

# THE EFFECT OF DIFFERENT TYPES OF DIGITAL DISCOUNTS ON IMPULSIVE BUYING BEHAVIOR AMONG UNIVERSITY STUDENTS IN E-COMMERCE

Fredo Hakim Quariesta<sup>1</sup>, Muhammad Zacky Al Bukhori<sup>2</sup>  
President University

E-mail: [fredo.quariesta@student.president.ac.id](mailto:fredo.quariesta@student.president.ac.id)<sup>1</sup>, [muhhammad.bukbori@student.president.ac.id](mailto:muhhammad.bukbori@student.president.ac.id)<sup>2</sup>

**Abstract** - This research study investigates how various digital discount methods impact university student impulse buying patterns on e-commerce websites. The research applies the Stimulus-Organism-Response (SOR) framework and Dual-System Theory to explain how external promotional stimuli influence internal psychological responses and ultimately lead to impulsive purchasing behavior. The researchers conducted a quantitative explanatory study which collected data through an online survey that reached university students who had used digital discount promotions like flash sales and percentage discounts and cashback and free shipping. The researchers used Structural Equation Modeling (SEM) to analyze the data which included both measurement tests and structural tests of the models. The results show that digital discount stimuli have a significant positive effect on psychological responses, and psychological responses strongly influence impulsive buying behavior. Furthermore, psychological responses were found to fully mediate the relationship between digital discounts and impulsive buying behavior. This indicates that the effectiveness of digital discounts lies not only in their monetary value but also in their ability to trigger emotional and cognitive reactions such as urgency, excitement, and perceived value. The findings provide important insights for e-commerce platforms in designing promotional strategies that effectively stimulate consumer engagement and increase impulsive purchases.

**Keywords:** Digital Discounts, Impulsive Buying, E-commerce, University Students.

## INTRODUCTION

E-commerce platforms use digital discounts as strategic tools to attract customers and boost sales. The discounts which include flash sales and percentage-off promotions and cashback incentives and free shipping, operate as marketing stimuli that drive customers to make planned and unplanned purchases. Previous studies demonstrate that price-based promotions create substantial impacts on consumer buying behavior since they will increase customers' will to purchase products through their first interactive digital experiences in mobile applications and online marketplaces (Huang et al., 2022; Wang & Chen, 2021).

People make impulsive purchases when they experience strong emotional response to external stimuli which leads them to buy products without forming an intention to do so (Verplanken et al., 2021). Online systems use interface elements which include countdown timers and notification banners and personalized recommendations to create urgent situations that decrease logical thinking and result in increased impulsive buying from users (Nair et al., 2021). E-commerce applications use digital discount stimuli which become stronger through their use of real-time promotions and algorithmic targeting to create increased customer engagement.

Research in Southeast Asia, including Indonesia, demonstrates that promotional intensity serves as a critical factor which determines how young consumers shop online. Indonesian research demonstrates that e-commerce promotions lead to increased impulse purchasing among university students who frequently use online shopping platforms (Ramadani et al., 2023; Putra & Hidayat, 2022). However, the existing research treats promotional activity as a single unified construct which prevents researchers from studying how different digital discount formats specifically affect impulsive purchasing behavior.

Different discount mechanisms may trigger unique psychological responses because

flash sales create urgency through their time limitations and scarcity-based promotions simulate limited product availability (Wang & Chen, 2021; Huang et al., 2022). The distinct effects of discount presence on impulsive buying behavior require critical understanding because consumers react differently based on how retailers present their discounts to customers.

The research aims to explore how online consumers at e-commerce platforms react to digital discounts through their impulsive purchasing behavior. The research investigates these particular research questions:

1. How does exposure to different types of digital discounts influence impulsive buying behavior among consumers in e-commerce platforms?
2. Which type of digital discount has the strongest influence on impulsive buying in e-commerce?
3. How do different forms of digital discounts, such as flash sales, percentage discounts, cashback, and free shipping, affect consumers' impulsive buying behavior?.

