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# THE INFLUENCE OF ONLINE CONVENIENCE, VISUAL APPEAL, AND SALES PROMOTION ON ONLINE IMPULSE BUYING: THE MEDIATING ROLE OF CONSUMER ATTITUDES

1st Dhita Dhora Damayanti
*Doctorate Program of Economics Science, Faculty of Economics and Business*
*Universitas Sebelas Maret*
Surakarta, Indonesia
dhitadhorad@student.uns.ac.id

2nd Budhi Haryanto
*Department of Management, Business and Economics Faculty,*
*Universitas Sebelas Maret*
Surakarta, Indonesia
budhiharyanto@yahoo.com

3rd Lilik Wahyudi
*Department of Management, Business and Economics Faculty,*
*Universitas Sebelas Maret*
Surakarta, Indonesia
lilik.wahyudi@staff.uns.ac.id

4th Catur Sugiarto
*Department of Management, Business and Economics Faculty,*
*Universitas Sebelas Maret*
Surakarta, Indonesia
catursugiarto@staff.uns.ac.id

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**ABSTRACT**

The rise of e-commerce has intensified Online impulse buying behavior, driven by digital stimuli such as convenience, visual s, and promotional content. This study investigates the effects of Online convenience, visual appeal, and sales promotions on Online impulse buying behavior, mediated by consumer attitudes. A quantitative approach was employed with 223 Shopee users. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). Findings reveal that visual appeal and consumer attitudes significantly and positively influence impulse buying. Online convenience negatively affects impulse behavior, while promotions show no direct effect but influence indirectly via attitudes. Consumer attitude serves as a crucial mediator, linking visual appeal and promotions to impulsive behavior. High convenience can reduce emotional spontaneity in purchasing. Impulse buying behavior is more influenced by visual and emotional aspects than by convenience or direct promotional stimuli. Attitude forms a cognitive-affective bridge between digital stimuli and spontaneous consumer actions.

## INTRODUCTION

Impulse buying behavior is one of the most frequently observed phenomena in the context of consumption, both offline and online. Historically, impulse buying was initially defined as a purchase decision made without prior planning before entering a store, triggered by stimuli such as promotions or product displays at the point of sale. [1], [2], [3] However, technological advancements and digitalization have expanded the scope of impulse buying, particularly through e-commerce. With the

emergence of online shopping platforms and social media, impulsive buying behavior has become increasingly effortless and widespread. Online impulse buying is driven by various factors, such as ease of access, interactivity, algorithm-based promotions, and visually appealing displays. [4], [5], [6] This indicates that in the digital context, the stimuli that trigger impulse purchases have become more complex and are deeply integrated into the design of shopping platforms. In the Indonesian context, e-commerce has experienced rapid growth and has become one of the primary channels through which consumers make purchases. Shopee, as one of the most popular e-commerce platforms in Indonesia, has shown a significant increase in user visits and serves as a major medium for online impulse buying behavior. [7] This provides a strong rationale for selecting Shopee as the object of study in research on online impulse purchasing.

This study adopts the *Stimulus-Organism-Response* (SOR) framework and *Cognitive Emotion Theory* (CET). The SOR model explains that external stimuli trigger internal reactions within the individual (the organism), which in turn influence consumer behavioral responses. [8], [9] In this context, online convenience, visual appeal, and sales promotion are positioned as stimuli, while attitudes toward impulse buying represent the organism, and impulse buying behavior constitutes the response. *Cognitive Emotion Theory (CET)* is employed to strengthen this model, as it explains that consumer emotions are formed through cognitive evaluations of received stimuli. [10], [11] Accordingly, online impulse buying behavior is the result of an interaction between cognitive perceptions and emotional reactions to the digital shopping environment. In addition, several studies have shown that attitudes toward impulse buying play a significant mediating role in influencing consumers' purchase intentions [12], [13], [14]. These attitudes are shaped by cognitive evaluations, such as convenience, visual appeal, and promotions, which subsequently influence impulsive purchase decisions. Therefore, consumer attitudes represent a critical element that must be examined in understanding the formation of impulsive buying behavior.

