International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

Building Shopping Enjoyment Through Real-Time Interactivity and Scarcity-Based Pressure as Drivers of Impulse Buying in Live Commerce

Desi Auli Safitri[1], Ratih Amelia[2]

[1,2]Digital Business Study Program, Faculty of Economics and Business, Surabaya State University

Corresponding Author:desi.23418@mhs.unesa.ac.id ratihamelia@unesa.ac.id

Abstract

This study aims to analyze the effect of real-time interactivity and scarcity-based pressure on impulse buying through shopping enjoyment as a mediating variable in TikTok Shop live commerce users in Indonesia. The study used a quantitative approach with a survey method and purposive sampling technique. Respondents were active TikTok Shop users aged 17–45 who had made purchases during or after watching live streaming broadcasts in the last three months, with a sample size of 100–200 respondents. Data analysis was conducted using Structural Equation Modeling-Partial Least Squares (SEM-PLS) through SmartPLS. The theoretical basis used is the Stimulus-Organism-Response (SOR) framework, where real-time interactivity and scarcity-based pressure act as stimuli, shopping enjoyment as the organism, and impulse buying as the response. The test results showed that all hypotheses were accepted: (1) real-time interactivity has a significant positive effect on shopping enjoyment (β = 0.380; p = 0.000); (2) scarcity-based pressure has a significant positive effect on shopping enjoyment (β = 0.591; p = 0.000); (3) shopping enjoyment has a significant positive effect on impulse buying (β = 0.644; p = 0.000); (4) shopping enjoyment mediates the effect of real-time interactivity on impulse buying (indirect effect = 0.245; p = 0.003); and (5) shopping enjoyment mediates the effect of scarcity-based pressure on impulse buying (indirect effect = 0.381; p = 0.000). The R^2 value of 0.676 for shopping enjoyment and 0.685 for impulse buying indicates a high predictive power of the model. These findings confirm that interactive stimulation and scarcity pressure do not directly trigger spontaneous purchases, but must first build shopping enjoyment as an emotional bridge to impulse buying behavior.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

Keywords:real-time interactivity; scarcity-based pressure; shopping enjoyment; impulse buying; live commerce; TikTok Shop; SEM-PLS

INTRODUCTION

The development of digital technology is driving changes in consumer behavior in online shopping activities through the phenomenon of live commerce. Live commerce is a combination of e-commerce and live streaming that enables real-time interaction between sellers and consumers during the transaction process.(Wang et al., 2022)The presence of live commerce creates a more interactive, communicative, and entertaining shopping experience than conventional e-commerce, thus encouraging impulse buying behavior, or spontaneous purchases without prior planning.(Y. Li et al., 2025).

One of the factors that influences impulse buying in live commerce is shopping enjoyment, namely the feeling of pleasure and entertainment felt by consumers during shopping activities.(Wu et al., 2024)explains that interactive and entertaining experiences during live commerce can increase consumer emotional engagement.(Huo et al., 2023)also stated that social presence and sales promotion have a positive effect on flow experience which then encourages impulsive purchasing behavior in live-streaming shopping.(Dwitya & Hartono, 2023)also found that perceived enjoyment has a significant positive effect on impulsive buying among TikTok Shop live streaming consumers in Indonesia.

Another important factor influencing shopping enjoyment is real-time interactivity. Direct interaction between streamers and audiences allows consumers to receive quick responses, two-way communication, and live product demonstrations, creating a more enjoyable shopping experience.(Indriastuti et al., 2024)found that real-time interactivity had a significant positive effect on perceived enjoyment and impulse buying behavior in live streaming shopping.(Wang et al., 2022)also shows that the interactivity of broadcasters as independent intermediaries is able to increase consumer engagement and drive purchasing decisions in live streaming commerce. (Khasanah & Kuswanto, 2023)This study also demonstrated that interactivity and playfulness positively influence impulse buying among Shopee Live users in Indonesia. In addition to interactivity, scarcity-based pressures such as flash sales, limited-time promotions, countdown timers, and limited stock information can also create a sense of urgency in consumers to make a purchase immediately.(Zhang et al., 2022).

