

## The Effect of Social Presence And Scarcity on Impulsive Buying With Pleasure as an Intervening Variable in The Tiktok Live E-Commerce Application

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### Abstract

The expansion of live-streaming commerce features, particularly TikTok Live, has reshaped the digital shopping environment and contributed to the emergence of spontaneous online purchasing. This research examines the effects of social presence and scarcity on impulse buying by placing pleasure as an intervening variable among TikTok Live e-commerce users in Medan. A quantitative survey design was applied to 100 Generation Z respondents aged 20–24 years who were selected through purposive sampling. The data were processed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The findings show that social presence positively and significantly affects both pleasure and impulse buying. Scarcity also has a positive and significant effect on pleasure, whereas its direct effect on impulse buying is not significant. Pleasure, in turn, has a positive and significant effect on impulse buying and mediates the relationship between social presence and impulse buying. In addition, pleasure serves as a full mediator in the relationship between scarcity and impulse buying. The findings suggest that sellers can strengthen spontaneous purchasing by improving social interaction and developing scarcity-based strategies that are accompanied by an enjoyable emotional experience.

Keywords: Social Presence, Scarcity, Pleasure, Impulse Buying, TikTok Live.

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### 1. Introduction

The advancement of digital technology has altered consumer purchasing patterns, especially in online shopping. Businesses are now expected not only to maintain product quality but also to create shopping experiences that are interactive, communicative, and able to engage consumers emotionally. One digital marketing development that has expanded rapidly is live-streaming commerce, including TikTok Live. Through this feature, sellers and consumers can interact in real time, producing a shopping environment that is more personal and immersive. Within such an environment, impulsive buying becomes an important phenomenon because purchasing decisions may occur spontaneously, without detailed prior planning, and are frequently influenced by emotional impulses (Rook, 1987). The dynamic environment of live streaming, which contains numerous immediate stimuli, can consequently increase consumers' susceptibility to

impulsive behavior. Social presence and scarcity are two stimuli that commonly arise in this setting.

Social presence describes the extent to which individuals perceive other people as being present during communication mediated by technology (Short, Williams, & Christie, 1976). During live streaming, hosts and viewers can create perceptions of social closeness, strengthen trust, and influence consumers' emotional reactions. Scarcity, meanwhile, represents a perceived restriction in product availability or purchasing time that can encourage psychological pressure to act quickly (Cialdini, 2001). These two stimuli are expected to generate an emotional condition known as pleasure, reflected in feelings of enjoyment or satisfaction that may subsequently encourage impulsive buying.

However, previous research has not produced uniform findings. Several studies indicate that social

presence does not consistently produce stronger emotional responses. Li et al. (2022), for example, found that social presence in live commerce did not necessarily increase pleasure significantly. Gumay et al. (2024) likewise reported that social interaction does not always correspond directly with consumers' emotional responses. Findings concerning scarcity are also varied. Huo et al. (2023) showed that consumers do not always respond positively to scarcity strategies and that such tactics can, under certain circumstances, create resistance. Sutrisno (2022) similarly found that pressure caused by limited availability may reduce consumers' comfort when making purchase decisions.

The variation among these findings reveals an evidence gap because empirical results from previous studies remain inconsistent. In addition, many earlier studies have applied relatively simple analytical models and have not incorporated mediating variables in sufficient depth. Based on the Stimulus–Organism–Response (S-O-R) theory of Mehrabian and Russell (1974), external stimuli such as social presence and scarcity are expected to influence behavioral responses through an individual's internal psychological condition, including pleasure. A research model that includes an intervening variable can therefore provide a more complete explanation of how external shopping stimuli may eventually produce impulsive buying.

Research on live-streaming commerce has also been conducted largely in international settings, while studies focusing on Indonesian consumers, particularly Generation Z, remain limited. Generation Z is highly familiar with digital technology and is generally accustomed to visual content and real-time interaction. Anita and Suratnoaji (2025) found that exposure to TikTok live shopping significantly affects impulsive buying among Generation Z in Indonesia. Rasta and Sumardijati (2024) also reported that persuasive communication in TikTok Live, including host credibility, contributes to spontaneous purchase decisions. These circumstances indicate a population gap because relatively few studies specifically investigate impulsive behavior among Generation Z in Indonesian live-streaming commerce.