Nevertheless, previous research findings have indicated inconsistencies in the direct influence of digital stimuli on online impulse buying. Several studies have shown that variables such as website quality, visual appeal, and promotions do not always have a significant direct effect [15], [16]. Therefore, it is important to investigate the potential existence of mediating variables that bridge these relationships. This study aims to examine a model of online impulse buying that comprises stimuli (online convenience, visual appeal, and sales promotion), the organism (attitudes toward impulse buying), and the response (online impulse buying behavior). By employing the SOR and CET theoretical approaches and considering the mediating role of attitudes, this research is expected to offer both theoretical and practical contributions to the understanding of impulsive buying behavior in the digital context of Indonesia

## RESEARCH METHODS

This study employs a quantitative, causal approach with the primary objective of examining the relationships among digital stimulus variables (online convenience, visual appeal, and sales promotion) and online impulse buying behavior, as well as testing the mediating role of attitudes toward impulse buying. The quantitative approach is chosen for its ability to provide an objective depiction of the relational patterns among constructs within the model, which is developed based on the *Stimulus-Organism-Response (SOR)* and *Cognitive Emotion Theory (CET).*

The population in this study consists of active users of the Shopee e-commerce platform in Indonesia. According to data from Databoks in 2023, Shopee is the most visited online shopping platform in the country. This indicates that Shopee is a relevant setting for observing the phenomenon of online impulse buying. The sampling technique employed is purposive sampling, with the criteria that respondents must be Shopee users who have made at least one online purchase within the past three

months. A total of 223 valid responses were collected from various regions across Indonesia and included in the analysis.

The data collection instrument was developed in the form of an online questionnaire using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The variable of online convenience was measured using dimensions of access, search, evaluation, transaction, ownership, and post-ownership, adopted from the measurement developed by Jiang et al. (2013), which has been applied in similar online shopping studies.[17] The visual appeal variable was measured based on perceptions of website visual elements such as aesthetics, layout, and overall visual impression, adapted from the scale by Lee et al. (2022).[18] Meanwhile, the sales promotion variable included responses to discounts, flash sales, bundling, and exclusive offers, in accordance with the indicators proposed by Karbasivar & Yarahmadi (2011).[19] The variable of attitudes toward online impulse buying, which serves as a mediating factor in this model, refers to the cognitive and affective aspects of respondents' responses to their online impulsive shopping experiences. The attitude indicators were adapted from the scale developed by Liang et al. (2021which explicitly distinguishes between consumers' rational evaluations and emotional responses toward impulsive behavior.[20] Meanwhile, the dependent variable, online impulse buying behavior, was measured using the scale developed by Park et al. (2012), which assesses the tendency to make spontaneous, unplanned purchases.[21]

The data analysis technique employed in this study is *Partial Least Squares Structural Equation Modeling (PLS-SEM)*, conducted using the SmartPLS software. PLS-SEM was chosen as it is well-suited for testing models involving latent variables, mediating relationships, and non-normal data distributions, as well as for handling complex model structures. The analysis stages include the evaluation of the *outer model* to assess construct validity and reliability through indicator loadings, *Average Variance Extracted (AVE)*, and *Cronbach's alpha*; and the evaluation of the inner model to examine path coefficients among variables, along with *mediation* testing using the bootstrapping method to assess indirect effects. With the SOR and CET theoretical frameworks, this study is expected to explain the process of forming online impulsive purchasing behavior, mediated by consumer attitudes toward various digital stimuli, as well as provide empirical contributions to the understanding of consumer behavior in the context of Indonesian e-commerce.

