the likelihood of consumers making purchases without much consideration. Based on this explanation, the hypothesis proposed is:
H_3: *Emotions mediate the relationship between time pressure and affective impulsive buying.*

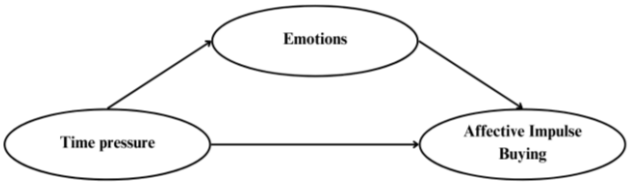

Figure 1. Conceptual Framework

METHOD

Research Design

This study adopts a quantitative approach to empirically examine the relationship between time pressure (independent variable), emotions both positive and negative (mediating variable), and affective impulsive buying (dependent variable). The quantitative method is chosen due to its ability to provide objective measurements of the variables through standardized instruments, as well as to enable systematic statistical analysis in testing the proposed hypotheses. This research is grounded in the Stimulus-Organism-Response (SOR) theoretical framework, in which time pressure functions as the stimulus (S), emotions as the organism (O), and affective impulsive buying as the response (R).

Population and Sample

This study was conducted among individuals residing in Indonesia, with a focus on e-commerce users who have participated in shopping activities via live-streaming features. This focus is based on the increasing number of young users engaging with e-commerce platforms and the high level of involvement of this demographic in digital impulsive buying. The sampling technique employed in this study is purposive sampling, which involves selecting respondents based on specific criteria relevant to the research objectives. The criteria include respondents from Millennial and Generation Z cohorts, aged between 18 and 35 years, who have experience

shopping through live-streaming features on e-commerce platforms such as TikTok Live or Shopee Live.

To determine the minimum sample size, this study refers to a quantitative research approach. According to the guidelines provided by Hair et al. (2010), the recommended minimum sample size is five to ten times the number of indicators used in the model. Therefore, to enhance the external validity and generalizability of the findings, the target minimum number of respondents in this study is set at 100 participants.

Research Instrument

This study involves three main variables: time pressure as the independent variable, emotions as the mediating variable, and affective impulsive buying as the dependent variable. Each variable is measured using instruments adapted from previous studies to ensure both validity and reliability.

Time pressure refers to the subjective perception of limited or insufficient time available to support decision-making in purchasing behavior (Sun et al., 2023). In this study, time pressure is measured using five items adapted from the study by Atfiko et al. (2024).

Emotion is defined as one of the key factors influencing consumer behavior in the decision-making process (Liu et al., 2022). According to functional emotion theory, emotions can accelerate decision-making processes, which in turn may lead to immediate responses (Sun et al., 2023). Consumers who are unable to regulate their emotions tend to engage in impulsive buying behavior. Emotions are generally classified into positive and negative emotions. Positive emotions such as happiness and excitement can encourage impulsive buying, while negative emotions such as anxiety and sadness may also trigger such behavior (Sun et al., 2023). In this study, emotions are measured using four items adapted from Atfiko et al. (2024).

Affective impulsive buying, according to Zhang et al. (2023), is a consumer behavior reaction driven by positive emotions and a sense of pleasure, creating a strong urge to immediately acquire a product, which then leads to a purchase transaction in the e-commerce context. In this study, affective impulsive buying is measured using items adapted from the works of Sun et al. (2023) and Tran, V.D. (2022).

Based on the above explanation, the data for this study will be collected using an online questionnaire distributed via social media platforms such as Instagram, WhatsApp, and Facebook. Referring to Sugiyono (2020), a questionnaire is a data collection technique in which written questions are presented to respondents to be answered independently. All variables will be measured using a 5-point Likert scale, where respondents are asked to indicate their level of agreement with each statement. The Likert scale is utilized because it quantitatively captures individuals' attitudes and opinion intensity, ranging from Strongly Disagree (1) to Strongly Agree (5).