Based on these research gaps, this study analyzes the effects of social presence and scarcity on impulse buying by using pleasure as an intervening variable among TikTok Live users in Indonesia. The research is expected to reinforce the application of S-O-R theory in live-streaming commerce and contribute empirical evidence to the digital marketing literature. Theoretically, the study extends an S-O-R-based consumer behavior model by incorporating an emotional variable as a mediator. Practically, the findings can be used as a reference for businesses and marketers when developing marketing strategies that

strengthen social interaction and create emotional stimuli on live-streaming platforms, so that marketing does not focus exclusively on products but also considers consumers' psychological experiences.

## 2. Methods

This research adopted a quantitative survey approach and was categorized as explanatory research because it was intended to explain causal relationships among the variables. Social presence and scarcity were positioned as exogenous variables, pleasure as the intervening variable, and impulsive buying as the endogenous variable. The study used numerical data obtained from respondents through questionnaires. The proposed model was analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) with SmartPLS 4 (Hair et al., 2022). In the S-O-R framework, social presence and scarcity represent the stimulus (S), pleasure represents the organism or internal state (O), and impulsive buying represents the response (R).

The research population consisted of Generation Z individuals aged 20–24 years who lived in Medan City and had previously purchased products through TikTok Live. The exact population size could not be established because official data specifically identifying Medan residents aged 20–24 years who had purchased through TikTok Live were unavailable. The population was therefore treated as unknown, and the minimum sample size was calculated using the Lemeshow formula (Lemeshow et al., 1990), with a 95% confidence level, a 10% margin of error, and an estimated population proportion of  $P = 0.50$ . The value  $P = 0.50$  was selected because the actual proportion of individuals possessing the required characteristics was unknown and it provides a conservative maximum sample estimate.

The sample size was determined using the following formula:

$$n = Z^2 \times P(1 - P) / d^2$$

where  $n$  is the minimum sample size,  $Z = 1.96$  is the standard value for a 95% confidence level,  $P = 0.50$  is the estimated population proportion, and  $d = 0.10$  is the tolerated margin of error.

The calculation was as follows:

$$n = (1.96)^2 \times (0.50)(1 - 0.50) / (0.10)^2$$

$$n = 3.8416 \times 0.25 / 0.01$$

$$n = 0.9604 / 0.01$$

$$n = 96.04$$

The calculation resulted in a minimum requirement of 96.04 respondents. To ensure that the required minimum was achieved, the value was rounded upward to 97 respondents. The actual study involved

100 respondents who fulfilled all specified criteria, meaning that the final sample exceeded the minimum requirement.

Non-probability sampling with purposive sampling was used. This technique was selected because the research required respondents with particular characteristics relevant to the research objectives. The criteria included Generation Z individuals aged 20–24 years, residents of Medan City, individuals who had watched or used TikTok Live and had previously purchased products through TikTok Live, and respondents willing to complete the questionnaire fully. Purposive sampling ensured that respondents possessed direct experience with the phenomenon being investigated and were relevant to the variables social presence, scarcity, pleasure, and impulsive buying (Sugiyono, 2022). Compared with convenience sampling, this approach emphasized suitability with the research criteria rather than accessibility alone. Screening questions concerning age, domicile, TikTok Live use, and previous purchasing experience were therefore presented before the main questionnaire.

Primary data were obtained directly from respondents through an online questionnaire distributed using Google Forms. The instrument was constructed from indicators for each research variable and employed a five-point Likert scale, with 1 representing strongly disagree and 5 representing strongly agree. The scale was used to capture respondents' perceptions and responses to statements concerning social presence, scarcity, pleasure, and impulsive buying (Sugiyono, 2022).

Data processing used SmartPLS 4 with the PLS-SEM approach. The method was selected because the model contained several latent constructs as well as direct and indirect relationships involving an intervening variable. PLS-SEM is appropriate for prediction-oriented research, can handle relatively complex models, and does not require strict normality assumptions (Hair et al., 2019; Hair et al., 2022). The analytical sequence comprised descriptive analysis, measurement-model evaluation (outer model), structural-model evaluation (inner model), and hypothesis testing.