(Zakiyah et al., 2025)shows that flash sales and double day promotions have a significant positive effect on impulsive buying among TikTok Shop users.(Siregar &

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

Firdausy, 2024)also found that scarcity message and perceived enjoyment have a positive influence on impulsive buying in live shopping e-commerce.(Feng et al., 2024) This study also demonstrated that scarcity persuasion significantly moderates consumer impulse buying behavior during live broadcasts. Although extensive research on live commerce and impulse buying has been conducted, research integrating real-time interactivity and scarcity-based pressure to build shopping enjoyment as a driver of impulse buying is still limited, particularly in the context of live commerce in Indonesia.(Y. Li et al., 2025)Therefore, this study aims to analyze the influence of real-time interactivity and scarcity-based pressure on shopping enjoyment and its impact on impulse buying in live commerce.

LITERATURE REVIEW

Main Theoretical Basis: Stimulus-Organism-Response (SOR) Model

This study uses the Stimulus-Organism-Response (SOR) framework as the primary theoretical basis for explaining the mechanisms of consumer behavior in the live commerce ecosystem. This model positions the shopping environment as a collection of stimuli (S) that influence the consumer's internal state or organism (O), which then results in certain behaviors or responses (R).(Y. Li et al., 2025).

In the context of live commerce, technical features and marketing strategies such as interactivity and scarcity pressure act as external stimuli. These stimuli do not directly trigger purchases, but rather stimulate affective and cognitive aspects of the audience, such as feelings of enjoyment or flow.(Huo et al., 2023)This internal condition is the main driver of the emergence of behavioral responses in the form of unplanned impulsive purchases.(M. Li et al., 2022).

Review of Research Variables and Indicators

1. 2Real-Time Interactivity

Real-time interactivity is at the heart of live commerce's advantage over traditional e-commerce. This variable is defined as the ability of platforms and broadcasters to facilitate synchronous and adaptive information exchange.(Indriastuti et al., 2024). Quality interactions provide a sense of social presence and reduce consumers' psychological barriers to shopping.(G. Li et al., 2022). In its measurement, the research indicators for this variable include the level of responsiveness of the broadcaster in responding to questions or comments quickly, the ability of personalization where the broadcaster greets or interacts specifically with the audience.(Indriastuti et al., 2024), as well as the

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

audience's perception of the presence of two-way communication that is dialogical and reciprocal during the session.(Razafinandrasana & Tamara, 2024).

2. Scarcity-Based Pressure

*Scarcity-based pressure*is psychological pressure that arises due to the perception of limitations in the product or time of the offer that is exposed to consumers.(Feng et al., 2024). Scarcity messages create urgency that compels consumers to act immediately to avoid missing out on a rare opportunity.(Zhang et al., 2022)Operationally, this variable is measured through the time scarcity indicator, which triggers a feeling of being rushed due to the limited duration of offers, such as in flash sale features.(Zhang et al., 2022), scarcity of quantity (stock scarcity) which gives rise to fears of running out of stock (FOMO) due to limited supplies(Feng et al., 2024), and the urgency of decision-making where consumers feel pushed to transact instantly without long consideration(Tang et al., 2022).

3. Shopping Enjoyment

*Shopping enjoyment*reflects the hedonic dimension of the shopping experience, where consumers feel joy and intrinsic satisfaction during the interaction process.(Dwitya & Hartono, 2023)This variable is a signal that the technical and social stimulation of the live commerce environment successfully creates a positive emotional condition in the organism.(Khasanah & Kuswanto, 2023). Indicators that represent this variable include the intensity of feelings of pleasure experienced by consumers when watching live broadcasts.(Siregar & Firdausy, 2024), elements of entertainment or playfulness which indicate that the presentation content is considered interesting and entertaining(Khasanah & Kuswanto, 2023), as well as the level of emotional satisfaction experienced as a result of affective involvement in the virtual shopping activity.(Dwitya & Hartono, 2023).