## RESULTS AND DISCUSSION

### Results

**Table 1 Direct Effect**

| | Original Sample | t Statistic | p Values |
|---|---|---|---|
| OC -> OIB | -0,387 | 8,628 | 0.000* |
| VA -> OIB | 0,447 | 9,378 | 0.000* |
| Prom -> OIB | 0,094 | 1,646 | 0,100 |
| Attitude -> OIB | 0,437 | 8,573 | 0.000* |

Note: OC = Online Convenience; VA = Visual Appeal; Prom = Promotion; OIB = Online Impulse Buying

* significant at *p-value* < 0,001

The results of the analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM) indicate significant effects of several variables on Online Impulse Buying (OIB). The variable Online Convenience (OC) has a significant negative effect on OIB, with an original sample value of -0.387, a *t-statistic* of 8.628, and *a p-value* of 0.000. This suggests that the higher the level of convenience in online shopping, the lower the tendency for impulsive purchases. Conversely, Visual Appeal (VA) has

a significant positive effect on OIB (*original sample* value = 0.447; *t-statistic* = 9.378; *p-value* = 0.000), indicating that attractive visual displays can enhance consumers' impulsive buying behavior. Similarly, Attitude toward Online Impulse Buying shows a significant positive effect on OIB, with an *original sample* value of 0.437 and a *t-statistic* of 8.573 (*p-value* = 0.000), suggesting that the more favorable consumers' attitudes are toward impulsive buying, the more likely they are to make spontaneous purchases. Meanwhile, the Promotion (Prom) variable does not exhibit a significant effect on OIB, with a *p-value* of 0.100 (> 0.001), although the direction of the effect is positive (original sample value = 0.094). These findings imply that not all promotional efforts directly drive consumers' impulsive buying behavior on online platforms, and that internal factors and visual appeal play a more dominant role in shaping such decisions.

**Table 2 Indirect Effect**

| | Original Sample | t Statistic | p Values |
|---|---|---|---|
| OC -> OIB | -0,387 | 8,628 | 0.000* |
| OC -> Attitude -> BIO | 0,044 | 1,952 | 0,052 |
| VA -> OIB | 0,447 | 9,378 | 0.000* |
| VA -> Attitude -> BIO | 0,076 | 3,953 | 0.000* |
| Prom -> OIB | 0,094 | 1,646 | 0,100 |
| Prom -> Attitude -> BIO | 0,247 | 7,531 | 0.000* |

Note: OC = Online Convenience; VA = Visual Appeal; Prom = Promotion; OIB = Online Impulse Buying

* significant at *p-value < 0,001*

In addition to the direct effects, the analysis also reveals the presence of indirect effects through the mediating variable of Attitude toward Online Impulse Buying. The mediation path from **Online Convenience → Attitude → OIB** shows a t-statistic of 1.952 with a p-value of 0.052, indicating that the indirect effect is not statistically significant. In contrast, the path from **Visual Appeal → Attitude → OIB** demonstrates a significant mediating effect, with a t-statistic of 3.953 and a p-value of 0.000. Similarly, the indirect effect of **Promotion → Attitude → OIB** is also statistically significant (t = 7.531; p = 0.000). These findings suggest that consumer attitudes toward impulse buying play a crucial role in mediating the effects of visual appeal and promotion on online impulse buying behavior. However, this is not the case for Online Convenience, which shows a direct negative effect on impulse buying and no significant mediating effect. Thus, attitude functions as an important psychological mediator that amplifies the influence of visual and promotional stimuli on consumers' tendency to make spontaneous purchases on online platforms.

**Discussion**

The findings of this study indicate that the variable of online convenience has a significant negative effect on online impulse buying. This result contrasts with several previous studies which suggested that convenience can increase the tendency for impulsive purchases. [22], [23] This discrepancy can be explained through Lazarus's *Cognitive Emotion Theory*, which posits that in the absence of emotional pressure or sufficiently strong stimulation, cognitive evaluation alone does not lead to impulsive action. In this context, a high level of convenience may instead foster a sense of

stability and rationality, thereby reducing the emotional drive that typically triggers impulsive buying behavior.