The outer model was examined through convergent validity, discriminant validity, and construct reliability. Convergent validity was assessed using outer loading and Average Variance Extracted (AVE), while discriminant validity was examined using the Fornell-Larcker Criterion. Reliability was evaluated using Cronbach's Alpha,  $\rho_A$ , and Composite Reliability (Hair et al., 2022). The inner model was subsequently evaluated using R-Square ( $R^2$ ), effect size ( $f^2$ ),

predictive relevance ( $Q^2$ ), Variance Inflation Factor (VIF), and path coefficients. Bootstrapping in SmartPLS was used for hypothesis testing, while specific indirect effects were examined to identify the role of pleasure as an intervening variable between social presence and scarcity and impulsive buying (Hair et al., 2019; Hair et al., 2022).

### 3. Results and Discussions

#### 3.1 General Overview of Respondents

The study included 100 Generation Z respondents aged 20–24 years, born between 2002 and 2006, who lived in Medan City. The characteristics were selected in accordance with the population criteria and the relevance of Generation Z to digital technology and live-streaming features such as TikTok Live. Data were gathered through a Likert-scale questionnaire. Respondent characteristics were described according to gender, age, and occupation/status.

**Table 1. Respondent Characteristics by Gender**

| Gender       | Number of Respondents | Percentage (%) |
|--------------|-----------------------|----------------|
| Male         | 38                    | 38%            |
| Female       | 62                    | 62%            |
| <b>Total</b> | <b>100</b>            | <b>100%</b>    |

Based on the respondent profile presented in Table 1, The gender distribution indicates that female respondents constituted the larger portion of the sample, with 62 individuals or 62%, whereas male respondents numbered 38 or 38%. Thus, the sample contained a greater proportion of female participants in relation to the phenomenon examined on the e-commerce platform.

**Table 2. Respondent Characteristics by Age**

| Age          | Number of Respondents | Percentage (%) |
|--------------|-----------------------|----------------|
| 20 years     | 22                    | 22%            |
| 21 years     | 36                    | 36%            |
| 22 years     | 24                    | 24%            |
| 23 years     | 12                    | 12%            |
| 24 years     | 6                     | 6%             |
| <b>Total</b> | <b>100</b>            | <b>100%</b>    |

The descriptive analysis of respondent age characteristics in Table 2 shows that all participants were within the productive age range of 20 to 24 years. Specifically, respondents aged 21 years constituted the largest group, with 36 respondents (36%), followed by those aged 22 years with 24 respondents (24%), and

those aged 20 years with 22 respondents (22%). The smallest proportions were represented by respondents aged 23 years, with 12 respondents (12%), and those aged 24 years, with only 6 respondents (6%). This age structure confirms that the sample was predominantly composed of young individuals who are generally highly adaptive to digital technology and online transactions.

**Table 3. Respondent Characteristics by Occupation/Status**

| Occupation/Status  | Number Respondents | of Percentage (%) |
|--------------------|--------------------|-------------------|
| University Student | 84                 | 84%               |
| Worker/Employee    | 16                 | 16%               |
| <b>Total</b>       | <b>100</b>         | <b>100%</b>       |

Based on the occupational or social status characteristics presented in Table 3, the majority of respondents were university students, comprising 84 respondents (84%). Meanwhile, respondents who were employed or worked as employees accounted for 16 respondents (16%) of the total sample. The high representation of university students is relevant to the general characteristics of social media users and interactive digital platforms, which are widely used by students in academic environments.

### 3.2 Measurement Model Evaluation (Outer Model)

The outer model was evaluated to determine the validity and reliability of the indicators used to form the latent constructs. The assessment consisted of convergent validity, discriminant validity, and construct reliability.

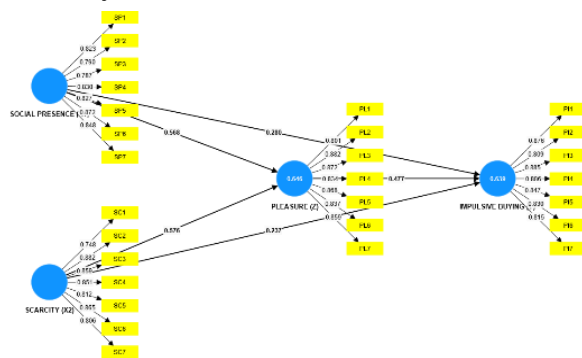


**Figure 2. Outer Model**

### 3.3 Convergent Validity Test

Convergent validity examines whether indicators belonging to the same construct share a sufficiently strong association and therefore measure

the same underlying concept. In this study, the assessment used outer loading and Average Variance Extracted (AVE). An outer loading above 0.70 and an AVE above 0.50 were used as the minimum criteria for convergent validity (Hair et al., 2022).