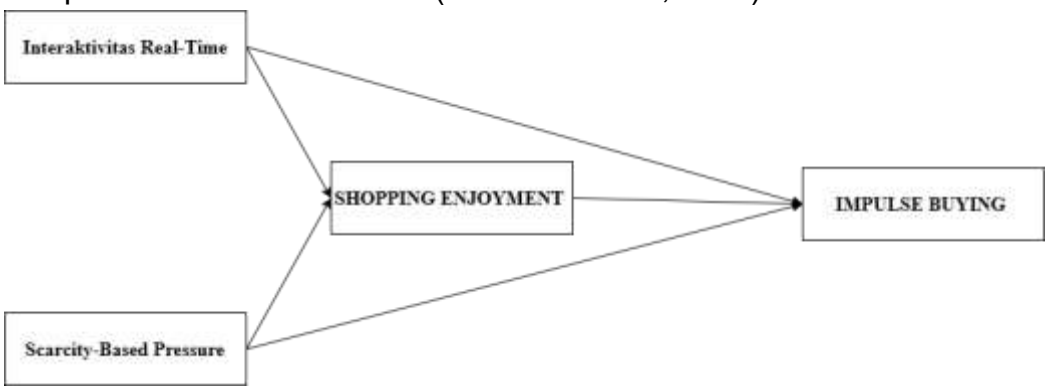
4. Impulse Buying

*Impulse buying*defined as purchasing behavior that occurs spontaneously, without prior planning, and is predominantly driven by momentary emotions.(M. Li et al., 2022). In a live streaming environment, this behavior escalates rapidly due to high exposure to visual stimulation, social interaction, and promotional tactics.(Siregar & Firdausy, 2024). Empirical assessment of this variable is based on the indicator of the tendency to make sudden purchases that are outside the framework of the shopping plan (unplanned purchase).(M. Li et al., 2022), a feeling of difficulty in restraining oneself from the desire to shop due to a strong urge that overrides the cognitive evaluation process(Feng et al.,

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

2024), and the high level of consumer spontaneity in confirming transactions on the spot as a direct response to broadcast offers.(Indriastuti et al., 2024).



Picture1Framework

Hypothesis Development

H1: Real-Time Interactivity has a positive effect on Shopping Enjoyment.

Responsive and personal interactions create a dynamic social experience, making viewers feel more than just buyers, but part of a community.(Wu et al., 2024). Synchronous two-way communication provides enjoyable cognitive stimulation and increases the sense of enjoyment in shopping.(Razafinandrasana & Tamara, 2024).

H2: Scarcity-Based Pressure has a positive effect on Shopping Enjoyment.

Even though it is pressuring, a message of scarcity packaged in the form of entertainment or games (such as hunting for flash sales) can actually create positive excitement or arousal for consumers.(Tang et al., 2022). The challenge of getting limited items provides a special emotional satisfaction when you succeed in getting them, thus strengthening the pleasure aspect of shopping.(M. Li et al., 2022).

H3: Shopping Enjoyment has a positive effect on Impulse Buying.

When consumers feel happy and entertained, their cognitive control tends to weaken, so that affective drives become dominant in decision making.(Khasanah & Kuswanto, 2023). The high pleasure of shopping creates a spontaneous, impulsive passion, which encourages the audience to immediately make transactions without further consideration.(Indriastuti et al., 2024).

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

H4 & H5: Shopping Enjoyment mediates the influence of Real-Time Interactivity and Scarcity-Based Pressure on Impulse Buying.

Based on the SOR framework, stimulation from interactivity and scarcity pressure does not automatically trigger purchases, but must first go through the formation of positive emotions.(Huo et al., 2023). Shopping enjoyment acts as a mediator that transforms the quality of interaction and the urgency of promotion into impulsive buying impulses.(Dwitya & Hartono, 2023). Without a sense of pleasure, the technical stimulus will not be strong enough to drive spontaneous shopping behavior.(Tang et al., 2022).

METHOD

This study uses a quantitative approach with a survey method to examine the influence of real-time interactivity and scarcity-based pressure on impulse buying through shopping enjoyment as a mediating variable on the TikTok Shop live commerce platform. This method was chosen based on its advantages in systematically examining the relationship between variables in a measurable, statistically verifiable manner.(Indriastuti et al., 2024).

The population in this study is all active TikTok Shop users in Indonesia who have watched live streaming broadcasts and made purchases in the last three months. The sampling technique used purposive sampling with the following criteria: (1) active TikTok Shop users aged 17–45 years, (2) have watched TikTok Shop live streaming at least once in the last three months, and (3) have made purchases during or after watching a live broadcast. The number of samples set at 100–200 respondents refers to the minimum requirements of SEM-PLS analysis which requires a minimum of 100 respondents to produce stable and reliable estimates.(Razafinandrasana & Tamara, 2024).

