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# PERCEIVED ENJOYMENT, PERCEIVED RISK, AND SCARCITY MESSAGE ON IMPULSIVE BUYING IN LIVE SHOPPING IN E-COMMERCE

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***ABSTRACT***

*Live shopping has gained significant traction as the e-commerce sector continues to advance, incorporating interactive and real-time features to improve the online shopping experience. This research investigates the impact of perceived enjoyment, perceived risk, and scarcity messages on impulsive buying behavior within live shopping e-commerce. The study employs a descriptive analysis approach with a quantitative methodology. Convenience sampling was utilized to select participants based on predetermined criteria. Data were collected via an online questionnaire using a 1-7 points Likert scale, encompassing 20 indicators. A total of 250 respondents in Jabodetabek who had engaged in impulsive purchases during live shopping participated in the study. The data were analyzed through Structural Equation Modeling (SEM) using the SmartPLS 3.0 software. The results indicate that perceived enjoyment, perceived risk, and scarcity messages have a significant and positive effect on impulsive buying in live shopping environments. These findings provide valuable insights into consumer behavior in live shopping settings, offering strategic implications for enhancing the e-commerce live shopping experience. Moreover, the study suggests directions for future research to further explore these factors in online shopping behavior.*

***Keywords:*** *impulsive buying, live shopping, perceived enjoyment, perceived risk, scarcity message*

## 1. INTRODUCTION

Live shopping, a prominent feature widely utilized by online traders to market their products, is not confined to major marketplaces such as Shopee, Tokopedia, Lazada, and Bukalapak, but also extends to social platforms like Instagram, Facebook, and TikTok. Defined as the process of conducting e-commerce transactions through real-time streaming platforms, live shopping creates a highly interactive virtual space for both streamers and consumers (Xu et al., 2020). This practice can increase product views and store visits by 40% and 20%, respectively, and drive 29% of daily orders (Chew, 2021).

Marketing through live shopping involves streamers (sellers) on streaming platforms conducting live online sessions and providing product information to consumers through two-way communication, thereby generating consumer intent to purchase the products being offered (Ma et.al., 2022). Live shopping excels by offering an interactive and responsive experience between sellers and buyers. During live shopping sessions, products are demonstrated from various perspectives, customer questions are answered in real-time, and entertaining activities are presented to encourage immediate purchases (Wongkitrungrueng & Assarut, 2020). This method alleviates the need for buyers to scroll through products and read descriptions individually, as the host presents the information directly.

Previous studies have shown that in online shopping contexts, impulsive buying can be facilitated by various internal and external factors (Ling & Yazdanifard, 2015). Internal factors include buyer characteristics (Chen & Lee, 2015), emotional states (mood), impulsivity, arousal (Guo et al., 2017; Mishra et al., 2014), and consumer perceptions (Lee et al., 2021). Impulsive buying is more likely to occur when a person's mood is positive (Saad & Metawie, 2015), often enhanced by elements that make the shopping process enjoyable, such as convenience, interactivity, and playfulness (Lin et al., 2022). Additionally, consumer arousal, triggered by scarcity marketing tactics, also influences impulsive buying indirectly (Guo et al., 2017).

External factors, such as environmental stimuli or shopping atmosphere, marketing tactics, and social encouragement, also play a role in impulsive buying. In e-commerce, these include website design (Firdausy & Fernanda, 2021; Liu et al., 2013), layout (Lin & Lo, 2016), visual appeal, ease of use (Verhagen & Dolen, 2011), expertise or professionalism (Li et al., 2022) and information (Xiang et al., 2016). Convenience and a positive shopping environment can enhance consumers' enjoyment and mood, leading to positive assessments and unplanned purchases (Liu et al., 2013). Moreover, interactivity reduces uncertainty about products, allowing users to explore items that interest them (Wang & Wu, 2019). Online store stimuli, such as price promotions and limited offer advertisements, are significant causes of impulsive buying (Liu 2013).

Regarding consumer perception, impulsive buying is more likely when perceived risk is lower, reducing the tendency to make impulsive purchases by nearly 50% Abrar et al. (2017). Perceived enjoyment also promotes impulsive buying, often through a pleasant shopping experience. Determinants of perceived enjoyment include factors such as visual appeal, information fit-to-task (Xiang et al., 2016), attractiveness, expertise (Lee et al., 2021), price attributes, convenience, social influence, and vendor creativity (Lin et al., 2022). By incorporating these factors into live shopping strategies, online retailers can enhance the consumer shopping experience.