**Table 4. Outer Loading Test Results**

| Indicator | Impulsive Buying (Y) | Pleasure (Z) | Scarcity (X2) | Social Presence (X1) |
|-----------|----------------------|--------------|---------------|----------------------|
| PI1       | 0.876                | —            | —             | —                    |
| PI2       | 0.809                | —            | —             | —                    |
| PI3       | 0.885                | —            | —             | —                    |
| PI4       | 0.886                | —            | —             | —                    |
| PI5       | 0.847                | —            | —             | —                    |
| PI6       | 0.830                | —            | —             | —                    |
| PI7       | 0.815                | —            | —             | —                    |
| PL1       | —                    | 0.801        | —             | —                    |
| PL2       | —                    | 0.882        | —             | —                    |
| PL3       | —                    | 0.872        | —             | —                    |
| PL4       | —                    | 0.834        | —             | —                    |
| PL5       | —                    | 0.868        | —             | —                    |
| PL6       | —                    | 0.837        | —             | —                    |
| PL7       | —                    | 0.859        | —             | —                    |
| SC1       | —                    | —            | 0.748         | —                    |
| SC2       | —                    | —            | 0.882         | —                    |
| SC3       | —                    | —            | 0.859         | —                    |
| SC4       | —                    | —            | 0.851         | —                    |
| SC5       | —                    | —            | 0.812         | —                    |
| SC6       | —                    | —            | 0.865         | —                    |
| SC7       | —                    | —            | 0.806         | —                    |
| SP1       | —                    | —            | —             | 0.823                |
| SP2       | —                    | —            | —             | 0.790                |
| SP3       | —                    | —            | —             | 0.787                |
| SP4       | —                    | —            | —             | 0.830                |
| SP5       | —                    | —            | —             | 0.827                |

|     |   |   |   |       |
|-----|---|---|---|-------|
| SP6 | – | – | – | 0.872 |
| SP7 | – | – | – | 0.848 |

Based on Table 4, The outer loading values for Social Presence (X1), Scarcity (X2), Pleasure (Z), and Impulsive Buying (Y) ranged from 0.748 to 0.886. Because every value was above 0.70, all indicators satisfied the convergent-validity requirement. PI4 recorded the highest value at 0.886, while SC1 had the lowest at 0.748. Thus, each indicator adequately represented its corresponding construct and no indicator required deletion.

**Table 5. Average Variance Extracted (AVE) Values**

| Variable             | Average Variance Extracted (AVE) |
|----------------------|----------------------------------|
| Impulsive Buying (Y) | 0.723                            |
| Pleasure (Z)         | 0.724                            |
| Scarcity (X2)        | 0.694                            |
| Social Presence (X1) | 0.682                            |

Based on Table 5, The AVE values were 0.723 for Impulsive Buying (Y), 0.724 for Pleasure (Z), 0.694 for Scarcity (X2), and 0.682 for Social Presence (X1). All values exceeded 0.50, indicating that each construct met the required convergent-validity criterion.

### 3.4 Discriminant Validity Test

Discriminant validity was assessed to ensure that each construct was empirically distinguishable from the other constructs. The Fornell-Larcker criterion was applied by comparing the square root of AVE for each construct with its correlations with the remaining constructs (Henseler, Ringle, & Sarstedt, 2015).

**Table 6. Fornell-Larcker Criterion Test Results**

| Variable             | Impulsive Buying (Y) | Pleasure (Z) | Scarcity (X2) | Social Presence (X1) |
|----------------------|----------------------|--------------|---------------|----------------------|
| Impulsive Buying (Y) | 0.850                | –            | –             | –                    |
| Pleasure (Z)         | 0.769                | 0.851        | –             | –                    |
| Scarcity (X2)        | 0.505                | 0.569        | 0.833         | –                    |

|                      |       |       |        |       |
|----------------------|-------|-------|--------|-------|
| Social Presence (X1) | 0.545 | 0.561 | -0.012 | 0.826 |
|----------------------|-------|-------|--------|-------|

Based on Table 6, The square-root AVE values were 0.850 for Impulsive Buying, 0.851 for Pleasure, 0.833 for Scarcity, and 0.826 for Social Presence. Each square-root AVE value exceeded its correlations with the other constructs. Therefore, the constructs demonstrated adequate discriminant validity.

