

## The Role of Streamers on Consumers' Impulsive Buying in Shopee Live: Implementation of the S-O-R Model

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### Abstract

*The rapid growth of live stream technology in e-commerce has emerged as an interesting phenomena in marketing. Live streaming in e-commerce has transformed online shopping behavior to be more dynamic and interactive. Live commerce enables consumers to engage in a more personalized shopping experience via real-time interactions with streamers. This study attempts to determine the extent of the impact that streamers' social presence has on consumer impulse buying behavior. This study implemented the S-O-R model to analyze consumer behavior construction, using the streamer's social presence as the stimulus, the flow state and customer trust as the organism, and predicting impulsive buying behavior as the expected response. Survey methods and SEM-PLS analytical techniques are employed to examine the correlation among latent variables. This study examined 100 Shopee Live consumers and discovered that the social presence of streamers strongly impacted flow state and consumer trust, which subsequently had significant impact on consumer impulse buying behavior on Shopee Live.*

**Keywords:** Streamer, social presence, impulsive buying, S-O-R model, Shopee Live

### INTRODUCTIONS.

Live shopping activities have lately emerged as a phenomena in the marketing field. Business people, including e-commerce enterprises and merchants, are actively engaging in this trend. Numerous e-commerce enterprises in Indonesia have showcased their engagement in the trend by prioritising the enhancement of live streaming features in their applications, including Shopee Live, Tokopedia Play, and LazLive by Lazada.

90

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Since the end of 2023, Tokopedia has been trying to bolster its standing in the live commerce sector by partnering with TikTok Shop. Nonetheless, Shopee, possessing a substantial market share, continues to be the market leader. The IPSOS poll results cited by CNN Indonesia indicate that Shopee Live is the leading live streaming commerce platform for local companies and MSMEs (UMKM), with a 96% popularity rate. TikTok Shop, Lazada Live, and Tokopedia Play occupy the last spots (CNN Indonesia, 2024). This following graph shows the popularity of live commerce in Indonesia.



**Figure 1 The Most Popular Live Streaming Commerce Platform**

Source : CNN Indonesia (2024)

The popularity of live streaming commerce is understandable, as it has transformed online shopping behavior into a more dynamic and engaging experience (Chan & Asni, 2022). Sellers can showcase product usage and emphasize its value without requiring a physical store visit, while viewers can pose questions via the chat feature (Helen, 2022). Live streaming commerce has overcome the former challenges of online shopping, including limited interactivity. Interactive communication and transparent information from live streams can stimulate viewers to engage in impulsive buying (Wongkitrungrueng & Assarut, 2020). The social presence of streamer decreases the risks and uncertainties associated with live streaming, hence enhancing consumer trust (Darke et al., 2016). This indicates the influence of streamers on audience behavior and their experience as potential buyers in live commerce.

Live streaming commerce activities often contain promotional strategies like limited-time discounts, flash sales, and various reward vouchers. These offerings may provide as engaging material for live broadcasts with streamers. Streamers can foster an authentic shopping ambiance, enhancing consumer experience and rendering shopping

91

activities more immersive. The elevated immersion in live streaming commerce activities would enhance consumers' flow state (Ming, Jianqiu, & Bilal, 2021). Prior research indicates that the presence of streamers in live streaming commerce increases customer trust and enables a flow state, resulting in impulsive purchasing (Huo, Wang, & Sadiq, 2023; Jiang et al., 2019; Ming, Jianqiu, & Bilal, 2021).

Consumer impulse buying behavior itself has long been a topic raised by previous researchers in the realm of consumer behaviour. Some study employs the S-O-R model to examine the factors underlying consumer impulse purchase behavior. Mehrabian & Russell (1974) introduced the S-O-R (Stimulus-Organism-Response) model, a framework explaining how environmental stimuli may provoke behavioral tendencies or responses via the affective and cognitive dimensions of an individual's organism. Ming, Jianqiu, Bilal, et al (2021) and Huo, Wang, & Sadiq (2023) previously employed the S-O-R theory to investigate the many elements influencing consumer impulse buying behavior in live streaming commerce activities.

Examining the influence of streamers' social presence in live streaming commerce on customer impulsive purchasing behavior may provide valuable insights for sellers in understanding consumer characteristics and formulating efficient strategies. Therefore, this study will investigate the influence of streamers' social presence in live commerce on consumer impulsive buying behavior on Shopee Live.