Data analysis used Structural Equation Modeling-Partial Least Squares (SEM-PLS) run through SmartPLS 3.0 software. This method was chosen because it is capable of processing complex mediation models without requiring normally distributed data.(Jr. et al., 2021). The analysis stages include two main aspects: (1) outer model testing which includes validity testing (convergent validity and discriminant validity) and reliability testing (composite reliability and Cronbach's alpha) to ensure the consistency of each indicator; and (2) inner model testing to verify the research hypothesis through the assessment of path coefficients and significance values (p-value < 0.05). Before the full questionnaire

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

distribution, a pilot study was conducted on 30 respondents to ensure the validity and readability of the instrument.

RESULTS AND DISCUSSION

Evaluation of Measurement Model (Outer Model)

Outer model testing was conducted to ensure that the research instrument met validity and reliability criteria.

1. Convergent Validity Test

Outer Loadings

Matrix

	X1 Interaktivita...	X2 Scarcity-Ba...	Y Impulse Buyi...	Z Shopping En...
X1.1	0.851			
X1.2	0.753			
X1.4	0.756			
X2.2		0.705		
X2.3		0.799		
X2.4		0.838		
X2.5		0.858		
Y1			0.772	
Y2			0.851	
Y3			0.890	
Y4			0.887	
Y5			0.883	
Z1				0.814
Z2				0.836
Z3				0.833
Z4				0.858
Z5				0.799

Convergent validity is met if the Outer Loadings value is > 0.70 and Average Variance Extracted (AVE) is > 0.50. Based on the results of the PLS algorithm, all indicators have Outer Loadings above 0.70 (ranging from 0.705 to 0.890). The AVE values for all variables have also met the requirements, namely Real-Time Interactivity (0.621), Scarcity-Based Pressure (0.643), Impulse Buying (0.735), and Shopping Enjoyment (0.686). Thus, convergent validity is met very well.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

2. Construct Reliability Test

Construct Reliability and Validity

Matrix	Cronbach's Alpha	rho_A	Composite Reliability	Average V

	Cronbach's Al...	rho_A	Composite Rel...	Average Varian...
X1 Interaktivita...	0.694	0.704	0.830	0.621
X2 Scarcity-Bas...	0.813	0.821	0.878	0.643
Y Impulse Buyi...	0.909	0.916	0.933	0.735
Z Shopping Enj...	0.886	0.886	0.916	0.686

Instrument reliability was measured using Composite Reliability (CR) with a minimum limit of 0.70. The test results showed CR values for Real-Time Interactivity (0.830), Scarcity-Based Pressure (0.878), Impulse Buying (0.933), and Shopping Enjoyment (0.916). Although Cronbach's Alpha for Real-Time Interactivity was 0.694, the instrument was still declared reliable by referring to the standard (Partial least squares structural equation modeling (PLS-SEM) using R: A workbook, Jr. et al., 2021) which recommends CR as the main benchmark in PLS-SEM.

3. Discriminant Validity Test

Discriminant Validity

Fornell-Larcker Criteri...	Cross Loadings	Heterotrait-Monotrait R...	Hete

	X1 Interaktivita...	X2 Scarcity-Ba...	Y Impulse Buyi...	Z Shopping En...
X1 Interaktivita...				
X2 Scarcity-Bas...	0.535			
Y Impulse Buyi...	0.555	0.835		
Z Shopping Enj...	0.788	0.875	0.894	

Discriminant validity was evaluated using the Heterotrait-Monotrait (HTMT) ratio with a maximum threshold of 0.90. The analysis results showed the highest HTMT value was found in the relationship between Shopping Enjoyment and Impulse Buying, at 0.894.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

Because all correlation values between variables were below 0.90, there was no overlap in meaning between the instruments.