In contrast, the variable of visual appeal was found to significantly encourage online impulse buying, both directly and indirectly through the mediating variable of attitude. The visual appeal of an application or product display can create a pleasurable experience, thereby increasing the likelihood of consumers making unplanned purchases. [10], [24] This aligns with the findings of this study, which indicate that the more visually appealing a platform is, the higher the tendency of users to engage in impulsive buying behavior. Furthermore, attitude toward online impulse buying plays a crucial role as a mediator between visual appeal and impulse buying behavior. The test results indicate that both the direct and indirect effects of visual appeal are significant and in the same direction, thus falling under the category of complementary partial mediation.[25], [26] This implies that visual appeal not only creates a favorable first impression but also shapes a positive attitude that reinforces the impulse to make spontaneous purchases.

Meanwhile, the promotion variable does not have a statistically significant direct effect on online impulse buying. Although the direction of the effect is positive, the significance level does not meet the statistical threshold. This can be explained by the phenomenon of promotional fatigue, in which consumers are exposed to promotions so frequently that they lose the element of surprise that typically triggers impulsive behavior.[27] Overused and generic promotions are perceived as less effective in stimulating impulsive actions compared to emotional and visual elements. Nevertheless, an interesting finding emerged in the analysis of the indirect effect of promotion through the attitude variable. The results indicate that attitude significantly mediates the relationship between promotion and online impulse buying. In other words, effective promotions do not directly trigger impulsive purchases but must first shape a positive consumer attitude. This is supported by Liu and Xie (2020), who stated that affective attitudes formed through discount promotions can lead to impulsive buying behavior in the context of omni-channel retail. The variable of attitude toward online impulse buying was found to have a direct, positive, and significant effect on impulsive buying behavior. A positive attitude, such as perceiving impulse buying as enjoyable, acceptable, and harmless, has strong potential to increase the tendency to make unplanned purchases. This finding reinforces previous research, which suggests that the cognitive and affective dimensions of consumer attitudes are closely linked to impulsive purchasing behavior. [28], [29]

Overall, these findings emphasize that in the context of online shopping, visual stimuli and consumer attitudes play a more dominant role than cognitive stimuli such as promotions or convenience. Therefore, marketing strategies that focus on creating pleasant visual experiences and fostering positive attitudes through emotional value are likely to be more effective in encouraging impulse purchases. The practical implication of this study suggests that e-commerce platform managers, such as those at Shopee, should prioritize visual design and affective approaches in attracting consumers, rather than relying solely on promotions and convenience features.

## CONCLUSION

This study demonstrates that in the context of online impulse buying through e-commerce platforms such as Shopee, not all digital stimuli have a direct and significant impact on impulsive buying behavior. Visual appeal and attitudes toward impulse buying were found to have a direct and significant

positive effect on impulsive purchases. In contrast, online convenience showed a significant negative effect, indicating that when consumers feel too comfortable and rational, their impulsive urges tend to diminish. Sales promotion did not have a significant direct effect, but it exerted an indirect influence through the mediating role of attitude. These findings reinforce the critical role of attitude as a psychological mediator linking external stimuli to behavioral responses. Therefore, in addressing the research questions, it can be concluded that consumer attitude serves as the key mechanism bridging the influence of visual appeal and promotion on impulse buying, while online convenience should be managed in a way that does not reduce emotional urgency.

Future research is recommended to explore other potential mediating or moderating variables, such as spontaneous emotions, self-control, or consumer personality types. In addition, a longitudinal approach should be considered to better understand the dynamic changes in attitudes and impulse buying behavior over time. E-commerce industry practitioners are also encouraged to emphasize visual and emotional approaches in their marketing strategies, rather than relying solely on convenience features or repetitive promotional tactics.

## REFERENCES

[1] V. T. Clover, "Relative Importance of Impulse-Buying in Retail Stores," *J. Mark.*, vol. 15, no. 01, pp. 66–70, 1950, doi: 10.1177/00222429500150011.

[2] W. Applebaum, "Studying Customer Behavior in Retail Stores," *J. Mark.*, vol. 16, no. 02, p. 172, 1951, doi: 10.2307/1247625.

[3] L. Aragoncillo and C. Orús, "Impulse Buying Behaviour: An *Online* -Offline Comparative And The Impact Of Social Media," *Spanish J. Mark. - ESIC*, vol. 22, no. 01, pp. 42–62, 2018, doi: 10.1108/SJME-03-2018-007.