The data collection will be conducted over the period of May 23 to April 23, 2025. Respondents will be asked to give their voluntary informed consent prior to completing the questionnaire. It will be ensured that all data and respondent identities remain anonymous and confidential.

Data Analysis Technique

In this study, data analysis was conducted using Structural Equation Modeling (SEM), as this method enables the examination of complex relationships and mediation effects simultaneously within a single model framework (Hair et al., 2019). The chosen statistical approach was Partial Least Squares (PLS), and all analytical procedures were carried out using SmartPLS version 3 software.

The initial stage involved testing the validity and reliability of the research instruments. Validity testing was conducted by comparing the calculated correlation coefficient (r-calculated) with the critical value in the correlation table (r-table). An item was considered valid if the r-calculated exceeded the r-table at a 0.05 significance level (Sugiyono, 2020; Ghozali, 2021). Meanwhile, reliability was assessed using Cronbach's Alpha, where a value of $\alpha \geq 0.70$ and composite reliability > 0.80 indicated that the instrument was reliable and trustworthy. To evaluate

the explanatory power of the structural model in describing the studied variables, R-square (R^2) values were used for each endogenous variable, with a minimum acceptable threshold of 0.20. Furthermore, the significance of the path coefficients was assessed using the p-value, with results considered statistically significant if the p-value was less than 0.05 (Ghozali, 2021; Hair et al., 2019).

Validity and Reliability Test

The measurement model was first assessed as an initial step in testing the model using the SEM-PLS approach. This stage involves evaluating several aspects, including convergent validity, discriminant validity, construct reliability, and indicator reliability (Hair, 2010). To determine **construct reliability**, this study applied both Cronbach's Alpha (CA) and Composite Reliability (CR). Constructs are considered reliable if the CR value is greater than 0.70, while indicator reliability is considered acceptable if the CA value reaches at least 0.60. These values indicate that the indicators consistently reflect their corresponding latent constructs. **Convergent validity** was assessed by looking at the Average Variance Extracted (AVE). A construct meets the standard for convergent validity when its AVE exceeds 0.50, meaning that it explains more than half of the variance in its indicators (Fornell, 1981). As shown in Table 1, all constructs successfully met the required thresholds, suggesting that the instrument used in this study is valid and reliable.

Table 1. Validity and Reliability Test

Variables	Item Number	CA	rho_A	CR	AVE
AIB	4	0.827	0.836	0.885	0.657
E	3	0.839	0.842	0.903	0.757
TP	4	0.851	0.860	0.899	0.690

Source: Data Processing (2025)

To ensure that each construct in the model is empirically distinct (**discriminant validity**), three methods were employed: the Fornell-Larcker criterion, cross-loading analysis, and the Heterotrait-Monotrait (HTMT) ratio (Hair, 2010). These methods are used to evaluate whether each construct shares a higher variance with its own indicators than with those of other constructs. The results of the Fornell-Larcker and HTMT analyses indicate that all constructs demonstrate adequate discriminant validity, confirming that each construct in the model is appropriately distinguished from the others.

Table 2. Discriminant Validity

	E	AIP	TP
Fornell-Larcker Criterion			
Affective Impulsive Buying	0.870		
Emotions	0.385	0.811	
Time Pressure	0.386	0.601	0.831
Heterotrait-Monotrait Ratio (HTMT)			
Affective Impulsive Buying			
Emotions	0.458		
Time Pressure	0.446	0.706	

Source: Data Processing (2025)

The outer loading value represents the extent to which an indicator reflects the latent construct it is intended to measure. According to Hair et al. (2019), an ideal outer loading value exceeds 0.70, indicating that the indicator demonstrates a satisfactory level of reliability in explaining its construct. Based on the results presented in Table 3, all indicators used in the AIB, E, and TP constructs show outer loading values above the minimum threshold. This indicates that each indicator consistently measures its corresponding construct. However, several indicators had to be eliminated due to their outer loading values falling below the established criteria.