## **LITERATURE REVIEW**

### **S-O-R (Stimulus, Organism, Response) Model**

The S-O-R model is applied as a theoretical framework to clarify the learning of consumer behavior in Shopee Live. Mehrabian & Russell (1974) introduce the S-O-R model, comprising stimulus, organism, and response components. The model explains stimuli as external factors that influence an individual's emotional state, and characterize this emotional state as an organism. Once the organism completes its stages, it generates behavior based on the formed perceptions. The response includes the formed behavior, which may manifest as approach behavior (acceptance of the stimuli) or avoidance behavior (rejection of the stimulus) (Song et al., 2021).

The S-O-R model has been extensively utilized across several scientific disciplines, particularly in retail and online purchasing (Shah et al., 2021) and within the field of e-commerce (Lin et al., 2021). Numerous scholars have used this model in the realm of live streaming commerce (Huo, Wang, & Sadiq, 2023; Ming, Jianqiu, & Bilal, 2021). This indicates that the S-O-R model is relevant to present-day marketing and

92



consumer behavior, as this study attempts to analyze consumer behavior in live streaming commerce.

### **Social Presence of Streamer as Stimulus**

The social presence of the streamer refers to the actual presence and participation of the streamer, which is perceptible to viewers or consumers through interaction during live streaming. (Li et al., 2022). Streamers or hosts, who oversee live streaming commerce activities, require strong communication skills due to the one-sided live streaming communication, where the streamer controls the communication flow (Indriyani & Herlina, 2021). Therefore, streamer involvement plays a crucial role; streamers must possess unique and captivating skills or extensive knowledge to capture the attention of viewers (Zhao et al., 2018). Thus, in this research, the social presence of streamers is a variable that represents the stimulus element.

### **Consumer Trust as Organism**

Consumer trust in companies is essential for sustaining business continuity. The loss of consumer trust will impact nearly all business operations. Ming et al (2021) argue that consumer trust in live commerce context consists of belief in both the products and the seller or streamer. Consumer trust in a product has been marked by the extent to which consumers think that the product's features, quality, and post-purchase service correspond with the streamer's assertions (Wongkitrungrueng & Assarut, 2020). Meanwhile, consumer trust in streamers is defined as the extent to which consumers disregard the potential risks associated with following the streamer's assertions during a live stream.

The presence of streamers in live streaming can help consumers to understand the products they want, which then forms their trust (Jiang et al., 2019). The presence of streamers plays a crucial role in forming consumer trust, as they not only communicate information and product attributes to viewers but also provide a substitute experience by allowing consumers to try or demo the product. As a result, the social presence of streamers serves as a stimulus that fosters consumer trust.

### **Flow State as Organism**

To define flow state, Xu et al (2021) quote Csikszentmihali (2020), who describes flow state as a person's emotional state when fully involved in an activity or experience. A similar opinion also asserts that flow state refers to a mental condition wherein an



individual is completely immersed in a particular activity. (Ghani et al., 1991). Meanwhile, Xu et al (2021) in their research added that flow state is a temporary psychological state that is considered an optimal experience for consumers.

In live streaming commerce, viewers will tend to focus and persist in continuing activities if they feel happy and comfortable. This feeling of joy and comfort will then encourage the audience to enter their flow phase. According to Yim et al (2017), streamers' participation in live streaming commerce activities will increase consumer focus because their presence allows consumers to experience more personalized service. The social presence of streamers significantly affects consumer trust on Shopee Live. In addition, consumers' feelings of joy when shopping will also increase because they can communicate with each other and feel human warmth in live streamings (Liu et al., 2020). Thus, flow state becomes a form of consumer organism in the process of forming purchasing behavior.

### **Impulsive Buying Behavior as Response**

Firmansyah (2019) defines impulsive buying behavior as the act of making purchases without prior consideration, also known as irrational buying. This behavior is characterized by smooth and unplanned purchases, driven by strong emotions. These emotions relate to solving limited or spontaneous purchasing problems. So, we can say that impulse buying is a natural and quick reaction.

Research by Habib and Qayyum (2018) established that consumer trust fosters impulsive behavior by amplifying emotional responses. A previous study by Wu et al (2020) discovered that the flow state affects online impulse purchasing. Furthermore, Xu et al (2021) suggested in their research that viewers who completely focus on live streaming commerce activities are more likely to experience impulsive buying behavior. Therefore, this research will examine the impact of consumer trust and flow state on impulsive purchasing behavior in live streaming commerce.