### 3.5 Construct Reliability Test

Construct reliability is an assessment used to determine the internal consistency of indicators in measuring a latent construct. In SmartPLS, construct reliability is evaluated using *Cronbach's Alpha*, *Composite Reliability* (rho\_A), and *Composite Reliability* (rho\_C). A construct is considered reliable when all three measures exceed 0.70 (Hair et al., 2022).

**Table 7. Reliability Test Results**

| Variable             | Cronbach's Alpha | Composite Reliability (rho_A) | Composite Reliability (rho_C) |
|----------------------|------------------|-------------------------------|-------------------------------|
| Impulsive Buying (Y) | 0.936            | 0.937                         | 0.948                         |
| Pleasure (Z)         | 0.936            | 0.939                         | 0.948                         |
| Scarcity (X2)        | 0.926            | 0.931                         | 0.941                         |
| Social Presence (X1) | 0.922            | 0.928                         | 0.937                         |

Based on Table 7, Construct reliability was examined using Cronbach's Alpha, Composite Reliability (rho\_A), and Composite Reliability (rho\_C). A construct is regarded as reliable when these measures exceed 0.70 (Hair et al., 2022). Impulsive Buying (Y) obtained 0.936, 0.937, and 0.948; Pleasure (Z) obtained 0.936, 0.939, and 0.948; Scarcity (X2) obtained 0.926, 0.931, and 0.941; and Social Presence (X1) obtained 0.922, 0.928, and 0.937. All values exceeded 0.70, indicating strong internal consistency and confirming that the instrument was suitable for structural-model testing.

### 3.6 Structural Model Evaluation (Inner Model)

The inner model describes the relationships among the latent variables. Its evaluation was conducted to determine the extent to which the exogenous variables explain the endogenous variables through R<sup>2</sup>, effect size (f<sup>2</sup>), predictive relevance (Q<sup>2</sup>), path coefficients, and hypothesis testing (Hair et al., 2022).

### 3.7 Multicollinearity Test (Inner VIF)

Multicollinearity was assessed using Inner VIF values. Collinearity is considered non-problematic when the Inner VIF is below 5.00 (Hair et al., 2022). Values above this threshold indicate potentially critical multicollinearity that can influence the stability of estimated path coefficients.

**Table 8. Inner VIF Values**

| Predictor            | Impulsive Buying (Y) | Pleasure (Z) |
|----------------------|----------------------|--------------|
| Pleasure (Z)         | 2.826                | –            |
| Scarcity (X2)        | 1.937                | 1.000        |
| Social Presence (X1) | 1.912                | 1.000        |

Based on Table 8, the Inner VIF results show that all VIF values were below the maximum threshold of 5.00, indicating that the research model did not experience multicollinearity problems. For *Impulsive Buying* (Y), the VIF values were 2.826 for *Pleasure* (Z), 1.937 for *Scarcity* (X2), and 1.912 for *Social Presence* (X1). For *Pleasure* (Z), the VIF values for *Scarcity* (X2) and *Social Presence* (X1) were both 1.000. These findings indicate that there was no high correlation among the exogenous variables in the structural model. Therefore, all independent variables could be simultaneously used to explain the endogenous variables without introducing bias due to multicollinearity.

### 3.8 Coefficient of Determination (R-Square)

R<sup>2</sup> represents the proportion of variation in an endogenous variable that can be explained by its predictors. Hair et al. (2022) identify values of 0.75, 0.50, and 0.25 as substantial, moderate, and weak, respectively.

**Table 9. R-Square Values**

| Variable                    | R-Square |
|-----------------------------|----------|
| <i>Impulsive Buying</i> (Y) | 0.639    |
| <i>Pleasure</i> (Z)         | 0.646    |

The R<sup>2</sup> for *Pleasure* (Z) was 0.646, meaning that *Social Presence* and *Scarcity* together explained 64.6% of the variation in pleasure, while 35.4% was attributable to variables outside the model.

