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The Effect of Live-Stream E-Branding on Impulse Buying Behavior with Parasocial Interaction as a Mediating Variable on Shopee Live

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ABSTRACT: In response to the rise of interactive live-stream commerce, this study investigates whether live-stream e-branding influences impulse buying behavior among Shopee Live users in Indonesia directly or primarily via parasocial interaction. Drawing on the Stimulus–Organism–Response (S–O–R) model, the study conceptualizes parasocial engagement with streamers as the key affective mechanism linking branding stimuli to impulsive responses in a Southeast Asian live-commerce setting that has received limited scholarly attention. A cross-sectional survey of 140 active Shopee Live viewers was conducted and analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS). The results reveal that live-stream e-branding alone does not significantly trigger impulse buying; rather, it cultivates parasocial bonds that strongly drive unplanned purchases, indicating a full mediation effect. These findings suggest that in live commerce, impulsive buying hinges more on the quality of viewer–streamer relationships than on direct branding exposure. The study enriches S–O–R theory by validating parasocial interaction as a core mediating process and advises marketers to prioritize authentic, empathy-driven interactions during live streams to stimulate impulse purchases.

Keywords: Live-Stream E-Branding, Parasocial Interaction, Impulse Buying Behavior, Shopee Live.

INTRODUCTION

The rapid advancement of digital technology has transformed how consumers interact with brands, particularly through live-stream e-commerce platforms such as Shopee Live that merge entertainment, real-time engagement, and transactional convenience. Live-stream e-branding has emerged as a dynamic form of modern e-commerce that integrates social interaction and instant purchasing, fundamentally altering on-the-spot buying decisions (Xu et al., 2022). This trend, widely popular in China and South Korea, is quickly spreading to Indonesia via platforms like

Shopee Live, TikTok Shop, and LazLive. Indonesia's high digital adoption and the popularity of streaming video make it a fertile market for live-shopping, and consumers are increasingly embracing live-stream shopping for its engaging, interactive experience (Zhang et al., 2024).

Impulse buying behavior is unplanned and spontaneous, with purchase decisions often driven by emotional and situational cues (Rook & Fisher, 1995; Utama et al., 2021). In live-stream e-branding, visual stimuli combined with social interaction, time pressure, and persuasive hosts can trigger impulsive purchases (M. Li et al., 2022; Meng et al., 2021). Live-stream e-branding, which orchestrates brand identity, cues, and narratives in real time, is intended to move viewers from attention to action. However, a growing body of work suggests that the parasocial interaction viewers develop with the streamer often serves as the emotional bridge converting exposure into spontaneous buying rather than branding content alone (Setiawan et al., 2025; Sokolova & Kefi, 2020; Suhardi et al., 2021; Wibowo et al., 2025). For instance, viewers tend to respond more emotionally (and less rationally) when streamers communicate in a compelling and authentic manner (Shukun & Loang, 2024). Thus, beyond economic logic, live-stream shopping is a multifaceted psychological and social phenomenon in which emotion-driven reactions play a decisive role in consumer behavior.

Parasocial interaction (PSI) is a one-sided, perceived relationship in which viewers experience intimacy, trust, and familiarity with media personalities, and it functions as a key psychological process in this context (Horton & Richard Wohl, 1956; Labrecque, 2014). In live-stream e-branding, PSI enhances perceived brand authenticity and message credibility, thereby strengthening the influence of e-branding on impulse purchases (Yu et al., 2025). Empirical studies show that PSI underpins the effect of host attractiveness on impulsive buying in TikTok live streams (Fu & Hsu, 2023) and that emotional closeness generated through PSI increases consumers' confidence and purchase decisions (Langer & Landers, 2021), confirming PSI as an essential emotional link between online branding and buying behavior. Consistently, recent work associates social presence, personal identification, and streamer–viewer intimacy with impulse buying in fast-paced, real-time shopping settings (Rungruangjit, 2022), while host authenticity and responsiveness are found to nurture affective bonds that shape unplanned purchase decisions (Feng et al., 2024; Huang & Mohamad, 2025; M. Li et al., 2022).

