

UNDERSTANDING IMPULSIVE BUYING IN E-COMMERCE: THE ROLE OF INFORMATION CONVENIENCE AND UTILITARIAN VALUE

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Abstract. This study aims to analyze the effect of information convenience on impulsive buying, with utilitarian value as a mediating variable. This study adopts the Theory of Planned Behavior (TPB), which explains that an individual's behavior is influenced by three factors: behavioral beliefs, subjective norms, and perceived behavioral control. Information convenience is positioned as a form of behavioral belief that influences impulsive buying, mediated by utilitarian value. This research employs a quantitative survey method with purposive sampling technique, and data were collected through a semantic differential scale-based questionnaire. The data were analyzed using Covariance-Based Structural Equation Modeling (CB-SEM). Although previous studies have examined various determinants of impulsive buying, the specific role of information convenience in shaping utilitarian value and its subsequent influence on impulsive purchasing has not been comprehensively explored. Existing research has largely focused on functional attributes such as product information, money savings, or ease of use, yet these factors have shown insignificant effects in earlier findings. This gap indicates that the mechanism linking information convenience to impulsive buying behavior remains insufficiently addressed.

Keywords: Information convenience, Utilitarian value, Impulsive buying.

1 Introduction

The development of digital technology has fundamentally changed consumer behavior in shopping, especially through online platforms. Consumers not only want convenience in online shopping, but also demand easy access to information about a product. In this context, e-commerce websites and applications play an important role in shaping consumers' perception of utilitarian value, which in turn influences their tendency to make impulsive purchases.

Recent findings on utilitarian value in influencing impulsive purchasing behavior reveal that key functional factors such as product information, money savings, convenience, and ease of use were not significant predictors, highlighting a substantial limitation in prior research and indicating the need to explore other, more contextually relevant factors in the digital environment (Silalahi et al., 2025). This limitation is critical, especially as consumer decision-making increasingly shifts toward online ecosystems where information flow is rapid, abundant, and easily accessible.

Responding to this research gap, the present study seeks to investigate the role of information accessibility in driving impulsive buying, with utilitarian value positioned as a mediating variable. This direction is further reinforced by the findings of Esmaeilzadeh et al. (2025), who identified a significant relationship between information accessibility and utilitarian value. Therefore, this study aims not only to extend prior empirical insights but also to address the urgent need for a more nuanced understanding of how ease of information access may stimulate impulsive purchasing behavior through its impact on consumers' perceived utilitarian value.

This study uses the Theory of Planned Behavior (Ajzen, 1991), which argues that individual behavior is influenced by purchase intention, which is formed by three main factors, namely attitude towards behavior, subjective norms, and perceived control. In the context of this study, the Theory of Planned Behavior is an appropriate basis for explaining

the relationship between e-commerce system factors and impulsive buying. Antecedent variables such as information convenience can be positioned as behavioral beliefs that shape the evaluation of online shopping platforms, which are then translated into utilitarian value as attitudes towards behavior.

Pavlou (2003) shows that information quality and source credibility increase perceived usefulness, which ultimately influences consumers' electronic systems. Zheng et al. (2013) also found that information quality and system quality have a positive impact on perceived consumer benefits. Kang & Namkung (2019) reinforce these findings by showing that information quality and source credibility significantly influence perceptions of usefulness and ease of online shopping. This is in line with DeLone & McLean (2003), who state that information quality directly influences net benefits for users, including utilitarian value. Amsl et al. (2023) emphasize that presenting products with good information quality increases perceived usefulness and facilitates decision making, thereby strengthening utilitarian value. Thus, the first hypothesis in this study is: Information convenience significantly affects utilitarian value.