The R<sup>2</sup> for *Impulsive Buying* (Y) was 0.639, indicating that *Social Presence*, *Scarcity*, and *Pleasure* jointly explained 63.9% of impulsive buying behavior, with the remaining 36.1% associated with other variables not included in the model. The value falls within the moderate category.

### 3.9 Effect Size (f<sup>2</sup>)

Effect size (f<sup>2</sup>) was used to identify the magnitude of each exogenous variable's contribution to an endogenous construct. Hair et al. (2022) use 0.02, 0.15, and 0.35 as reference points for small, medium, and large effects.

**Table 10. Effect Size (f<sup>2</sup>) Values**

| Predictor                   | Impulsive Buying (Y) | Pleasure (Z) |
|-----------------------------|----------------------|--------------|
| <i>Pleasure</i> (Z)         | 0.223                | –            |
| <i>Scarcity</i> (X2)        | 0.080                | 0.937        |
| <i>Social Presence</i> (X1) | 0.114                | 0.911        |

Based on Table 10, *Pleasure* (Z) had an f<sup>2</sup> of 0.223 on *Impulsive Buying* (Y), corresponding to a medium effect. *Scarcity* (X2) produced an f<sup>2</sup> of 0.080 on *Impulsive Buying* and *Social Presence* (X1) produced 0.114, both representing small effects. In relation to *Pleasure* (Z), *Scarcity* (X2) produced 0.937 and *Social Presence* (X1) produced 0.911, both representing large effects. The results indicate that *Scarcity* and *Social Presence* contributed substantially to explaining *Pleasure*, while *Pleasure* had a stronger contribution to *Impulsive Buying* than *Scarcity* and *Social Presence*.

### 3.10 Predictive Relevance (Q<sup>2</sup>)

Q<sup>2</sup> was used to evaluate the predictive capability of the structural model. A Q<sup>2</sup> value above zero indicates predictive relevance, whereas a value of zero or below indicates that the model does not have predictive relevance (Hair et al., 2022). The calculation was performed manually using the R<sup>2</sup> values and resulted in Q<sup>2</sup> = 0.873 or 87.3%. Because the value was greater than zero, the structural model demonstrated very high predictive relevance.

### 3.11 Path Coefficient

Path coefficient analysis was used to identify the direction and significance of relationships among the variables by examining the Original Sample, T-Statistics, and P-Values. These results provided the basis for evaluating the proposed direct and indirect relationships.

### 3.12 Hypothesis Testing

Hypothesis testing in SmartPLS employed bootstrapping and considered the path coefficient, t-statistic, and p-value. At the 5% significance level, a hypothesis is supported when the t-statistic exceeds 1.96 and the p-value is below 0.05 (Hair et al., 2022).

### 3.12 Direct Effect Testing

**Table 11. Direct Hypothesis Testing Results (H1–H5)**

| Variabel                                     | Original sample (O) | T statistics ( O/STDEV ) | P values |
|----------------------------------------------|---------------------|--------------------------|----------|
| Pleasure (Z) -> Impulsive Buying (Y)         | 0,477               | 2,973                    | 0,003    |
| Scarcity (X2) -> Impulsive Buying (Y)        | 0,237               | 1,701                    | 0,089    |
| Scarcity (X2) -> Pleasure (Z)                | 0,576               | 9,664                    | 0,000    |
| Social Presence (X1) -> Impulsive Buying (Y) | 0,280               | 3,270                    | 0,001    |
| Social Presence (X1) -> Pleasure (Z)         | 0,568               | 10,913                   | 0,000    |

Based on Table 11, the results of the direct effect testing are as follows:

1. **H1: Social Presence has a positive and significant effect on Pleasure.** Was supported with an Original Sample of 0.568, T-statistic of 10.913 ( $>1.96$ ), and P-value of 0.000 ( $<0.05$ ). **H1 is supported.**
2. **H2: Scarcity has a positive and significant effect on Pleasure.** Was supported with an Original Sample of 0.576, T-statistic of 9.664 ( $>1.96$ ), and P-value of 0.000 ( $<0.05$ ). **H2 is supported.**
3. **H3: Pleasure has a positive and significant effect on Impulsive Buying.** Was supported with an Original Sample of 0.477, T-statistic of 2.973 ( $>1.96$ ), and P-value of 0.003 ( $<0.05$ ). **H3 is supported.**
4. **H4: Social Presence has a positive and significant direct effect on Impulsive Buying.** Was supported with an Original Sample of 0.280, T-statistic of 3.270 ( $>1.96$ ), and P-value of 0.001 ( $<0.05$ ). **H4 is supported.**
5. **H5: Scarcity does not have a significant direct effect on Impulsive Buying.** Was not supported because its Original Sample was positive at 0.237, but the T-statistic was 1.701 ( $<1.96$ ) and the P-value was 0.089 ( $>0.05$ ). **H5 is not supported.**