This study utilizes the foundational theory of impulsive buying to explore factors influencing impulsive buying in e-commerce live shopping. Stern (1962) posited that impulsive buying arises from the "ease of shopping". He categorizes impulsive buying into four types, from the most intense to the most common: *Pure Impulse, Reminder Impulse, Suggestion Impulse*, and *Planned Impulse*. Stern (1962) also notes that impulsive buying is related to the ease of purchase, the more effort, or resources (money, time, energy) required, the more difficult the purchase.

**Perceived Enjoyment on Impulsive Buying**

Perceived enjoyment is defined as the level of satisfaction consumers feel when making purchases on a particular website (Ulaan et al., 2016). Perceived enjoyment is subjective, as each individual has different feelings even in the same environment (Shiau and Luo, as cited in Lin et al., 2022). Perceived enjoyment is one of the most significant affective reactions associated with impulsive buying behavior online, alongside impulsiveness, pleasure, and arousal (Chan et al., 2017). Among the factors influencing perceived enjoyment are convenience (Primadewi et al., 2022), interactivity (Lin et al., 2022), and perceived usefulness (Lee et al., 2021). According to Lin et al. (2022), Saad and Metawie (2015), Lee & Chen (2021) perceived enjoyment directly encourages the intention to make impulsive purchases. Based on the discussion, the research hypothesis is:
H1: Perceived enjoyment positively affects impulsive buying.

**Perceived Risk on Impulsive Buying**

According to Peter and Tarpey, perceived risk is defined as the probability that a product purchase will result in consumer dissatisfaction (as cited in Abrar et al. (2017). Based on the research by

Abrar et al. (2017), four components of perceived risk namely financial risk, product risk, convenience risk, and non-delivery risk are negatively related to the tendency for online impulsive buying. In this study, the researchers limit the scope to two components of perceived risk: product risk and convenience risk. Several studies have found that perceived risk negatively influences impulsive buying (Abrar et al., 2017; Lee & Yi, 2008). Consistent with this, Mishra et al. (2014) found that perceived risk significantly affects impulsive buying behavior. Based on the explanation, the following hypothesis can be established:
H2: Perceived risk negatively affects impulsive buying.

**Scarcity Message on Impulsive Buying**
Scarcity message is a promotional message that highlights the limited availability of the advertised product (Aggarwal et al., 2011). Perceived scarcity can trigger a heightened sense of competition, leading to an increased purchase intention (Broeder & Wentink, 2022), thereby scarcity messages positively impact online purchases (Heriyanto et al., 2021). Additionally, scarcity messages can enhance consumer enjoyment, consequently encouraging impulsive buying behavior (Song et al., 2015). Scarcity messages were found to have a positive effect on impulsive buying (Akram et al., 2018; Goetha, 2020; Song et al., 2015).
H3: Scarcity message positively affects impulsive buying.

Based on the previously explained relationships between the variables, the research model is illustrated in (Figure 1).

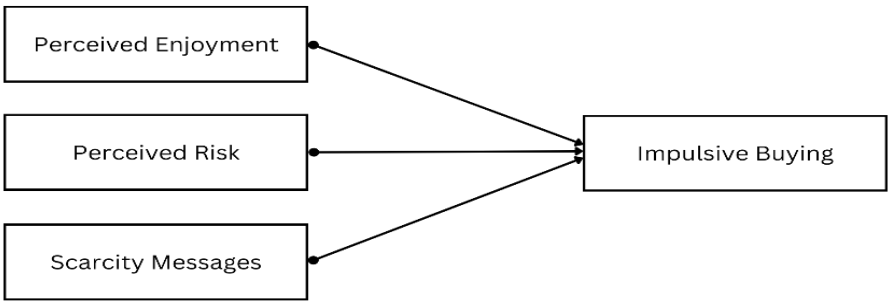


Figure 1. Research Model

## 2. RESEARCH METHOD

This study employs Structural Equation Model Partial Least Square (SEM-PLS) with SmartPLS 3 tool. A descriptive cross-sectional research design is used, conducted from August 2023 to June 2024. The sample consists of visitors and buyers to e-commerce live shopping events residing in Jabodetabek, selected using convenience sampling. An online questionnaire was distributed via *Google Forms* to respondents who have previously watched and made purchases through e-commerce live shopping. 250 valid questionnaires were collected. The demographics of the respondents are grouped into six categories, namely gender, age, occupation, income, e-commerce preference, product preference (Table 1).