## **LITERATURE REVIEW**

E-commerce platforms employ digital discounts as promotional methods to gain customer interest and increase sales. The various digital promotions which include flash sales and cashback offers and percentage discounts and free shipping options aim to boost customer perceived value which leads to increased purchase activity. According to prior research price-based promotions create a strong impact on consumer purchasing decisions because they raise purchase likelihood while decreasing customers perceived financial risk (Huang et al., 2022; Wang & Chen, 2021).

The impulsive buying behavior describes the unplanned buying of products which people make because their feelings take charge of their decision process (Verplanken et al., 2021). The online shopping experience becomes more appealing through digital elements which include time-sensitive discounts and user alerts and customized product suggestions. The features create a sense of urgency which leads to excitement and results in decreased cognitive control making customers buy products right away (Nair et al., 2021).

The Stimulus–Organism–Response (SOR) framework provides a strong theoretical foundation for explaining this behavior. Customers display impulsive purchasing behavior because digital discounts function as external stimuli which create internal psychological effects that lead to their buying behavior (S) through excitement and urgency and value perception which drives them to make purchases (R). Impulse purchasing stems from automatic decision-making which depends on emotional reactions according to Dual-System Theory (Morozova & Vlaev, 2024).

Empirical studies have consistently demonstrated the relationship between promotional activities and impulsive buying. Paerah et al. (2022) discovered that sales promotions lead to increased impulsive buying behavior among students. Afifah et al. (2023) discovered that live streaming digital features enable users to experience stronger emotional connections which result in their impulsive buying behavior. Suroso et al. (2023) demonstrated through their research that hedonic shopping motivation serves as a vital factor which produces positive emotions that drive people to make impulse purchases.

Young Indonesian university students display strong responsiveness toward digital advertising methods. The research conducted by Ramadani et al. (2023) and Putra & Hidayat (2022) demonstrates that e-commerce promotions have a significant impact on the impulsive buying behavior observed in this demographic group. Most previous studies have treated promotions as a single construct, which leads to their failure in studying how different digital discounts impact business outcomes.

Different discount types create distinct psychological reactions in customers. Flash sales create urgency and scarcity through limited-time availability, which often leads to Fear of Missing Out (FOMO). Customers perceive cashback promotions as attractive future rewards while free shipping offers customers a cost reduction benefit during their online shopping experience. Digital discount types create different effects on impulsive buying behavior because consumers assess value and urgency in distinct ways (Huang et al., 2022; Wang & Chen, 2021).

Digital discounts create a strong impact on impulsive buying behavior according to the research framework and previous research studies. Each discount type will create separate effects which will determine how customers make their buying decisions.

## **RESEARCH METHODOLOGY**

Researchers need to select a research design which matches their study goals and research variable characteristics. The purpose of this research is to study how various digital discounts affect impulsive purchasing patterns on e-commerce websites. The research utilizes a quantitative explanatory method because it aims to evaluate how different promotional activities affect consumer reactions.

Quantitative methods have been used by previous studies to investigate the relationship between online promotions and impulsive buying behavior. The researchers used a quantitative design with PLS-SEM to study how live streaming features impact students' impulsive buying behavior during e-commerce shopping according to Afifah et al. (2023). Paerah et al. (2022) conducted research about sales promotions which affect college students' impulsive buying behavior through regression analysis. The studies show that researchers can use quantitative techniques to assess statistical effects when they define promotional variables in measurable terms.

The research from Suroso et al. (2023) applied quantitative modeling methods to investigate how hedonic shopping motivation relates to impulsive online buying behavior. The research results demonstrate that digital stimuli cause consumer behavioral reactions which researchers can study through structured survey instruments and statistical modeling methods. The research study investigates three measurable constructs which include flash sales and cashback and free shipping offers according to established empirical research methods.

The phenomenological study conducted by Rafsanjani et al. (2023) uses qualitative methods to explore emotional experiences that people have during discount events. The study seeks to establish causal relationships while determining which digital discount method produces the most significant impact. The research questions require a hypothesis-based quantitative explanatory design as the suitable research approach for solution development.