[4] L. Y. S. Lo, S. W. Lin, and L. Y. Hsu, "Motivation For *Online* Impulse Buying: A Two-Factor Theory Perspective," *Int. J. Inf. Manage.*, vol. 36, no. 05, pp. 759–772, 2016, doi: 10.1016/j.ijinfomgt.2016.04.012.

[5] I. L. Wu, K. W. Chen, and M. L. Chiu, "Defining Key Drivers Of *Online* Impulse Purchasing: A Perspective Of Both Impulse Shoppers And System Users," *Int. J. Inf. Manage.*, vol. 36, no. 03, pp. 284–296, 2016, doi: 10.1016/j.ijinfomgt.2015.11.015.

[6] S. Kaur, A. K. Lal, and S. S. Bedi, "Do Vendor Cues Influence Purchase Intention of *Online* Shoppers? An Empirical Study Using S-O-R Framework," *J. Internet Commer.*, vol. 16, no. 04, pp. 343–363, 2017, doi: 10.1080/15332861.2017.1347861.

[7] A. Ahdiat, "Pertumbuhan Nilai Transaksi Harbolnas 2013-2023," Databoks. [*Online* ]. Available: https://databoks.katadata.co.id/infografik/2024/12/16/pertumbuhan-nilai-transaksiharbolnas-2013-2023

[8] A. Mehrabian and J. A. Russell, *An Approach to Environmental Psychology*. The MIT Press, 1974. [*Online* ]. Available: https://psycnet.apa.org/record/1974-22049-000

[9] T. K. H. Chan, C. M. K. Cheung, and Z. W. Y. Lee, "The State of *Online* Impulse-Buying Research: A Literature Analysis," *Inf. Manag.*, vol. 54, no. 02, pp. 204–217, 2017, doi: 10.1016/j.im.2016.06.001.

[10] T. Verhagen and W. Van Dolen, "The Influence Of *Online* Store Beliefs On Consumer *Online* Impulse Buying: A Model And Empirical Application," *Inf. Manag.*, vol. 48, no. 08, pp. 320–327, 2011, doi: 10.1016/j.im.2011.08.001.

[11] X. Xu, L. Wang, and K. Zhao, "Exploring Determinants of Consumers' Platform Usage in 'Double Eleven' Shopping Carnival in China: Cognition and Emotion from an Integrated Perspective," *Sustain.*, vol. 12, no. 07, pp. 1–18, 2020, doi: 10.3390/su12072790.

[12] W. Shu and Y. H. Chuang, "The Perceived Benefits Of Six-Degree-Separation Social Networks," *Internet Res.*, vol. 21, no. 1, pp. 26–45, 2011, doi: 10.1108/10662241111104866.

[13] Redda and E. Habtemichael, "Attitudes towards *Online* Shopping: Application of the Theory of Planned Behaviour," *Acta Univ. Danubius. Œconomica*, vol. 15, no. 02, pp. 148–159, 2018, [*Online* ]. Available: https://journals.univ-danubius.ro/index.php/oeconomica/article/view/5290/5219%0Ahttps://journals.univ-danubius.ro/index.php/oeconomica/article/view/5290

[14] S. Shim, M. A. Eastlick, S. L. Lotz, and P. Warrington, "An *Online* Prepurchase Intentions Model: The Role Of Intention To Search," *J. Retail.*, vol. 77, no. 03, pp. 397–416, 2001, doi: 10.1016/s0022-4359(01)00051-3.

[15] I. Febrilia and A. Warokka, "Consumer traits and situational factors: Exploring the consumer's *Online* impulse buying in the pandemic time," *Soc. Sci. Humanit. Open*, vol. 4, no. 1, p. 100182, 2021, doi: 10.1016/j.ssaho.2021.100182.

[16] S. Kimiagari and N. S. Asadi Malafe, "The role of cognitive and affective responses in the relationship between internal and external stimuli on *Online* impulse buying behavior," *J. Retail. Consum. Serv.*, vol. 61, no. February, p. 102567, 2021, doi: 10.1016/j.jretconser.2021.102567.