Table 1. Demographic characteristics of the sample used in the study

| | Profile | Frequency | Percentage % |
|---|---|---|---|
| Gender | Female | 197 | 79% |
| | Male | 53 | 21% |
| Age | 17-25 years old | 168 | 67% |
| | 26-35 years old | 55 | 22% |
| | 36-45 years old | 24 | 10% |

| | | | |
|---|---|---|---|
| | 46-50 years old | 3 | 1% |
| Occupation | Students | 143 | 57% |
| | Civil Servants | 49 | 20% |
| | Entrepreneurs | 29 | 12% |
| | Employees | 18 | 7% |
| | Housewives | 11 | 4% |
| Income | ≤Rp. 1000.000 | 74 | 30% |
| | >Rp. 1.000.000 - Rp 3.000.000 | 103 | 41% |
| | >Rp 3.000.000 - Rp 5.000.000 | 51 | 20% |
| | >Rp 5.000.000 | 22 | 9% |
| E-Commerce | Tiktok | 160 | 38% |
| | Shopee | 154 | 36% |
| | Instagram | 54 | 13% |
| | Tokopedia | 31 | 7% |
| | Lazada | 22 | 5% |
| | Bukalapak | 3 | 1% |
| Product | Fashion & Accessories | 145 | 29,6% |
| | Skincare & Make-Up | 131 | 26,7% |
| | Food & Beverages | 78 | 15,9% |
| | Gadgets & Accessories | 55 | 11,2% |
| | Others | 81 | 16,5% |

The general profile shows that the majority of respondents are female (79%), aged between 17 and 25 years (67%), predominantly students (57%), with a monthly income between Rp 1,000,000 and Rp 3,000,000 (41%). The most frequently used e-commerce platforms for live shopping are TikTok (38%) followed by Shopee (26%), with fashion and accessories (30%) being the most purchased items.

A questionnaire containing 16 adapted items was utilized to assess the variables within the proposed model. Each item was measured using a 7-point Likert scale, with responses ranging from 1 (total disagreement) to 7 (total agreement) (Table 2).

Table 2. Constructs and Indicators

| Constructs | Indicators | Sources |
|---|---|---|
| **PE** | • **PE1** Shopping through live shopping is enjoyable.<br>• **PE2** Shopping through live shopping is interesting.<br>• **PE3** I enjoy interacting directly with online streamers during live shopping.<br>• **PE3** The atmosphere of live shopping makes me happy. | (Lee & Chen, 2021); (Lin et.al., 2022) |
| **PR**<br>*Product risk*<br><br>*Convenience risk* | • **PR1** I am worried that the product will not meet the performance initially described by the streamer during live shopping.<br>• **PR2** Live shopping provides an accurate product description.<br>• **PR3** Live shopping makes product searches easy.<br>• **PR4** I can examine products more clearly when watching live shopping. | (Ariff et.al., 2014); (Tham et al., 2019); (Song & Liu, 2021) |
| **SM**<br>*Limited Quantity Scarcity*<br><br>*Limited Time Scarcity* | • **SM1** I am concerned that the category of products sold during live shopping is limited.<br>• **SM2** The products I am interested in are often sold out during live shopping.<br>• **SM3** When shopping in live shopping, I think about the limited live time. | (Vannisa et.al., 2020); (Chung & Koo, 2015) |

| | | |
|---|---|---|
| | • **SM4** When shopping in live shopping, I am worried about the limited live time. | |
| **IB** | • **IB1** I experience a spontaneous urge to buy items when shopping in live shopping<br>• **IB1** I experience a spontaneous urge to buy items when shopping in live shopping.<br>• **IB2** Promotions in live shopping make me want to buy items instantly.<br>• **IB3** When watching live shopping, I tend to buy items not on my shopping list.<br>• **IB4** When the item I want to buy is limited, I want to buy it immediately. | (Lee & Chen, 2021); (Lin et.al., 2022) |

## 3. RESULTS AND DISCUSSIONS

### Outer Model Analysis

The analysis of the outer model involves evaluating its reliability and validity. Reliability is assessed by examining the Average Variance Extracted (AVE), Composite Reliability, and Cronbach's Alpha. Discriminant validity is measured using Cross-Loading and Heterotrait-Monotrait Ratio (HTMT). The thresholds for reliability are specified as follows: AVE should be greater than 0.5, Composite Reliability should be greater than 0.7 and Cronbach's Alpha should be greater than 0.6. Overall, all three variables meet the specified thresholds (Table 3) indicating that they are considered reliable