The researchers used a cross-sectional survey method to conduct their explanatory research study. The goal of online impulse buying studies uses explanatory research to establish which variables produce causal links between independent and dependent variables (Afifah et al., 2023; Paerah et al., 2022). A cross-sectional design allows researchers to collect data at one specific moment which helps them study how people currently behave in e-commerce settings.

## **RESULT DISCUSSION**

### **Convergent Validity**

Convergent validity is used to assess how well the indicators of a construct correlate with one another and accurately represent the underlying variable. In PLS-SEM, this is

commonly evaluated using outer loading values, where a value above 0.70 indicates that the indicator has a strong contribution to its construct (Hair et al., 2021). Based on the results of this study, all indicators for digital discount stimuli (X), psychological responses (Y), and impulsive buying behavior (Z) have outer loading values ranging from 0.850 to 0.922, which exceed the recommended threshold. Additionally, all indicators are statistically significant, with T-statistics greater than 1.96 and p-values of 0.000, confirming that each item reliably measures its respective construct.

These findings are consistent with previous research in the context of e-commerce and impulsive buying behavior, where strong indicator reliability is commonly observed when measuring psychological responses and consumer behavior (Afifah et al., 2023; Suroso et al., 2023). This alignment indicates that the measurement model used in this study is valid and robust, and it effectively captures the constructs within the Stimulus–Organism–Response (SOR) framework.

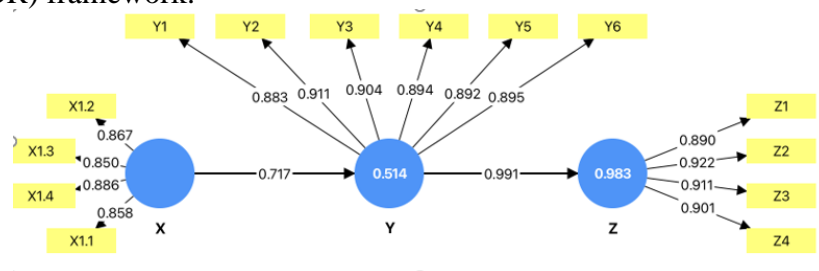


Figure: Graphical Output

### Path Coefficient

Path coefficients in PLS-SEM indicate the strength and direction of relationships between variables in the structural model. These relationships are evaluated using T-statistics and p-values, where a T-statistic greater than 1.96 and a p-value less than 0.05 indicate statistical significance (Hair et al., 2021). The results show that digital discount stimuli have a positive and significant effect on psychological responses ( $\beta = 0.717$ ,  $t = 13.005$ ,  $p < 0.001$ ), supporting Hypothesis 1 (H1). Furthermore, psychological responses have a very strong and significant effect on impulsive buying behavior ( $\beta = 0.991$ ,  $t = 525.144$ ,  $p < 0.001$ ), supporting Hypothesis 2 (H2).

These findings are consistent with prior studies which indicate that promotional stimuli significantly influence consumers' psychological states and subsequently drive impulsive buying behavior (Huang et al., 2022; Wang & Chen, 2021; Verplanken et al., 2021). In addition, the results support the Dual-System Theory proposed by Morozova and Vlaev (2024), which explains that emotional and automatic processes play a dominant role in impulsive decision-making. The high magnitude of the relationship in this study suggests that university students are particularly responsive to psychological triggers created by digital discounts in e-commerce environments.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O /STDEV)	P values
X1.2 <- X	0.867	0.865	0.028	31.131	0.000
X1.3 <- X	0.850	0.848	0.037	22.826	0.000
X1.4 <- X	0.886	0.886	0.024	37.662	0.000
Y1 <- Y	0.883	0.882	0.021	41.131	0.000
Y2 <- Y	0.911	0.910	0.017	52.893	0.000
Y3 <- Y	0.904	0.903	0.018	49.034	0.000
Y4 <- Y	0.894	0.892	0.022	40.225	0.000
Y5 <- Y	0.892	0.892	0.019	46.357	0.000
Y6 <- Y	0.895	0.894	0.020	43.895	0.000
Z1 <- Z	0.890	0.889	0.021	41.865	0.000
Z2 <- Z	0.922	0.921	0.015	59.762	0.000
Z3 <- Z	0.911	0.910	0.018	50.459	0.000
Z4 <- Z	0.901	0.900	0.019	47.560	0.000
X1.1 <- X	0.858	0.856	0.029	29.222	0.000