[17] L. (Alice) Jiang, Z. Yang, and M. Jun, "Measuring Consumer Perceptions Of *Online* Shopping Convenience," *J. Serv. Manag.*, vol. 24, no. 02, pp. 191–214, 2013, doi: 10.1108/09564231311323962.

[18] Y. Y. Lee, C. L. Gan, and T. W. Liew, "The Impacts of Mobile Wallet App Characteristics on *Online* Impulse Buying: A Moderated Mediation Model," *Hum. Behav. Emerg. Technol.*, vol. 2022, no. 01, 2022, doi: 10.1155/2022/2767735.

[19] A. Karbasivar and H. Yarahmadi, "Evaluating Effective Factors on Consumer Impulse Buying Behavior," *Asian J. Bus. Manag. Stud.*, vol. 02, no. 04, pp. 174–181, 2011, [*Online* ]. Available: https://idosi.org/ajbms/2(4)11/4.pdf

[20] C. C. Liang, A. P. I. Yu, and T. H. Le, "Customers Focus And Impulse Buying At Night Markets," *J. Retail. Consum. Serv.*, vol. 60, no. 168, p. 102434, 2021, doi: 10.1016/j.jretconser.2020.102434.

[21] E. J. Park, E. Y. Kim, V. M. Funches, and W. Foxx, "Apparel Product Attributes, Web Browsing, And E-Impulse Buying On Shopping Websites," *J. Bus. Res.*, vol. 65, no. 11, pp. 1583–1589, 2012, doi: 10.1016/j.jbusres.2011.02.043.

[22] T. Adelaar, S. Chang, K. M. Lancendorfer, B. Lee, and M. Morimoto, "Effects Of Media Formats On Emotions And Impulse Buying Intent," *J. Inf. Technol.*, vol. 18, no. 04, pp. 247–266, 2003, doi: 10.1080/0268396032000150799.

[23] Y. Lina, D. Hou, and S. Ali, "Impact of *Online* convenience on generation Z *Online* impulsive buying behavior: The moderating role of social media celebrity," *Front. Psychol.*, vol. 13, no. August, pp. 1–17, 2022, doi: 10.3389/fpsyg.2022.951249.

[24] E. C. S. Ku and C. Der Chen, "Flying On The Clouds: How Mobile Applications Enhance Impulsive Buying Of Low Cost Carriers," *Serv. Bus.*, vol. 14, no. 01, pp. 23–45, 2020, doi: 10.1007/s11628-019-00407-3.

[25] R. M. Baron and D. A. Kenny, "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations," *J. Pe~nality Soc. Psychol.*, vol. 51, no. 06, pp. 1173–1182, 2018, doi: 10.1177/1350506818764762.

[26] C. Nitzl, J. L. Roldan, and G. Cepeda, "Mediation Analysis In Partial Least Squares Path Modelling, Helping Researchers Discuss More Sophisticated Models," *Ind. Manag. Data Syst.*, vol. 116, no. 09, pp. 1849–1864, 2016, doi: 10.1108/IMDS-07-2015-0302.

[27] J. Xie and S. M. Shugan, "Electronic Tickets, Smart Cards, And *Online* Prepayments: When

And How To Advance Sell," *Mark. Sci.*, vol. 20, no. 03, pp. 219–243, 2001, doi: 10.1287/mksc.20.3.219.9765.

[28] T. L. Childers, C. L. Carr, J. Peck, and S. Carson, "Hedonic And Utilitarian Motivations For *Online* Retail Shopping Behavior," *J. Retail.*, vol. 77, no. 04, pp. 511–535, 2001, doi: 10.1016/S0022-4359(01)00056-2.

[29] X. Zheng, J. Men, F. Yang, and X. Gong, "Understanding impulse buying in mobile commerce: An investigation into hedonic and utilitarian browsing," *Int. J. Inf. Manage.*, vol. 48, no. October 2018, pp. 151–160, 2019, doi: 10.1016/j.ijinfomgt.2019.02.010.