Table 3. Outer-Loadings

Indicators	E	AIP	TP
AIB1		0.797	
AIB2		0.839	
AIB3		0.780	
AIB4		0.827	
E1	0.895		
E2	0.870		
E3	0.844		
TP1			0.862
TP2			0.784
TP3			0.819
TP4			0.857

Source: Data Processing (2025)

RESULT AND DISCUSSION

Demographic Characteristics

Table 4 presents the demographic characteristics of the respondents in this study. Based on gender distribution, the majority of the participants were female, accounting for 65% (n=65), while male respondents made up 35% (n=35) of the total sample. Regarding age, most respondents were between 21 to 25 years old, comprising 50% (n=50) of the sample. This was followed by those aged 18 to 20 years at 40% (n=40), 26 to 30 years at 6% (n=6), and 31 to 35 years at 4% (n=4). In terms of employment status, the majority of participants were students, representing 80% (n=80). The rest were employed in the private sector (12%, n=12), civil servants (3%, n=3), entrepreneurs (2%, n=2), housewives (2%, n=2), and unemployed individuals (1%, n=1). These demographics indicate that the sample was predominantly young and consisted largely of students, reflecting a population that is likely still in the process of pursuing education or early in their careers.

Table 4. Demographic Characteristics

Profile	n	%
Gender		
Male	35	35.00
Female	65	65.00
Total	**100**	**100.00**
Age		
18 – 20 years old	40	40.00
21 – 25 years old	50	50.00
26 – 30 years old	6	6.00
31 – 35 years old	4	4.00
Total	**100**	**100.00**
Employment Status		
student	80	80.00
Private Sector Employee	12	12.00
Civil Servant	3	3.00
Entrepreneur	2	2.00
Unemployed	1	1.00
Housewife	2	2.00
Total	**100**	**100.00**

Source: Data Processing (2025)

R^2 Test

The coefficient of determination (R^2) values indicate that the model possesses low to moderate explanatory power. Specifically, 14.8% of the variance in the mediating variable Emotions (M) can be explained by the independent variable(s) in the model, particularly time pressure, which serves as the emotional trigger in the consumer decision-making process. Meanwhile, 38.9% of the variance in the dependent variable Affective Impulsive Buying (Y) can be explained by the combined influence of time pressure and emotions as a mediator. The adjusted R Square values, which account for the number of predictors in the model, are slightly lower 14.0% for Emotions and 37.7% for Impulsive Buying indicating good model stability. These results suggest that the independent variables in the model are able to explain a meaningful portion of the variance in affective impulsive buying behavior, and that emotions play a relevant mediating role in the relationship between time pressure and impulsive purchase decisions.

Table 5. R Square Test

	R Square	R Square Adjusted
Emotions	0.148	0.140
Affective Impulsive Buying	0.389	0.377

Source: Data Processing (2025)

Path Analysis

Figure 2 presents the structural model illustrating the relationships between Time Pressure (TP/X1), Emotions (E/M), and Affective Impulsive Buying (AIB/Y), along with the contribution of each indicator to its respective latent construct. All indicators demonstrated significant contributions in forming their constructs. TP1 was identified as the strongest indicator for Time Pressure, E1 for Emotions, and AIB2 as the dominant indicator for Affective Impulsive Buying.