Table: Path Coefficient

### **Measurement Model Evaluation**

The researchers used three methods to test the measurement model by checking its outer loadings and reliability and validity of its constructs. All indicators across three constructs which include digital discount stimuli (X) and psychological responses (Y) and impulsive buying behavior (Z) achieved outer loading values that exceed 0.70. The loadings for X ranged from 0.850 to 0.886 and for Y they ranged from 0.883 to 0.911 and for Z they ranged from 0.890 to 0.922.

The study results showed that all indicators achieved statistical significance because their T-statistics exceeded 1.96 and their p-values reached 0.000 which is less than 0.05. The results show that all measurement items effectively validate and measure their specific constructs. The measurement model establishes convergent validity requirements and enables subsequent structural evaluation.

### **Structural Model Evaluation**

The researchers evaluated the structural model by testing their hypotheses through path coefficients and T-statistics and p-values.

The study found that digital discount stimuli produce a significant and positive impact on psychological responses with a  $\beta$  value of 0.717 and a t value of 13.005 and a p value that is less than 0.001. The result supports H1 because digital discounts lead to noticeable psychological changes in consumers.

Psychological responses create a strong positive impact on impulsive buying behavior according to research which shows a  $\beta$  value of 0.991 and a t value of 525.144 and a p value that is less than 0.001. The result supports H2 because consumers impulsive buying behavior comes from their emotional and cognitive responses.

### **Coefficient of Determination (R<sup>2</sup>)**

The model's explanatory ability was tested through the coefficient of determination measurement (R<sup>2</sup>). The R<sup>2</sup> value for psychological responses (Y) is 0.514, which shows that digital discount stimuli account for 51.4% of the changes in psychological responses. This can be considered a moderate level of explanatory power.

The R<sup>2</sup> value for impulsive buying behavior (Z) equals 0.983, which shows that psychological responses account for 98.3% of the changes in impulsive buying behavior. The model achieves extremely accurate prediction results according to this information.

### **Mediation Analysis**

Researchers investigated how psychological responses act as a mediator between digital discount stimuli and impulsive buying behavior.

The results indicate that digital discount stimuli significantly influence impulsive buying behavior through psychological responses. The two direct paths X to Y and Y to Z show significance which demonstrates that psychological responses operate as a main mediation element between digital discount stimuli and impulsive buying behavior.

H3 is supported because psychological responses function as an essential mediation element within the SOR framework according to the findings.

### **Discussion**

#### **Effect of Digital Discounts on Psychological Responses**

The results of this study show that digital discounts have a positive and significant effect on psychological responses. This indicates that when consumers are exposed to promotional stimuli such as flash sales, cashback, and free shipping, they tend to experience emotional reactions such as excitement, urgency, and perceived value.

Furthermore, this result also aligns with Nair et al. (2021), who found that digital features such as limited-time offers and promotional notifications can create a sense of urgency that influences consumer emotions. In line with the SOR framework, digital

discounts in this study act as external stimuli that successfully activate internal psychological states in consumers.

Thus, the findings confirm that digital discounts are effective not only because of their financial benefits, but also because of their ability to generate psychological engagement among consumers.

### **Effect of Psychological Responses on Impulsive Buying Behavior**

The study reveals that psychological responses have a very strong and significant effect on impulsive buying behavior. This suggests that when consumers experience strong emotional reactions such as excitement or fear of missing out (FOMO), they are highly likely to engage in impulsive purchases.

This finding is strongly aligned with Verplanken et al. (2021), who argue that impulsive buying behavior is primarily driven by emotional and spontaneous reactions rather than rational decision-making. Similarly, Suroso et al. (2023) found that positive emotional states significantly increase the likelihood of impulsive buying in online shopping contexts.

Therefore, the findings reinforce the idea that impulsive buying behavior is largely influenced by consumers' psychological conditions at the moment of decision-making.