Yang et al. (2021) found that in the context of social commerce, the perception of utilitarian value significantly influences impulsive buying. Redine et al. (2023) meta-analytic and systematic research also places value perception, particularly utilitarian value, as a predictor of impulsive buying in the digital environment. Xue et al. (2024) tested the influence of technical and situational cues and mapped how technical and situational cues influence impulsive buying. Although some studies suggest that hedonistic value sometimes plays a greater role than utilitarian value in triggering impulsive purchasing behavior, the overall evidence supports that utilitarian value has a significant effect on impulsive purchasing in the context of e-commerce, with the caveat that the strength of the influence of factors depends on product type, stimulus intensity, and individual moderation Kang & Namkung (2019). Thus, the first hypothesis in this study is: Utilitarian value has a positive effect on impulsive buying.

2. Research Method

This study uses a survey method with a quantitative approach. According to Creswell, survey research aims to provide a quantitative description of trends, attitudes, and behaviors of a population, while testing the relationship between variables through representative sample analysis. The quantitative approach was chosen because it is in line with the research objective, which is to test the relationship between information convenience and impulsive buying with utilitarian value as a mediator.

The research population consists of e-commerce consumers in Indonesia, particularly active users of online shopping platforms such as Shopee. The sampling technique used is purposive sampling, with the following criteria: (1) minimum age of 18 years, (2) having made an online purchase within the last three months, and (3) still actively using e-commerce applications. The sample size was determined based on the guidelines (Sekaran & Bougie, 2021), namely five to ten times the number of indicators used. With an estimate the parameters measured by the indicators in this study, the minimum sample size was 30 respondents. To increase data reliability and reduce potential bias, the number of respondents was set at 150 people. The research instrument was an online questionnaire consisting of two parts:

(1) respondent demographic data, including age, gender, highest level of education, and frequency of e-commerce use; and (2) statements to measure the research variables. All variables were measured using a semantic differential scale with a range of 1-10, where a

score of 1 represented negative and 10 represented positive. This scale was chosen because it is able to capture richer consumer evaluations compared to the Likert scale (Kotler & Keller, n.d.).

Data collection was carried out by distributing questionnaire links through social media, online shopping forums, and e-commerce user communities. The collected data was then analyzed using *Covariance Based Structural Equation Modeling* (CB-SEM) to test and validate the theoretical research model. CB-SEM was chosen because it can capture the causal relationships between variables while considering measurement validity and structural model suitability (Kline, 2015; Hair et al., 2019). The analysis was conducted using AMOS 24 and IBM SPSS 27 software, with stages including reliability and validity testing of the instruments and the relationships between variables.



Source: Research results 2025

Fig 1. Research Model

Table 1. Operationalization of Variables

Information Convenience	Accurate product information	1	IC	(Yoo et al., 2023)
Information Convenience	Credible and relevant information	2	IC	(Yoo et al., 2023)
Information Convenience	Information is updated in a timely manner	3	IC	(Yoo et al., 2023)
Information Convenience	Information supports purchasing decisions	4	IC	(Yoo et al., 2023)
Utilitarian Value	The platform helps find products with fast	V1	U	(Evelina et al., 2020)
Utilitarian Value	The platform is useful for user needs	V2	U	(Evelina et al., 2020)
Utilitarian Value	The platform saves time	V3	U	(Evelina et al., 2020)
Utilitarian Value	Platform minimal disruption	V4	U	(Evelina et al., 2020)
Utilitarian Value	Reliable platform	V5	U	(Evelina et al., 2020)
Impulsive Buying	Spontaneous desire to buy due to digital stimuli	B1	I	(Indriastuti et al., 2024)

Impulsive Buying	Unplanned purchases that occur quickly	B2 I	(Indriastuti et al., 2024)
Impulsive Buying	Emotional urge to purchase a product	B3 I	(Indriastuti et al., 2024)
Impulsive Buying	Regret after making a purchase	B4 I	(Indriastuti et al., 2024)

Sources: Research results 2025

3. Results and Discussion

The respondents in this study were 150 respondents, with details of 60 men and 90 women, 10 people under 20 years old, 105 people 20-25 years old, 35 people 25-30 years old, and none over 30 years old. The frequency of shopping on Shopee in the last 3 months with an intensity of 1-2 times amounted to 30 people, 3-4 times amounted to 100 people, and more than 5 times amounted to 20 people.