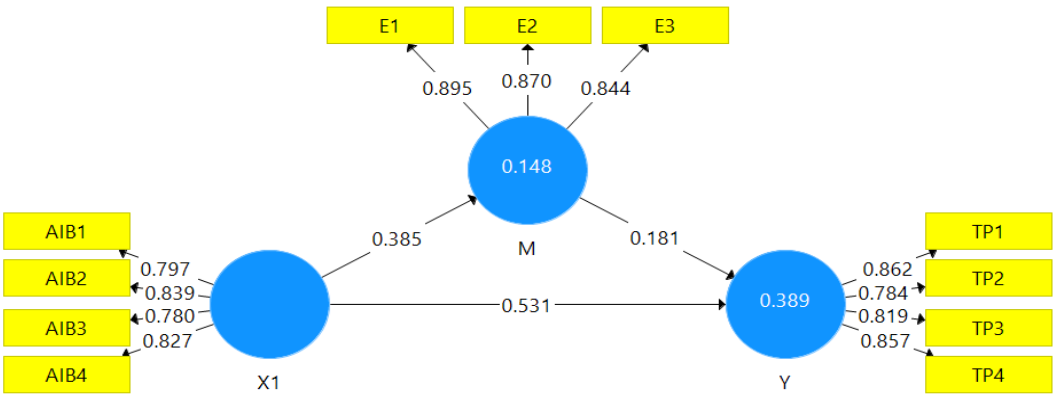

Figure 2. Analysis Results

The detailed results of the path analysis are provided in Table 6. Time Pressure was found to have a significant and positive direct effect on Emotions (β = 0.385; t = 4.141; p < 0.001), indicating that time constraints in online shopping contexts trigger heightened emotional responses. Additionally, Time Pressure also exhibited a strong and significant direct influence on Affective Impulsive Buying (β = 0.531; t = 6.328; p < 0.001), suggesting that increased time pressure significantly drives consumers to make impulsive purchase decisions. On the other hand, the direct effect of Emotions on Affective Impulsive Buying was not statistically significant (β = 0.181; t = 1.897; p = 0.058), as the p-value slightly exceeds the 0.05 significance threshold. This result implies that although emotional intensity may increase due to time pressure, these emotional responses do not directly influence impulsive buying behavior in this model.

Furthermore, the mediating path from Time Pressure to Affective Impulsive Buying through Emotions was also found to be insignificant (β = 0.070; t = 1.574; p = 0.116). Therefore, Emotions

do not play a significant mediating role in the relationship between Time Pressure and affective impulsive buying.

Overall, these findings highlight that time pressure serves as a primary predictor of affective impulsive buying behavior, both directly and by stimulating emotional responses. However, the indirect pathway through Emotions is not statistically supported, indicating that emotional responses do not significantly mediate the effect of time pressure on impulsive purchase decisions.

Table 6. Path Coefficients

Hypo	Path	Type	Beta	t	p-value	Decision
H_{1a}	TP > E	Direct	0.385	4.141	0.000	Accept
H_{1b}	TP > AIB	Direct	0.531	6.328	0.000	Accept
H_2	E > AIB	Direct	0.181	1.897	0.058	Reject
H_3	TP > E > AIB	Indirect	0.070	1.574	0.116	Reject

Source: Data Processing (2025)

The effect size (f^2) results for this study are presented in Table 7. Time Pressure (TP) has a large effect on Affective Impulsive Buying (AIB) ($f^2 = 0.393$), indicating that time pressure plays a major role in driving impulsive buying behavior. The relationship between Time Pressure and Emotions (E) shows a medium effect ($f^2 = 0.174$), meaning time pressure moderately influences emotional responses. Meanwhile, Emotions have only a small effect on AIB ($f^2 = 0.046$), suggesting that emotions do not strongly impact impulsive purchase decisions directly.

Table 7. Effect Size

Path	f2	Effect
TP > E	0.174	Medium
TP > AIB	0.393	Large
E > AIB	0.046	Small

Source: Data Processing (2025)

Based on the results of the Variance Inflation Factor (VIF) analysis, all values ranged between 1.000 and 1.174, which are well below the commonly accepted threshold of 5. These results indicate that multicollinearity is not a concern among the predictor variables used in this study. Accordingly, the independent variables Time Pressure and Emotions can be reliably included in the structural model without inflating standard errors or biasing the estimated path coefficients. This finding reinforces the validity of the model and confirms that the relationships between variables can be interpreted with confidence.