### Conceptual Framework

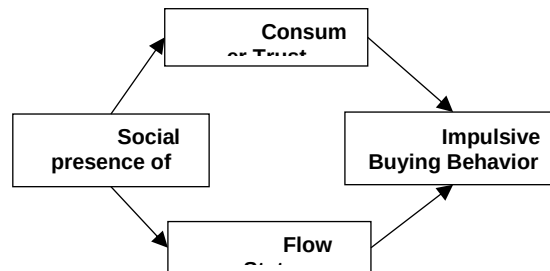


**Figure 2 Frame of Mind**

Source : Researcher (2024)

H1 : Social presence of streamer significantly affects consumer trust on Shopee Live

H2 : Social presence of streamer significantly affects flow state on Shopee Live

H3 : Flow state significantly affects impulsive buying behavior on Shopee Live

H4 : Consumer trust significantly affects impulsive buying behavior on Shopee Live

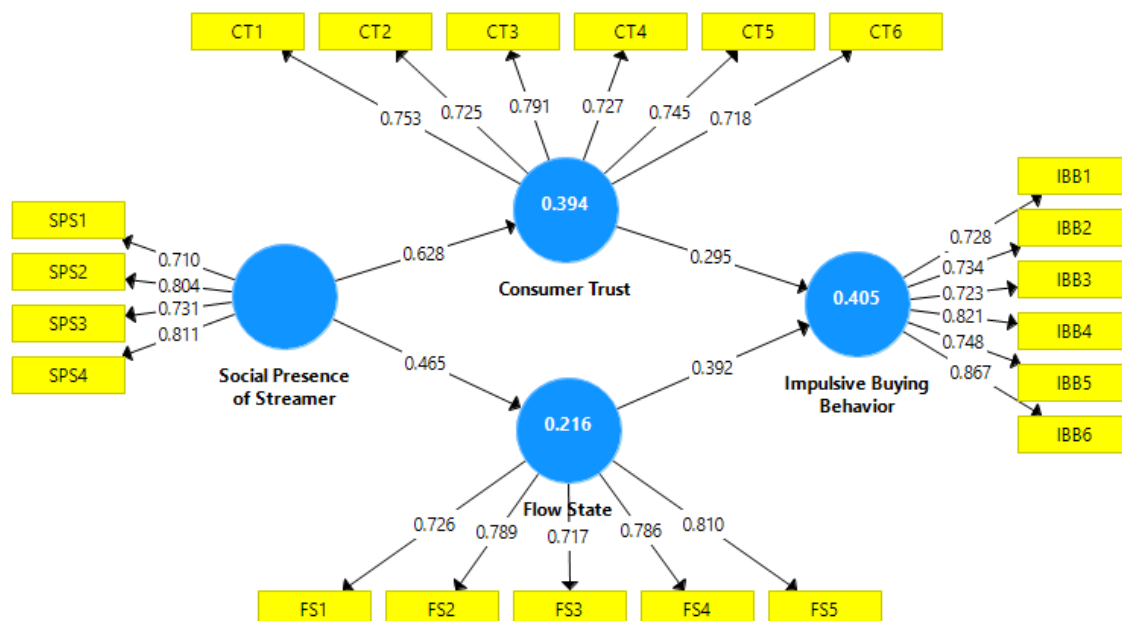
### RESEARCH METHODS

This study adopts a quantitative approach, incorporating survey methodologies, and uses explanatory techniques to clarify the phenomenon under investigation. The research results were obtained through the SEM (Structural Equation Model) analysis technique based on PLS (Path Least Square), which was processed using SmartPLS 3.0 software. This was conducted to ascertain the link among four latent variables in this study. The independent variable was the streamer's social presence (X), the mediating factors were the flow state (Z1) and customer trust (Z2), and the dependent variable was impulsive buying behavior (Y).

This study's population comprises Shopee users in Indonesia who have viewed and made direct purchases through the Shopee Live feature. Samples were collected via nonprobability sampling methods and Cochran's formula to ascertain the sample size, yielding a total of 100 respondents. Data was gathered using a questionnaire distributed on Google Forms and shared over social media platforms, including X, Instagram, and WhatsApp.