4. Structural Model Testing (Inner Model)

The predictive power of the model is evaluated through the coefficient of determination (R-Square). The test results show:

R Square

Matrix | R Square | R Square Adjusted

	R Square	R Square Adjus...
Y Impulse Buyi...	0.685	0.680
Z Shopping Enj...	0.676	0.672

A. The R2 value for the Shopping Enjoyment variable is 0.676. This means that 67.6% of the variation in consumer enjoyment can be explained by Real-Time Interactivity and Scarcity-Based Pressure.
B. The R2 value of the Impulse Buying variable is 0.685. This means that spontaneous buying behavior can be predicted by 68.5% by the combination of interactivity, scarcity pressure, and shopping pleasure.

5. Hypothesis Testing

Hypothesis testing was carried out through a bootstrapping procedure (5,000 subsamples) with the hypothesis acceptance criteria if P-Values < 0.05.

Path Coefficients

Mean, STDEV, T-Values, P-Va... | Confidence Intervals | Confidence Intervals Bias C... | Samples | Copy to Clipboard: | Excel Format

	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O...	P Values
X1 Interaktivitas Real-Time -> Y Impulse Buying	-0.061	-0.063	0.073	0.833	0.405
X1 Interaktivitas Real-Time -> Z Shopping Enjoyment	0.380	0.369	0.094	4.049	0.000
X2 Scarcity-Based Pressure -> Y Impulse Buying	0.267	0.273	0.089	2.994	0.003
X2 Scarcity-Based Pressure -> Z Shopping Enjoyment	0.591	0.599	0.074	8.025	0.000
Z Shopping Enjoyment -> Y Impulse Buying	0.644	0.640	0.108	5.986	0.000

Direct Impact:

- H1: Real-Time Interactivity has a significant positive effect on Shopping Enjoyment (O = 0.380; P-Value = 0.000). H1 is accepted.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

- H2: Scarcity-Based Pressure has a significant positive effect on Shopping Enjoyment (O = 0.591; P-Value = 0.000). H2 is accepted.
- H3: Shopping Enjoyment has a significant positive effect on Impulse Buying (O = 0.644; P-Value = 0.000). H3 is accepted.

Specific Indirect Effects

Mean, STDEV, T-Values, P-Va... | Confidence Intervals | Confidence Intervals Bias C... | Samples | Copy to Clipboard: | Excel Format | R Format

	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O...	P Values
X1 Interaktivitas Real-Time -> Z Shopping Enjoyment -> Y Impulse Bu...	0.245	0.240	0.083	2.938	0.003
X2 Scarcity-Based Pressure -> Z Shopping Enjoyment -> Y Impulse Bu...	0.381	0.381	0.068	5.635	0.000

Indirect Influence (Mediation):

- H4: Shopping Enjoyment significantly mediates the effect of Real-Time Interactivity on Impulse Buying (O = 0.245; P-Value = 0.003). H4 is accepted.
- H5: Shopping Enjoyment significantly mediates the effect of Scarcity-Based Pressure on Impulse Buying (O = 0.381; P-Value = 0.000). H5 is accepted.

DISCUSSION

Overall, the test results in this study provide strong empirical confirmation of the validity of the Stimulus-Organism-Response (SOR) framework in the TikTok Shop live commerce ecosystem. Technical features and marketing strategies, such as interactivity and scarcity pressure, act as external stimuli that successfully influence the internal emotional state of consumers (organisms), ultimately stimulating a behavioral response in the form of spontaneous purchases (response).

1. The Effect of Real-Time Interactivity on Shopping Enjoyment (H1)

Test results demonstrate that Real-Time Interactivity has a positive and significant impact on building viewer Shopping Enjoyment. Synchronous and adaptive two-way communication between streamers and viewers creates a sense of real social presence. When streamers promptly respond to comments, answer product questions, or address viewers personally, psychological barriers to consumers are reduced, creating a much more lively and enjoyable virtual shopping experience. These findings align with studies from(Wang et al., 2022)which shows that the quality of interaction on the live broadcast platform is able to elevate consumer emotional engagement.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

2. The Effect of Scarcity-Based Pressure on Shopping Enjoyment (H2)

The analysis results show that Scarcity-Based Pressure has a positive and significant effect on Shopping Enjoyment. This indicates that time- and product-scarcity tactics—such as countdown timers, flash sales, and low-stock alerts—are not perceived as disruptive pressure by TikTok Shop consumers. Instead, these limitations create a pleasurable sense of competition and arousal. The process of "fighting" for items with other viewers within a limited time provides emotional satisfaction and a unique element of playfulness that enhances the shopping experience.