Although research on live-stream consumer behavior is growing, several gaps remain. Most prior studies emphasize promotional cues or urgency factors to explain impulse buying, whereas few examine e-branding as the primary stimulus in live-stream settings (Alam et al., 2025). Research has also seldom investigated parasocial interaction as a mediating factor between e-branding and impulse buying, particularly in Southeast Asian markets where collectivist and socio-emotional tendencies are strong (Guan et al., 2022). Empirical studies in Indonesia, which is one of the largest and fastest-growing live-commerce markets, are still limited, especially regarding Shopee Live, whose expansion is driven by intensive digital branding (Pradika et al., 2025). To address these gaps, this study examines whether live-stream e-branding influences impulse buying behavior directly and indirectly through parasocial interaction among Shopee Live users. Theoretically, it extends the Stimulus-Organism-Response (S-O-R) framework by positioning parasocial interaction as the internal organismic mechanism that translates branding stimuli into behavioral

responses in an underexplored Indonesian live-commerce context (Wongkitrungrueng & Assarut, 2020; Xiaoyu et al., 2020). This approach is novel in integrating branding and parasocial factors within an Indonesian live-streaming environment and provides insights beyond prior studies that largely focused on other drivers or markets.

Accordingly, this research addresses two main questions: (1) To what extent does live-stream e-branding affect impulse buying behavior? and (2) Does parasocial interaction mediate the relationship between e-branding and impulse buying? This study draws on the S-O-R model (Mehrabian & Russell, 1974) by viewing e-branding as the stimulus that triggers an internal emotional reaction in the form of parasocial interaction as the organism, which then leads to impulse buying as the behavioral response. Consistent with Uses and Gratifications Theory (Katz, 1974), consumers engage with live-stream e-branding platforms not only for informational or utilitarian needs but also for emotional and social fulfillment, which reinforces digital branding as an affective mode of communication.

This research also offers practical implications for digital marketers and brand strategists. It shows that an authentic parasocial relationship between streamers and viewers, developed through credible messaging, engaging storytelling, and emotional connection, strengthens brand perceptions and stimulates impulse buying. Attributes such as authenticity, humor, and real-time responsiveness further deepen social attachment and customer engagement (Almeida Lucas et al., 2023; Hao et al., 2025), which makes humanized, emotion-driven branding strategies crucial in the fast-paced Shopee Live setting where viewers have short attention spans and make rapid purchase decisions. More broadly, the study enriches academic and managerial discussions by highlighting how emotion-driven, interactive marketing communication shapes consumer behavior in the experience economy, in which engagement and authenticity are dominant predictors of purchase intention and loyalty.

METHOD

This study adopted a quantitative, cross-sectional explanatory design to test the hypothesized causal relationships among the variables and to infer how live-stream e-branding influences impulse buying behavior both directly and indirectly through parasocial interaction. Data were collected using a structured survey to obtain observable measures and statistically evaluate the proposed theoretical model.

Research Design

This design is well suited for theory testing because it produces measurable, objective, and generalizable evidence on consumer behavior in the Shopee Live context (Hair, Hult, et al., 2021). By collecting quantifiable responses from a broad user sample, it enabled rigorous hypothesis testing with Structural Equation Modeling Partial Least Squares (SEM-PLS), a variance-based technique that fits the study's predictive and theory-extending aims (Wang et al., 2023). SEM-PLS

was chosen over covariance-based SEM because it is robust with moderate sample sizes, requires fewer distributional assumptions, and is appropriate for exploratory models that include mediation effects (Hair, Astrachan, et al., 2021; Wang et al., 2023). Thus, the design allowed an empirical assessment of the Stimulus Organism Response (S-O-R) framework in a single time frame, with live-stream e-branding as the stimulus, parasocial interaction as the organismic mediator, and impulse buying behavior as the response, and the individual Shopee Live user as the unit of analysis.

Population, Sampling and Research Location.

In this study, the population comprised all Shopee Live users in Indonesia who had attended and engaged in live-stream shopping events in the past six months, representing the digital consumers targeted by e-branding strategies. Indonesia has more than 210 million internet users, and approximately 32 percent visit live-stream commerce at least once a week, which underscores the relevance of this population (Viljoen-Nel, 2024). Given time and resource constraints, purposive sampling was used, with inclusion criteria requiring that respondents (1) had previously watched or purchased products through Shopee Live, (2) were at least 17 years old, and (3) understood Indonesian. In line with (Hair et al., 2019), a minimum sample size of 90 to 180 respondents was required for the 19 indicators in the model, and the final sample consisted of 140 Shopee Live users, primarily from the major digital market hubs of Jakarta and Bandung where engagement with Shopee Live is most active.