Table 8. VIF

	E	AIB
TP	1.000	1.174
E		1.174

Source: Data Processing (2025)

According to Hair et al. (2019), a Q^2 value greater than 0 indicates that the model has predictive relevance, with values of 0.02, 0.15, and 0.35 generally interpreted as small, medium, and large predictive relevance, respectively. As shown in Table 9, the Q^2 value for Emotions (E) is 0.102, and for Time pressure is 0.244. These results indicate that both constructs demonstrate moderate predictive relevance, suggesting that the model has a reasonable ability to predict the variance in emotional responses and impulsive buying behavior under time pressure. Thus, the model is sufficiently effective in capturing key psychological dynamics in digital purchasing contexts.

Table 9. Q2

Variables	Q2	Interpretation
E	0.102	Moderate Predictive Relevance
TP	0.244	Moderate Predictive Relevance

Source: Data Processing (2025)

Mediation Effect

In this study, the mediating effect of Emotions (E) in the relationship between Time Pressure (TP) and Affective Impulsive Buying (AIB) was tested. The results show that the indirect effect of the path TP > E > AIB was 0.070, with a t-statistic of 1.574 and a p-value of 0.116. Since the p-value exceeds the 0.05 significance level, the mediation effect is not statistically significant. Thus, H3 is rejected, indicating that emotions do not significantly mediate the influence of time pressure on impulsive buying behavior. This suggests that while time pressure increases emotional responses, those emotions do not play a central role in translating pressure into impulsive purchase actions within this model.

Table 10. Mediation Effect

Hypo	Path	Indirect Effect	t-stat	p-value	Decision
H_3	TP > E > AIB	0.070	1.574	0.116	Reject

Source: Data Processing (2025)

Discussion

This study aimed to examine the influence of time pressure on affective impulsive buying behavior in Indonesia, with emotions as a mediating variable based on the Stimulus-Organism-Response (SOR) theoretical framework. The findings reveal several important insights into how consumers behave under time-constrained digital shopping conditions, particularly in live-streaming e-commerce environments.

First, the results confirm that Time Pressure has a significant and positive direct effect on Emotions (H1a accepted). This supports previous research (Sun et al., 2023) which found that under high time pressure, consumers tend to rely more on affective responses rather than rational evaluation, leading to heightened emotional states. In online shopping contexts, especially live-streaming time-limited offers, countdowns, and stock scarcity often act as psychological triggers that generate urgency and emotional tension. Second, Time Pressure also significantly and positively influences Affective Impulsive Buying (H1b accepted). This suggests that urgency plays a strong role in accelerating consumers' decision-making, leading to unplanned purchases. This supports the SOR model's proposition that external stimuli (time pressure) can evoke a direct behavioral response (impulsive buying) when consumers are exposed to high-intensity cues.

However, the direct relationship between Emotions and Affective Impulsive Buying was not statistically significant (H2 rejected). Although emotional arousal was triggered by time pressure, it did not significantly lead to impulsive buying in this model. This contrasts with prior studies (e.g., Liu et al., 2022) which found emotions to be a significant driver of impulsive purchases. One explanation could be that Indonesian consumers, especially those in Gen Z, might experience emotional stimulation but still apply cognitive filtering before acting, particularly when spending money in economic uncertainty. Additionally, the indirect effect of Time Pressure on Affective Impulsive Buying through Emotions was not significant (H3 rejected). This means that while time pressure increases emotional responses, these emotions do not play a mediating role in the decision to purchase impulsively. Therefore, the emotional mechanism in the SOR model was not fully supported in this context. It is possible that other mediating variables such as self-control, product involvement, or trust in the platform—may better explain the pathway between time pressure and impulsive actions.

The R^2 values support the explanatory power of the model: 14.8% of the variance in Emotions and 38.9% in Affective Impulsive Buying were explained by the model. These moderate values suggest that the predictors used are meaningful, yet there is still room to include additional variables to strengthen the model further.