### 3.13 Indirect Effect Testing (Mediation)

**Table 12. Mediation Hypothesis Testing Results (H6–H7)**

| Variabel | Original sample (O) | Standard deviation (STD EV) | T statistics ( O/STDEV ) | P values |
|----------|---------------------|-----------------------------|--------------------------|----------|
|----------|---------------------|-----------------------------|--------------------------|----------|

|                                      |       |       |       |       |       |
|--------------------------------------|-------|-------|-------|-------|-------|
| Scarcity (X2) -> Pleasure (Z)        | 0,275 | 0,283 | 0,098 | 2,803 | 0,000 |
| Impulsive Buying (Y)                 |       |       |       |       | 5     |
| Social Presence (X1) -> Pleasure (Z) | 0,271 | 0,280 | 0,098 | 2,758 | 0,006 |
| Impulsive Buying (Y)                 |       |       |       |       | 6     |

Based on Table 12, the mediation testing results are as follows:

1. **H6: Pleasure mediates the effect of Social Presence on Impulsive Buying.** Was supported with a T-statistic of 2.758 ( $>1.96$ ) and P-value of 0.006 ( $<0.05$ ). **H6 is supported.**
2. **H7: Pleasure mediates the effect of Scarcity on Impulsive Buying.** was also supported with a T-statistic of 2.803 ( $>1.96$ ) and P-value of 0.005 ( $<0.05$ ). **H7 is supported.** Since the direct effect of Scarcity was not significant in H5, this finding indicates that Pleasure functions as a full mediator.

### 3.14 Discussion

#### a. Effect of Social Presence on Pleasure

The findings demonstrate a positive and significant effect of Social Presence on Pleasure among TikTok Live users. This result corresponds with the S-O-R perspective, in which Social Presence operates as an external environmental stimulus. Communication with hosts and real-time interaction among viewers can stimulate internal emotional responses such as enjoyment, comfort, and satisfaction while Generation Z consumers watch live streams. Short et al. (1976) explain that stronger social presence in mediated communication can reduce psychological distance and create interpersonal warmth. In online shopping, social interaction can also function as an atmospheric cue that shapes consumers' affective responses (Eroglu et al., 2001). The result is supported by Ming et al. (2021) and Gumay et al. (2024), which associate stronger perceived social engagement through host and live-chat interaction with higher consumer Pleasure.

#### b. Effect of Scarcity on Pleasure

The analysis indicates that Scarcity has a positive and significant effect on Pleasure. Limited product availability and time-restricted offers during TikTok Live can attract attention and generate excitement. For Generation Z consumers, the opportunity to obtain an exclusive offer may be experienced as a challenge that creates enjoyment. Commodity Theory explains that scarcity can increase the subjective value of a product because an item

perceived as limited may also be regarded as more valuable and exclusive (Cialdini, 2001). Competition for limited products on digital platforms may provide psychological satisfaction when consumers succeed in the purchasing process (Aggarwal et al., 2011). Sutrisno (2022) and Zhang et al. (2022) likewise show that scarcity information, such as limited-time offers in live commerce, can be experienced as engaging entertainment and contribute to positive emotional responses.

### **c. Effect of Pleasure on Impulsive Buying**

The results confirm that Pleasure positively and significantly affects Impulsive Buying. When TikTok Live users experience enjoyment and comfort, rational control may become less dominant, allowing purchasing desires to develop into spontaneous and unplanned decisions. In the environmental-psychology perspective of Mehrabian and Russell (1974), Pleasure is an affective response that directs individuals toward approach rather than avoidance behavior. Beatty and Ferrell (1998) similarly place emotional states among the antecedents of impulse buying. Rook (1987) and Verhagen and van Dolen (2011) further indicate that positive emotional stimulation in physical and online shopping environments can encourage impulsive buying.