Variable Operationalization

In this research, three latent variables were examined, namely live-stream e-branding (X), parasocial interaction (M), and impulse buying behavior (Y). Their indicators were adapted from previous empirical studies and contextualized to the Shopee Live setting. Live-stream e-branding reflects consumers' perceptions of brand image and identity conveyed through live broadcasts and is measured by message consistency, host credibility, visual appeal, and interactivity (Alam et al., 2025; Hao et al., 2025). Parasocial interaction denotes a one-sided emotional bond that viewers develop with live-stream hosts, encompassing familiarity, empathy, trust, and self-identification (Fu & Hsu, 2023; Labrecque, 2014; Langer & Landers, 2021). Impulse buying behavior represents consumers' tendency to make spontaneous, unplanned purchases driven by emotional or situational triggers and is characterized by spontaneity, urgency, and emotionally driven buying (L. Li et al., 2023; Rook & Fisher, 1995; Utama et al., 2021). All questionnaire items for these variables were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Data Collection Procedures

Data were collected through an online questionnaire distributed via Google Forms, which consisted of a demographic section (age, gender, frequency of Shopee Live use) and a main section measuring the study variables. Before full deployment, the instrument was pilot-tested with 30 respondents to ensure clarity and content validity, and the feedback was used to refine item wording. The main survey was conducted in April and May 2025, and duplicate or incomplete responses were removed from the dataset. Throughout the process, ethical standards were upheld, as participants were informed about the purpose of the study and assured of confidentiality.

Data Analysis Techniques

Descriptive statistics were used to summarize respondent characteristics and overall response patterns, whereas inferential analysis employed Structural Equation Modeling with Partial Least Squares (SEM-PLS) using SmartPLS 4.0 (Khairusy et al., 2022; Luckyardi et al., 2023). The measurement model was evaluated through convergent and discriminant validity: convergent validity was assessed using the Average Variance Extracted (AVE > 0.50) and construct reliability via Composite Reliability and Cronbach's Alpha (both > 0.70) (Hair, Astrachan, et al., 2021), while discriminant validity was examined using the Heterotrait-Monotrait ratio with all HTMT values below 0.90 (Henseler et al., 2015). The structural model was assessed through path coefficients and their t-statistics (t > 1.96 at the 0.05 level), mediation effects were tested using bootstrapping, and predictive accuracy and model fit were gauged by R^2 and Q^2.

RESULT AND DISCUSSION

This section presents the study's findings by evaluating the measurement model, examining overall model fit, and reporting the results of hypothesis testing to answer the research questions. The results are structured to first establish the reliability and validity of the measurement model, then assess the fit of the structural model, and finally test the proposed hypotheses.

Table 1. Respondents' Demographic Characteristics

Characteristics	Category	Frequency (n)	Percentage (%)
Gender	Male	45	32.1
	Female	95	67.9
Age (years)	17–20	28	20
	21–25	62	44.3
	26–30	30	21.4
	Above 30	20	14.3
Education Level	Senior High School	18	12.9
	Undergraduate (Bachelor's)	88	62.9

	Postgraduate (Master's/Doctorate)	34	24.2
Occupation	Student	63	45
	Employee (Private/Public)	52	37.1
	Entrepreneur / Self-employed	25	17.9
Monthly Income	< IDR 3,000,000	49	35
	IDR 3,000,000–5,000,000	46	32.9
	> IDR 5,000,000	45	32.1
Frequency of Watching Shopee Live	Once a week	28	20
	2–3 times a week	48	34.3
	More than 3 times a week	64	45.7
Experience in Impulse Buying via Shopee Live	Yes	77	55
	No	63	45

Source: Primary Data, 2025

Table 1 shows that most respondents were young females (67.9%) aged 21–25 years (44.3%), indicating that young adult women are the most active digital users and the dominant consumer group in the Shopee Live context. The majority held a bachelor's degree (62.9%) and were students (45%) or employees (37.1%), which suggests that educated and economically active individuals play a central role in live-stream commerce. Regarding viewing behavior, 45.7% reported watching Shopee Live more than three times per week, reflecting a high level of engagement with live-stream content, and 55% had made impulse purchases during live sessions, which supports the theoretical view that emotional involvement and brand engagement are important drivers of impulse buying.