CONCLUSION

This study investigated the impact of time pressure on affective impulsive buying behavior in Indonesia, using emotions as a mediating variable and grounded in the Stimulus-Organism-Response (SOR) framework. The results confirm that time pressure significantly influences both emotional responses and impulsive purchasing behavior. However, emotions did not significantly mediate the relationship between time pressure and affective impulsive buying. These findings highlight that time pressure is a key external factor that directly influences consumer decisions in digital commerce, especially within time-limited promotional formats such as live-streaming sales. Although emotions were stimulated by pressure, they did not translate into impulsive action, suggesting that emotional responses alone may not be sufficient to drive behavior without other supporting factors.

The study contributes to the growing literature on digital consumer psychology and provides strategic insights for e-commerce practitioners. Marketing strategies that rely solely on emotional stimulation may not be effective unless combined with other behavioral triggers. Future research should explore additional mediating or moderating variables—such as digital trust, product involvement, and financial risk perception—to better understand consumer responses in pressured online environments.

REFERENCES

Atfiko, B. E., & Ratnasari, N. G. (2024). Pengaruh tekanan waktu Dan perceived value terhadap pembelian impulsif Di shopee live pada konsumen skincare Di Indonesia: Emotions sebagai moderasi. Critical Issue of Sustainable Future, 1(1).

Databoks.katadata.co.id. (2025, March 20). Proyeksi Pertumbuhan Pengguna e-Commerce Di Indonesia 2020-2025. Pusat Data Ekonomi dan Bisnis Indonesia | Databoks. https://rb.gy/gu2cg6

Ghozali. (2021). Aplikasi Analisis Multivariate Dengan Program IBM SPSS 26 (10th ed.). Badan Penerbit Universitas Diponegoro.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (8th ed.). Cengage Learning.

Huang, S. C., Silalahi, A. D. K., Eunike, I. J., & Riantama, D. (2024). Understanding impulse buying in E-commerce: The Big Five traits perspective and moderating effect of time pressure and emotions. Telematics and Informatics Reports, 15, 100157.

Lee, C. H., Chen, C. W. D., Huang, S. F., Chang, Y. T., & Demirci, S. (2021). Exploring consumers' impulse buying behavior on online apparel websites: An empirical investigation on consumer perceptions. International Journal of Electronic Commerce Studies, 12(1), 119-142.

Liu, X. S., Shi, Y., Xue, N. I., & Shen, H. (2022). The impact of time pressure on impulsive buying: The moderating role of consumption type. Tourism management, 91, 104505.

Nieves-Pavón, S., López-Mosquera, N., & Jiménez-Naranjo, H. (2023). The factors influencing STD through SOR theory. Journal of Retailing and Consumer Services, 75, 103533.00A0

Setiawan, I. K., & Ardani, I. G. A. K. S. (2022). The role of positive emotions to increase the effect of store atmosphere and discount on impulse buying. European Journal of Business and Management Research, 7(1), 219-223.

Sugiyono. (2020). Metode Penelitian Kuantitatif, Kualitatif dan R&D. Alfabeta.

Sun, B., Zhang, Y., & Zheng, L. (2023). Relationship between time pressure and consumers' impulsive buying—Role of perceived value and emotions. Heliyon, 9(12).

Tran, V. D. (2022). Consumer impulse buying behavior: the role of confidence as moderating effect. Heliyon, 8(6). https://www.sciencedirect.com/science/article/pii/S2405844022009604

Wulandari, D. A., & Edastama, P. (2022). Pengaruh Gratis Ongkir, Flash Sale, Dan Cashback Atas Pembelian Impulsif Yang Dimediasi Emosi Positif. Jurnal Mahasiswa Manajemen dan Akuntansi, 1(2), 29-36

Zhang, X., Liu, Y., Qin, Z., Ye, Z., & Meng, F. (2023). Understanding The role of social media usage and health self-efficacy in the processing of COVID-19 rumors: A SOR perspective. Data and Information Management, 7(2), 100043.