Table 3. Reliability Test Result

| Variables | AVE | Composite reliability | Cronbach's Alpha | Reliability |
|---|---|---|---|---|
| Impulsive buying | 0.588 | 0.850 | 0.764 | reliable |
| Perceived enjoyment | 0.506 | 0.804 | 0.674 | reliable |
| Perceived risk | 0.568 | 0.796 | 0.623 | reliable |
| Scarcity message | 0.602 | 0.858 | 0.778 | reliable |

Following this, the discriminant validity analysis is conducted using Cross-Loading and Heterotrait-Monotrait ratio (HTMT). To meet the discriminant validity, each indicator must load more strongly on its construct than on any other constructs. The result shows that the indicators for each construct have higher values compared to the indicators of other constructs. Thus, the cross-loading criteria have been met (Table 4).

Table 4. Cross-Loading

| | Impulsive Buying | Perceived Enjoyment | Perceived Risk | Scarcity Message |
|---|---|---|---|---|
| IB1 | 0.813 | 0.390 | 0.339 | 0.388 |
| IB2 | 0.809 | 0.402 | 0.314 | 0.364 |
| IB3 | 0.666 | 0.337 | 0.290 | 0.379 |
| IB4 | 0.772 | 0.405 | 0.278 | 0.333 |
| PE1 | 0.348 | 0.721 | 0.474 | 0.109 |
| PE2 | 0.378 | 0.692 | 0.291 | 0.182 |
| PE3 | 0.331 | 0.682 | 0.295 | 0.234 |
| PE4 | 0.365 | 0.749 | 0.371 | 0.258 |
| PR2 | 0.315 | 0.398 | 0.755 | 0.172 |
| PR3 | 0.218 | 0.342 | 0.659 | 0.166 |
| PR4 | 0.350 | 0.396 | 0.836 | 0.067 |
| SM1 | 0.369 | 0.184 | 0.106 | 0.715 |
| SM2 | 0.363 | 0.136 | 0.114 | 0.759 |
| SM3 | 0.359 | 0.271 | 0.142 | 0.793 |

| | | | | |
|---|---|---|---|---|
| SM4 | 0.390 | 0.260 | 0.160 | 0.832 |

Subsequently, HTMT with values below 0.85 indicates good discriminant validity. The result shows that all constructs meet this criterion (Table 5).

Table 5. HTMT

| | Impulsive buying | Perceived enjoyment | Perceived risk | Scarcity message |
|---|---|---|---|---|
| Impulsive buying | | | | |
| Perceived enjoyment | 0.697 | | | |
| Perceived risk | 0.565 | 0.774 | | |
| Scarcity message | 0.621 | 0.379 | 0.259 | |

**Inner Model Analysis**

The evaluation of the inner model is conducted through the assessment of R-Square, effect size (F-square) and predictive relevance (Q-square). R-square evaluation shows that the independent variables namely perceived enjoyment, perceived risk, and scarcity message account for 40.1% of the variance in the dependent variable, impulsive buying (Table 6).

Table 6. R-square and R-square adjusted

| Variabel Endogen | *R-square* | *R-square adjusted* |
|---|---|---|
| Impulsive buying | 0.401 | 0.394 |
| | | |

The F-square indicates that exogenous variables have a significant impact on endogenous variables, with the following criteria: ≥ 0.02 = weak, ≥ 0.15 = moderate, and ≥ 0.35 = strong. The result shows that perceived enjoyment has a weak effect (0.133), perceived risk has a weak effect (0.042), and scarcity message has a moderate effect (0.202) on impulsive buying (Table 7)

Table 7. F-square

| Variables | Impulsive Buying | Description |
|---|---|---|
| Perceived Enjoyment | 0.133 | Weak |
| Perceived Risk | 0.042 | Weak |
| Scarcity Message | 0.202 | Moderate |

The Q-square value for the endogenous variable impulsive buying is 0.225, indicating the low predictive relevance (Table 8).