3. The Influence of Shopping Enjoyment on Impulse Buying (H3)

Statistical test results confirm that Shopping Enjoyment has a very strong and significant positive influence on Impulse Buying. When viewers experience excitement, intrinsic pleasure, and high emotional satisfaction while watching a live broadcast, their cognitive control over shopping tends to weaken. This positive emotional state triggers spontaneous, impulsive arousal, prompting them to immediately make a transaction without much planning or consideration. These findings support research from(Dwitya & Hartono, 2023),(Indriastuti et al., 2024), as well as(Siregar & Firdausy, 2024)who consistently found that the feeling of pleasure in shopping was the main predictor of the emergence of impulse buying behavior.

4. The Role of Shopping Enjoyment in Mediating the Effect of Real-Time Interactivity and Scarcity-Based Pressure on Impulse Buying (H4 & H5)

Based on the results of the indirect effect test, Shopping Enjoyment was proven to act as a significant mediating variable in both the interactivity pathway (H4) and the scarcity pressure pathway (H5). This mediation finding confirms that external stimuli in the form of interactive communication or marketing tactics that create urgency do not immediately result in spontaneous purchasing decisions. These technical stimuli must first be transformed into a form of emotion or a pleasant affective experience (organism) within the consumer. Once the feeling of pleasure and entertainment is built, only then can the strong urge to carry out impulse buying (response) be optimally realized. This phenomenon strengthens the theory that without the mediation of pleasure, technical stimuli alone will not be strong enough to drive spontaneous shopping behavior in viewers on live commerce platforms.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

CONCLUSION

Based on the results of this study, it was found that real-time interactivity and scarcity-based pressure significantly build shopping enjoyment, which in turn encourages impulse buying among TikTok Shop users. Responsive and personalized broadcaster interactivity and scarcity tactics such as flash sales and countdown timers increase feelings of pleasure, arousal, and game elements that make consumers more susceptible to spontaneous purchases. The mediating effect of shopping enjoyment was also proven significant, indicating that technical and marketing stimuli need to thicken the entertainment aspect and emotional engagement to be able to trigger impulsive buying decisions. The high R2 values for shopping enjoyment and impulse buying strengthen the predictive power of the SOR model tested in the context of Indonesian live commerce.

This study has limitations that need to be considered in interpreting the results. These include the use of a purposive sample of TikTok Shop users aged 17 to 45, which may limit generalizability to other age groups or different live commerce platforms. The cross-sectional design also limits the ability to test long-term causal relationships. Future research is recommended to expand the population and conduct comparative studies across platforms, as well as consider longitudinal or experimental designs to strengthen causal inferences. The addition of moderating or mediating variables such as trust, parasocial interaction, or price perception can also enrich the understanding of behavioral mechanisms. Practically, businesses and streamers are advised to prioritize humanistic interactions and package scarcity tactics as entertaining gamification elements to increase shopping enjoyment and sales conversions, while still observing marketing ethics to avoid practices that mislead consumers.

BIBLIOGRAPHY

Dwitya, B. H. K., & Hartono, A. (2023). An Investigation of Live Stream Shopping Via TikTok: The Role of Perceived Enjoyment in Impulsive Buying. *Journal of Economics, Management and Trade*, *29*(12), 54–65. https://doi.org/10.9734/jemt/2023/v29i121175

Feng, Z., Al Mamun, A., Masukujjaman, M., Wu, M., & Yang, Q. (2024). Impulse buying behavior during livestreaming: Moderating effects of scarcity persuasion and price perception. *Heliyon*, *10*(7), e28347. https://doi.org/10.1016/j.heliyon.2024.e28347

Huo, C., Wang, X., Sadiq, M. W., & Pang, M. (2023). Exploring Factors Affecting Consumer's Impulse Buying Behavior in Live-Streaming Shopping: An Interactive

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

Research Based Upon SOR Model. *SAGE Open*, *13*(2), 1–15. https://doi.org/10.1177/21582440231172678