### **d. Direct Effect of Social Presence on Impulsive Buying**

The study identifies a significant direct effect of Social Presence on Impulsive Buying. Interactive and persuasive host communication can strengthen consumers' confidence in making immediate purchasing decisions. Enthusiasm displayed by other viewers in the live chat may also create social involvement or a bandwagon-like atmosphere that encourages Generation Z users to purchase spontaneously. A stronger sense of social presence in virtual environments can generate feelings of security and intimacy while reducing perceived shopping risk (Gefen & Straub, 2004). Dynamic interaction during live streaming can additionally produce a lively shopping atmosphere that supports unplanned purchases (Floh & Madlberger, 2013). The finding is consistent with Anita and Suratnoaji (2025) and Rasta and Sumardijjati (2024), who emphasize persuasive host communication and user interaction as triggers for spontaneous purchasing.

### **e. Direct Effect of Scarcity on Impulsive Buying**

Scarcity was not found to have a significant direct effect on Impulsive Buying. This result indicates that tactics such as flash sales and limited-stock offers do not automatically cause Generation Z consumers to make immediate purchases. When consumers lack an emotional connection with the shopping experience, scarcity pressure may simply be regarded as a common

promotional technique. Psychological Reactance Theory suggests that excessive pressure created by aggressive scarcity tactics can lead to resistance, skepticism, or refusal to purchase (Cialdini, 2001). Generation Z consumers may also evaluate scarcity messages critically and regard them as sales manipulation (Huang et al., 2020). Huo et al. (2023) provide support for this interpretation by showing that scarcity messages may not directly stimulate impulsive buying when internal emotional involvement is insufficient.

### **f. The Mediating Role of Pleasure in the Relationship between Social Presence and Impulsive Buying**

The mediation analysis demonstrates that Pleasure mediates the relationship between Social Presence and Impulsive Buying. This result supports the S-O-R framework because social interaction during TikTok Live can first generate entertainment and enjoyment before influencing spontaneous purchasing. Positive emotional experiences may subsequently strengthen consumers' inclination to make unplanned purchases. According to the S-O-R paradigm, environmental stimuli are processed through the organism's internal state before producing behavioral responses (Mehrabian & Russell, 1974). Social Presence can therefore operate as an external stimulus whose behavioral consequences are partly transmitted through a positive emotional pathway. Donovan and Rossiter (1982) emphasize the role of affective responses in producing approach behavior in shopping environments. Li et al. (2022) also support the mediating role of emotional comfort or Pleasure in translating social interaction into impulsive purchasing behavior.

### **g. The Mediating Role of Pleasure in the Relationship between Scarcity and Impulsive Buying**

The mediation results show that Pleasure fully mediates the relationship between Scarcity and Impulsive Buying. Because the direct effect of Scarcity on Impulsive Buying was not significant, the findings indicate that the influence of scarcity operates through the consumer's emotional response. Limited time or limited product availability alone may therefore be insufficient to generate impulsive purchases. Scarcity may need to be experienced as an enjoyable and engaging challenge. Satisfaction from successfully obtaining a product during a flash sale can contribute to spontaneous buying. Full mediation means that the effect of an independent variable on a dependent variable is transmitted through the mediating variable (Hair et al., 2022). Accordingly, scarcity tactics based solely on restriction may need to create hedonic value if they are intended to stimulate unplanned purchasing (Aggarwal et al., 2011). Zhang et al. (2022) similarly found that the effect of scarcity on impulsive buying depends on whether scarcity creates an enjoyable sense

of competition or Pleasure within the consumer's internal state.

#### 4. Conclusions

The analysis leads to several conclusions. Social Presence has a positive and significant effect on Pleasure and Impulsive Buying. Scarcity has a positive and significant effect on Pleasure, but its direct effect on Impulsive Buying is not significant. Pleasure has a positive and significant effect on Impulsive Buying, indicating that stronger feelings of enjoyment, comfort, and satisfaction while watching TikTok Live are accompanied by a greater tendency toward impulsive buying. Pleasure also mediates the effect of Social Presence on Impulsive Buying and fully mediates the effect of Scarcity on Impulsive Buying. These findings indicate that scarcity-based strategies are associated with impulsive buying through the creation of a pleasurable emotional experience rather than through scarcity alone.

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