This research used covariance-based Structural Equation Modeling (SEM) as the analysis method with the help of AMOS 24. This analysis involved the development of a model that had been conceptualized beforehand based on the research hypothesis. After the data was collected, a preliminary check was carried out to ensure that the data was complete and that the criteria were met and suitable for SEM analysis.

Furthermore, in conducting the Structural Equation Modeling (SEM) analysis, a series of assumption tests were carried out to ensure that the dataset met the analytical requirements. The first step involved assessing data normality both at the univariate and multivariate levels to verify that the distribution of the data aligned with normality standards (Hair et al., 2019).

Once normality had been confirmed, the analysis proceeded to outlier detection, which serves to identify extreme observations that could potentially distort the model estimation (Hair et al., 2019). The outlier detection process consisted of two stages: univariate and multivariate testing.

The results of the univariate outlier test indicate that the minimum and maximum Z-scores fall within the range of -1.45103 to 1.66398, showing that no values exceed the ± 3 threshold. Thus, no univariate outliers were detected in the dataset.

Subsequently, multivariate outlier detection was performed using the Mahalanobis Distance, which was then compared against the Chi-square critical value corresponding to the appropriate degrees of freedom. The highest Mahalanobis Distance obtained was 27.052, whereas the Chi-square table value was 55.322. Because the Mahalanobis Distance value is lower than the Chi-square cutoff, it can be concluded that the dataset does not contain multivariate outliers.

Based on the overall test results, the research data met all the basic assumptions of SEM, including normality and freedom from outliers. Therefore, the data was deemed suitable to proceed to the structural model testing stage using the Covariance Based-SEM (CB-SEM) approach with the help of AMOS 24 software.

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Table 3. Measurement, Loadings, CR, and VE

No	Questionnaire Statements	Construct	Indicator	Loading Factor	CR	VE
	The product information displayed is accurate and reflects the actual condition actual conditions	Ease of Information	IC1	0.889	0.94572	0.79032
	The information presented is reliable and relevant to the needs		IC2	0.914		
	Product information is updated timely		IC3	0.923		
	The available information helps in					

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No	Questionnai re Statements	Construct	Indicator	Loading Factor	CR	VE
	making purchasing decisions		IC4	0.927		
	The platform helps find products		UV1	0.893		

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	The platform is very useful meets needs	Utilitarian Value	UV2	0.881	0.95603	0.79745
	The platform makes shopping easier and saves time		UV3	0.873		
	The platform operates stably and does not experience frequent interruptions		UV4	0.88		
	The platform is reliable for conducting online transactions safely		UV5	0.877		
	Often feel compelled to make spontaneous purchases when opening the app Shopee	Impulsive Buying	IB1	0.89	0.93002	0.74304
	Sometimes buying products without planning		IB2	0.745		
	Often buying products due to emotional impulses, not because of necessity		IB3	0.918		
	Ever regretted purchasing a product spontaneously		IB4	0.862		

Source: Research results 2025

After conducting the SEM test, the next step is to test validity and reliability. Validity refers to the extent to which the measurement can define the intended concept, while reliability focuses on the consistency of the measurement. Based on Table 3, all indicators have a loading factor > 0.70 , CR > 0.70 , and VE > 0.50 .

Figure 2 presents the full Structural Equation Modeling (SEM) measurement and structural model, which illustrates the relationships among Information Convenience (IC), Utilitarian Value (UV), and Impulsive Buying (IB). The model includes multiple observed indicators for each latent construct, showing how well each item reflects its underlying variable.

The Goodness of Fit indices reported alongside the model indicate that the SEM model demonstrates an acceptable to excellent fit. The Chi-square value of 55.322 with a corresponding CMIN/df of .878 falls below the recommended threshold of < 3.00 , suggesting a well-fitting model. Fit indices such as GFI = .948, AGFI = .924, CFI = 1.000, and TLI = 1.005 surpass the conventional cutoff value of .90, further supporting the model's strong goodness of fit. Additionally, the RMSEA value of .000 indicates a close fit to the data, reflecting minimal approximation error.