Indriastuti, H., Hidayati, T., Asnawati, Martiyanti, D., Ayu, A. R. F., & Putit, L. (2024). How Real-Time Interactivity Influences Impulse Buying Behaviour in Generation Z's During Live Streaming Shopping: The Mediating Role of Perceived Enjoyment. *ECONOMICS - Innovative and Economics Research Journal*, *12*(3), 279–291. https://doi.org/10.2478/eoik-2024-0047

Jr., J. F. H., Hult, G. T. M., Ringle, S. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). Partial least squares structural equation modeling (PLS-SEM) using R: A workbook (p. 197). Springer Nature. In *Structural Equation Modeling: A Multidisciplinary Journal* (Vol. 30, Number July).

Khasanah, U., & Kuswanto, A. (2023). The Effect of Demand, Convenience, Interactivity, Playfulness Through Impulsive Buying as an Intervening Variable on Shopee Live. *Kontigensi : Jurnal Ilmiah Manajemen*, *11*(1), 163–176. https://doi.org/10.56457/jimk.v11i1.338

Li, G., Jiang, Y., & Chang, L. (2022). The Influence Mechanism of Interaction Quality in Live Streaming Shopping on Consumers' Impulsive Purchase Intention. *Frontiers in Psychology*, *13*(December 2020), 1–13. https://doi.org/10.3389/fpsyg.2022.918196

Li, M., Wang, Q., & Cao, Y. (2022). Understanding Consumer Online Impulse Buying in Live Streaming E-Commerce: A Stimulus-Organism-Response Framework. *International Journal of Environmental Research and Public Health*, *19*(7). https://doi.org/10.3390/ijerph19074378

Li, Y., García-de-Frutos, N., & Ortega-Egea, J. M. (2025). Impulse buying in live streaming e-commerce: A systematic literature review and future research agenda. *Computers in Human Behavior Reports*, *19*(March). https://doi.org/10.1016/j.chbr.2025.100676

Razafinandrasana, C., & Tamara, D. (2024). Exploring The Factors Which Impact Impulse Purchase Intention in TikTok Live Streaming Shopping in Indonesia. *International Journal of Electronic Commerce Studies*, *15*(2), 21–62. https://doi.org/10.7903/ijecs.2279

Siregar, L. A., & Firdausy, C. M. (2024). Perceived Enjoyment, Perceived Risk, and Scarcity Message on Impulsive Buying in Live Shopping in E-Commerce. *International Journal of Application on Economics and Business*, *2*(3), 384–393. https://doi.org/10.24912/ijaeb.v2i3.384-393

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

Tang, K. L., Tan, P. M., & Tham, Y. J. A. (2022). Impulse Buying in Live Stream Based on the Stimulus-Organism-Response Framework. *Jurnal Pengurusan*, *66*(December). https://doi.org/10.17576/pengurusan-2022-66-06

Wang, Y., Lu, Z., Cao, P., Chu, J., Wang, H., & Wattenhofer, R. (2022). How Live Streaming Changes Shopping Decisions in E-commerce: A Study of Live Streaming Commerce. *Computer Supported Cooperative Work: CSCW: An International Journal*, *31*(4), 701–729. https://doi.org/10.1007/s10606-022-09439-2

Wu, Y. Y., Batool, H., & Yang, Y. J. (2024). Relationship between the Characteristics of e-Commerce Live Streaming and Purchase Intentions: Moderating Effect of Hedonistic Shopping Value. *Emerging Science Journal*, *8*(3), 1097–1117. https://doi.org/10.28991/ESJ-2024-08-03-018

Zakiyah, M. I., Mustaqim, M., Zaki, A., & Violita, C. E. (2025). Pengaruh Live Streaming, Flash Sale, Dan Double Days Promotion Terhadap Impulsive Buying Pada Pengguna Tiktok Shop. *Jurnal Lentera Bisnis*, *14*(2), 1223–1239. https://doi.org/10.34127/jrlab.v14i2.1450

Zhang, Z., Zhang, N., & Wang, J. (2022). The Influencing Factors on Impulse Buying Behavior of Consumers under the Mode of Hunger Marketing in Live Commerce. *Sustainability (Switzerland)*, *14*(4). https://doi.org/10.3390/su14042122

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.