Table 8. Q-square

| Variable | $Q^2$ | Description |
|---|---|---|
| Impulsive Buying | 0.225 | low |

The criteria for accepting or rejecting a hypothesis are as follows: if the p-value is less than 0.05 and the t-value is greater than 1.96 at a 5% significance level ($\alpha$ = 5%), then the alternative hypothesis ($H_a$) is accepted, and the null hypothesis ($H_0$) is rejected. Conversely, if the p-value is greater than 0.05 and/or the t-value is less than 1.96 at the 5% significance level, then $H_a$ is rejected, and $H_0$ is accepted.

Table 9. T-Statics and P Values

| | Path Coefficient | T Statistics | P Values | |
|---|---|---|---|---|
| *Perceived enjoyment => Impulsive buying* | 0.309 | 3.257 | 0.001 | Supported |
| *Perceived risk => Impulsive buying* | 0.183 | 2.912 | 0.004 | Not Supported |
| *Scarcity messages => Impulsive buying* | 0.362 | 3.602 | 0.000 | Supported |

The results indicate that perceived enjoyment has a significant positive effect on impulsive buying (path coefficient = 0.309, T-statistics = 3.257, P-value = 0.001), and scarcity messages also have a significant positive effect (path coefficient = 0.362, T-statistics = 3.602, P-value = 0.000). However, despite the perceived risk showing a positive effect (path coefficient = 0.183) and having significant T-statistics (2.912) and P-value (0.004), it does not support the hypothesis, which posits that perceived risk has a negative significant effect on impulsive buying (Table 9).

The first hypothesis testing result indicates that perceived enjoyment has a significant and positive influence on impulsive buying. Perceived enjoyment is defined as the level of satisfaction consumers feel when purchasing on a specific website (Ulaan et al., 2016). This finding aligns with previous research by Lee & Chen (2021), Lin et al. (2022), Saad & Metawie (2015), and (Verhagen & Dolen, (2011) showing that enjoyment is a direct determinant of impulsive purchases.

The second hypothesis testing reveals that perceived risk has a significant and positive influence on impulsive buying. Perceived risk is defined as the likelihood that product purchases will result in consumer dissatisfaction (Kashif et.al., 2017). This finding differs from several previous studies that found perceived risk to have a negative impact on purchase intention or impulsive buying. Studies by Ariffin et al. (2018), Bhukya & Singh (2015), Kim & Lennon (2020), and Song & Liu (2021) found that higher perceived risk leads to lower purchase intention. However, this study is supported by Marhadi et al. (2022) and Kaniati et al. (2024) which found that perceived risk has a significant positive effect on impulsive buying.

The third hypothesis indicates that scarcity message has a significant and positive influence on impulsive buying. Scarcity message is a promotional message highlighting the limited availability of advertised products (Aggarwal et al., 2011). This finding is supported by studies of Zaidan & Sukresna (2021), Lamis et al. (2022) and Akram et al. (2018) indicating that scarcity messages influence impulsive buying behavior Similarly, Guo et al. (2017) and Wu et al. (2021) demonstrated that scarcity messages trigger perceived arousal, which subsequently drives impulsive buying.

## 4. CONCLUSIONS AND SUGGESTIONS

Sellers should enhance content quality, interactivity, and visual appeal, choose engaging streamers, and provide relevant product information to increase perceived enjoyment. Sellers can reduce perceived risk by offering clear, accurate product information and using interactive presentations like product trials and Q&A sessions. Last, sellers can highlight limited availability or exclusive offers to create urgency, using phrases like “only 3 units left” or “voucher valid today only.” Offering bonuses or discounts for fast buyers can also enhance impulsive buying.

For viewers, be mindful of impulsive buying triggers. Assess the need for items before purchasing, create a shopping list, and set a budget to avoid unnecessary purchases. Recognize that scarcity messages are often marketing tactics to create urgency. For those prone to impulsive buying, limit participation in live shopping to reduce exposure to high-pressure environments.

This study’s sample includes 250 respondents, primarily female (79%) and aged 26-35 (67%) in Jabodetabek, which may not represent the entire Indonesian live shopping audience. Future studies should increase respondent numbers and age diversity for broader insights.

The study covers all e-commerce platforms generally. Future research could focus on specific platforms to see how their unique features affect impulsive buying.

Additionally, this study examines only direct effects of perceived enjoyment, risk, and scarcity on impulsive buying. Future research should explore moderating or mediating variables like buyer characteristics, product types, purchase intentions, and past experiences to gain a more comprehensive understanding of impulsive buying in live shopping.

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