**RESULT****Evaluation of the Outer Model**

This study included validity and reliability tests to examine the outer model. Two categories of validity tests are convergent validity, which evaluates the loading factor value, and average variances extracted (AVE). Researchers subsequently evaluate discriminant validity using the heterotrait-monotrait ratio (HTMT). The reliability test occurred by evaluating the Cronbach's alpha and composite reliability scores. This image portrays the research model to be evaluated through the PLS algorithm procedure in SmartPLS.

**Figure 3 Outer Model**

Source : SmartPLS output (2024)

Figure 3 displays the loading factor scores for each item that evaluates the construct. To fulfill the requirements for convergent validity, the expected loading factor value must be  $\geq 0,70$ . Items having a loading factor value less than 0,70 will be eliminated (Hair et al., 2019), as they contribute barely to the construct. At this stage, we evaluate the study variables' reliability using Cronbach's alpha and composite reliability. The ideal parameters for evaluating excellent variable reliability are Cronbach's Alpha  $> 0,60$  and composite reliability  $\geq 0,70$ . Table 1 presents an in-depth summary of the test outcomes.

**Table 1 Construct Validity and Reliability Test Result**

| Variable                    | Item | Convergent Validity |       | Reliability    |                       | Description      |
|-----------------------------|------|---------------------|-------|----------------|-----------------------|------------------|
|                             |      | Loadings            | AVE   | Cronbach Alpha | Composite Reliability |                  |
| Social Presence of Streamer | SPS1 | 0,710               | 0,586 | 0,764          | 0,849                 | Valid & Reliable |
|                             | SPS2 | 0,804               |       |                |                       |                  |
|                             | SPS3 | 0,731               |       |                |                       |                  |
|                             | SPS4 | 0,811               |       |                |                       |                  |
| Consumer Trust              | CT1  | 0,753               | 0,553 | 0,838          | 0,881                 | Valid & Reliable |
|                             | CT2  | 0,725               |       |                |                       |                  |
|                             | CT3  | 0,791               |       |                |                       |                  |
|                             | CT4  | 0,727               |       |                |                       |                  |
|                             | CT5  | 0,745               |       |                |                       |                  |
|                             | CT6  | 0,718               |       |                |                       |                  |
| Flow State                  | FS1  | 0,726               | 0,587 | 0,826          | 0,877                 | Valid & Reliable |
|                             | FS2  | 0,789               |       |                |                       |                  |
|                             | FS3  | 0,717               |       |                |                       |                  |
|                             | FS4  | 0,786               |       |                |                       |                  |
|                             | FS5  | 0,810               |       |                |                       |                  |
| Impulsive Buying Behavior   | IBB1 | 0,728               | 0,596 | 0,863          | 0,874                 | Valid & Reliable |
|                             | IBB2 | 0,734               |       |                |                       |                  |
|                             | IBB3 | 0,723               |       |                |                       |                  |
|                             | IBB4 | 0,821               |       |                |                       |                  |
|                             | IBB5 | 0,748               |       |                |                       |                  |
|                             | IBB6 | 0,867               |       |                |                       |                  |

Source : Data processed by researcher (2024)

Table 1 shows that each construct meets the requirements for convergent validity and reliability. This indicates that every tested item significantly contributes to the formation of the construct. As a measuring tool, research items can also ensure their reliability and consistency in measuring constructs. The following measurement is the evaluation of discriminant validity.

**Table 2 Discriminant Validity Test Result (HTMT)**

|    | FS    | CT | IBB | SPS |
|----|-------|----|-----|-----|
| FS |       |    |     |     |
| CT | 0,827 |    |     |     |



|            |       |       |       |  |
|------------|-------|-------|-------|--|
| <b>IBB</b> | 0,696 | 0,661 |       |  |
| <b>SPS</b> | 0,566 | 0,780 | 0,398 |  |

Source : Data processed by researcher (2024)

To claim the HTMT discriminant validity test valid, all tested variable values must be less than 0,90. Table 2 confirms that all studied variables had HTMT values  $\leq 0,90$ , indicating that this research meets the HTMT requirements.

### Evaluation of the Inner Model

Structural model evaluation is used to determine the accuracy of the relations between constructs and their ability for predicting the model's relevance. In this research, statistical collinearity (VIF) and predictive relevance ( $Q^2$ ) tests were carried out to evaluate the research structural model. The following are the VIF and  $Q^2$  values obtained from the PLS algorithm process (table 3).