### **The Mediating Role of Psychological Responses**

Another important finding of this study is the significant mediating role of psychological responses in the relationship between digital discounts and impulsive buying behavior. The results indicate that digital discounts do not directly influence impulsive buying behavior, but instead operate through psychological responses.

This finding supports the SOR framework, where external stimuli influence behavior indirectly through internal processes. It is also consistent with the findings of Afifah et al. (2023), who demonstrated that digital stimuli such as live streaming features influence impulsive buying through emotional engagement. Similarly, Paerah et al. (2022) found that promotional activities affect consumer behavior by first shaping their internal responses, rather than directly triggering purchases. This highlights the importance of psychological processes as an intermediary mechanism.

However, this study provides a stronger empirical contribution by showing that psychological responses explain a very large proportion of impulsive buying behavior ( $R^2 = 0.983$ ). This suggests that the role of psychological responses in this study is even more dominant compared to some previous research, indicating a potentially stronger effect in the context of university students and digital discount exposure.

Overall, the findings emphasize that the key driver of impulsive buying is not the discount itself, but the emotional and cognitive reactions triggered by the discount.

## **CONCLUSION**

The research shows that university students who shop online demonstrate impulsive buying behavior through their response to various digital discount types. The research results demonstrate that digital discounts function as strong external triggers which produce psychological reactions that include excitement and urgency and increased perceived value. The internal responses which people experience lead them to make unexpected buying choices.

The research demonstrates that psychological responses function as essential mediators which connect digital discounts and impulsive buying behavior. The research shows that digital discounts create the effect of driving customers to make spontaneous purchases because they affect the customer through their emotional and mental state. The research proof shows that psychological reactions drive people to make unplanned purchases.

This research demonstrates how various digital discount methods impact the shopping behavior of customers who shop online. The study shows that companies need to develop promotional strategies which establish emotional connections with customers through their discounting practices. The e-commerce platforms use this approach to boost unplanned purchasing activities while they improve their advertising effectiveness.

## REFERENCES

- Afifah, S. A., Purwihartuti, K., & Nazofatullidya. (2025). The influence of live streaming on impulsive buying behavior toward ready-to-wear clothing products (A survey on TikTok-using students in Bandung area). *Jurnal Maneksi (Management Ekonomi dan Akuntansi)*, 14(2), 617–630.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.
- Huang, L., Zhang, Y., & Wang, L. (2022). The impact of price promotions on consumer behavior in e-commerce: The role of perceived value and urgency. *Journal of Retailing and Consumer Services*, 65, 102–115.
- Morozova, N., & Vlaev, I. (2024). The urge to splurge: Differentiating unplanned and impulse purchases. *International Journal of Market Research*.
- Nair, S. R., Sreedharan, V. R., & Bhattacharya, S. (2021). Digital marketing strategies and their impact on impulsive buying behavior. *Journal of Business Research*, 134, 457–468.
- Paerah, A., Verawaty, & Ismayanti, D. (2024). The effect of e-commerce, sales promotion, and impulse buying behaviour of college students in Indonesia. *Journal of Business and Behavioural Entrepreneurship*, 8(1), 24–30.
- Putra, A., & Hidayat, R. (2022). The influence of e-commerce promotion on impulsive buying behavior among students in Indonesia. *Journal of Digital Marketing Research*, 5(2), 45–58.
- Rafsanjani, M. A., Wulandari, S. S., Wardoyo, D. T. W., Soesatyo, Y., Srisuk, P., & Saphira, H. V. (2025). Unveiling impulsive buying behavior during e-commerce discount events among college students. *International Journal of Emerging Research and Review*, 3(2).
- Suroso, I., Rusdianto, H., & Utami, R. H. (2022). Positive emotions: Hedonistic shopping motivation, college student shopping lifestyle. *Journal of Economics and Public Health*, 1(4), 173–178.
- Wang, X., & Chen, Y. (2021). The role of discount framing and urgency in online consumer purchasing decisions. *Electronic Commerce Research and Applications*, 48, 101–110.