Overall, these results confirm that the measurement model is reliable and valid, and the structural paths can be meaningfully interpreted. The diagram visually demonstrates the positive and significant relationships among the constructs, supporting the hypothesized influence of Information Convenience on Utilitarian Value, and subsequently on Impulsive Buying behavior.

Goodness of Fit	Analysis	Cut-off Value	Model
Results			Evaluation
Chi-square	55.322	Expected to be small	
CMIN/DF	63	< 2.000	Fit
AGFI	0.924	> 0.90	Fit
GFI	0.948	> 0.90	Fit
TLI	1.005	> 0.95	Fit
CFI	1.000	> 0.95	Fit
RMSEA	0.000	< 0.80	Fit

Source: Research Results 2025

The feasibility of this research model was tested by evaluating the Goodness of Fit, which can be seen in Table 4. A low chi-square value indicates that the SEM model has a good fit. In addition, all indices (GFI, AGFI, TLI, CFI, and RMSEA) meet the cut-off, so the model is declared fit.

Hypothesis testing is conducted to analyze the relationship between latent variables in the research model (Hair et al., 2019). In *Structural Equation Modeling* (SEM), hypothesis testing is conducted through path analysis using AMOS 24 software. The indicators for testing hypotheses in path analysis are by examining the output results of *the critical ratio* or *t-value* and *p-value*. If the p-value is less than 0.05, then the hypothesis can be accepted, while the relationship between variables can be seen from the positive or negative *t-value* negative t-value (Hair et al., 2019). Table 5. Hypothesis Testing

Influencer Relationship		Estimate	C.R.	P
Utilitarian Value	<---	Information	2,71	0.007
		4		
Impulsive Buying	<---	Utilitarian	3.76	0.007
		2		

Source: Research result 2025

Table 5 shows the results of hypothesis testing that indicates the relationship between several variables. There is a significant relationship between Utilitarian Value and Information Convenience with an estimated value of 0.229 and a p-value of 0.007. In addition, the relationship between Impulsive Buying and Utilitarian Value shows a significant relationship with an estimated value of 0.314 and a p-value of 0.007.

This study is able to answer previous research (Silalahi et al., 2025) which showed an insignificant relationship between Utilitarian Value and Impulsive Buying. With the variable of Information Convenience as the main factor of Utilitarian Value, this study successfully shows that when information is presented accurately, relevant, and easily accessible, Utilitarian Value will increase, which in turn significantly triggers Impulsive Buying Behavior. This finding is also in line with (Yoo et al., 2023; Kang & Namkung, 2019), which shows that the quality and ease of access to information can increase consumers' perception of the benefits of online platforms, which in turn strengthens Utilitarian Value. Furthermore, the significant influence of Utilitarian Value on impulsive buying also confirms the research by (Yang et al., 2021) and (Redine et al., 2023), which explains that Utilitarian Value not only functions as a rational basis for purchasing decisions but also triggers impulsive buying behavior when transactions are easy and fast. Thus, these results reinforce that an efficient, informative, and barrier-free shopping experience can encourage impulsive purchasing in a digital environment.

5. Conclusion and Recommendations

This study states that Information Convenience has a positive and significant effect on utilitarian value, and utilitarian value affects Impulsive Buying. Thus, utilitarian value is proven to act as a mediating variable that connects Information Convenience and Impulsive Buying. Overall, the results of this study indicate that Impulsive Buying in a digital environment, or specifically e-commerce, is not only driven by emotional impulses but also by perceptions of utilitarian value and information system efficiency.

This study has limitations. First, data was collected only from one e-commerce platform, Shopee, so the results may not be relevant to other platforms with different characteristics. Second, the use of perception-based surveys has the potential to cause subjective bias. Third, this research model does not have moderating variables, particularly moderating variables in the psychological realm.

Further research needs to test this model on e-commerce platforms other than Shopee in order to improve the generalization of the results. In addition, it is necessary to add moderating variables in the psychological domain, such as self-control, emotion-driven motivation, or others. The aim is to deepen our understanding of the relationship between information convenience and impulsive buying.

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