**Table 3 Inner Model Test Result**

| Variable                    | VIF   | $Q^2$ |
|-----------------------------|-------|-------|
| Social Presence of Streamer | 1,000 |       |
| Flow State                  | 1,995 | 0,114 |
| Consumer Trust              | 1,995 | 0,214 |
| Impulsive Buying Behavior   |       | 0,229 |

Source : Data processed by researcher (2024)

A favorable VIF value is between 0,2 and 5. Meanwhile, the  $Q^2$  value must be  $> 0$  in order to accurately predict data that is not used in the model. According to table 3, the research model does not have collinearity problems and has excellent predictive ability.

### Hypothesis Test

In this study, for the hypothesis to be accepted, the correlation being tested must have a T-Statistics of  $\geq 1,98$  with a P-Value no greater than 0,05 ( $\leq 0,05$ ). Hypothesis that meet these requirements indicate that the variables tested have a significant influence. Aside from that, the path coefficient value in the research results can indicate the direction of a relationship. According to Ghazali (2016), a path coefficient value close to 1 indicates a positive correlation, whilst a value close to -1 denotes a negative correlation.



**Table 4 Hypothesis Test Result**

| Variable                                       | Hypothesis | Path Coefficient | T Statistics | P Values |
|------------------------------------------------|------------|------------------|--------------|----------|
| Social Presence of Streamer - > Flow State     | H1         | 0,465            | 5,811        | 0,000    |
| Social Presence of Streamer - > Consumer Trust | H2         | 0,628            | 8,817        | 0,000    |
| Flow State -> Impulsive Buying Behavior        | H3         | 0,392            | 3,309        | 0,001    |
| Consumer Trust -> Impulsive Buying Behavior    | H4         | 0,295            | 2,183        | 0,029    |

Source : Data process by researcher (2024)

The test findings presented in Table 4 indicate that all examined relationships show path coefficients that provide a value of 1, hence indicating a positive influence across all tested relationships. Then, all relationships tested in this study had a T-Statistics value of more than 1,98 ( $\geq 1,98$ ) and a P-Values value of less than 0,05 ( $\leq 0,05$ ). Therefore, we can conclude that all the tested relationships have a significant influence, thereby accepting all hypotheses.

## DISCUSSION

Through a series of tests on the answers of Shopee Live consumers in Indonesia, This research discovered that the social presence of streamers in live commerce on Shopee significantly enhances consumer trust perceptions. During Shopee Live events, streamers can showcase products comprehensively via live commerce, engage with viewers immediately, and offer personalised service. This proves how the social presence of streamers covers the limitations of traditional e-commerce. Consumers receive more specific information regarding their desired products, hence enhancing viewers' trust (Jiang et al., 2019). This research goes along with the studies by Ming et al (2021) and Sawarsa et al (2023).

The social presence of streamers significantly and positively influenced the flow state of consumers attending Shopee Live. In live commerce, streamers build connections and intimacy with viewers through their characters, such as friendly interactions or unique content (Chen & Liao, 2022). This will cover the cognitive and



emotional needs of the audience and motivate them to keep participating in seeing live commerce (Zhao et al., 2018). These results are in line with research by Huo, Wang, Sadiq, et al (2023), which found that the social presence of streamers had a significant effect on consumers' flow experience. Based on the result, this study suggests the presence of streamers in live commerce serves as a stimulation, influencing consumers' emotional states, which are regarded as essential components of the organism.

This study also conducted tests to determine whether consumer trust can significantly influence impulsive buying behavior. This study's findings indicate that customer trust carries a significant impact on impulse buying behaviour. The flow state is a psychological condition that encourages spontaneous purchasing behavior among consumers. Liu et al (2020) stated that consumer shopping enjoyment can be elevated by the sensation of human presence in live commerce. In Shopee Live, viewers can experience this through real-time interaction with the streamer, as if they were physically in the same place. More dynamic interactions and detailed product displays can easily trigger impulsive behavior in the audience (Wongkitrungrueng & Assarut, 2020).

## **CONCLUSION**

This research aims to assist sellers, streamers, and other parties involved in live commerce in comprehending the factors that influenced consumer purchasing behavior. Following a series of data processing and analysis, it reveals that the social presence of streamers strongly impacts consumer trust and flow state, thereby promoting their impulse buying behavior. With these results, suggestions to merchants that use Shopee Live to improve the quality of their streamers. Streamers with excellent knowledge and communication skills will attract consumers' attention and encourage them to participate in live commerce.

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100



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