Figure 1. Outer Model (Convergent Validity)
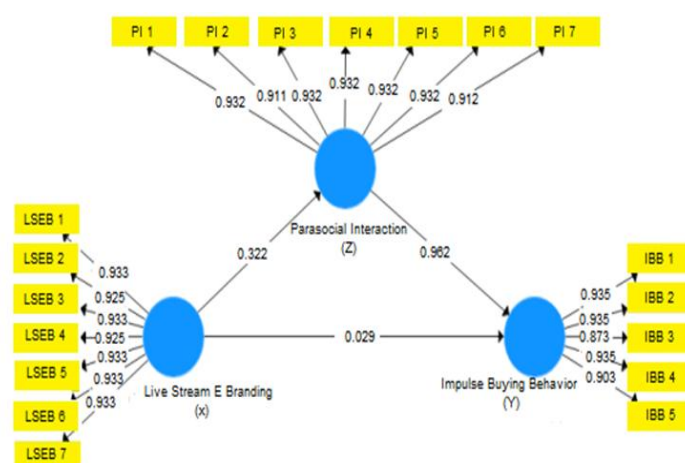
Source: SmartPLS 4 Output (2025)

Figure 1 gives the outer model which reflects the measurement validity of every construct. The indicator loading of Live-Stream E-Branding (0.923-0.933), Parasocial Interaction (0.911-0.932)

and Impulse Buying Behaviour (0.903-0.935) were above 0.70 which validated strong convergent validly.

Figure 2. Inner Model (Path Coefficients and t-Statistics)
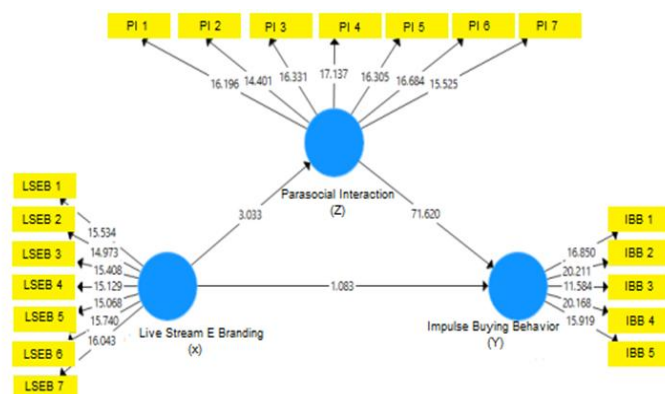
Source: SmartPLS 4 Output (2025)

The inner model depicts the causal links among the variables, with Live-Stream E-Branding influencing Parasocial Interaction and subsequently Impulse Buying Behaviour. The path coefficient from Live-Stream E-Branding to Parasocial Interaction is 0.322, while the direct path from Live-Stream E-Branding to Impulse Buying Behaviour is weak at 0.029. Impulse Buying Behaviour is strongly driven by Parasocial Interaction (0.962), which confirms the mediating role of emotional interaction in the live-stream context.

Measurement Model Evaluation

Table 2. Reliability and Validity Summary

Variable	Cronbach's Alpha	Composite Reliability (CR)	AVE	Description
Live-Stream E-Branding	0.974	0.978	0.866	Valid & Reliable
Parasocial Interaction	0.972	0.977	0.857	Valid & Reliable
Impulse Buying Behavior	0.952	0.963	0.84	Valid & Reliable

Source: SmartPLS 4 Output (2025)

Table 2 summarizes the reliability and convergent validity of all constructs in the measurement model. Each construct shows strong internal consistency, with Cronbach's alpha values well above 0.70 and composite reliability (CR) values between 0.963 and 0.978, which indicates robust reliability. Convergent validity is also established, as the average variance extracted (AVE) for all constructs ranges from 0.840 to 0.866 and exceeds the 0.50 benchmark (Hair et al., 2019), meaning that each construct explains more than half of the variance in its indicators. Specifically, the AVE values are 0.866 for Live-Stream E-Branding, 0.857 for Parasocial Interaction, and 0.840 for Impulse Buying Behavior, which confirms excellent convergence on their respective latent factors. Additional checks for discriminant validity (not tabulated) show that the constructs are empirically distinct, so live-stream e-branding, parasocial interaction, and impulse buying behavior capture

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different aspects of the data. With these reliability and validity criteria satisfied, the measurement model is considered sound and the analysis can proceed to the structural model and hypothesis testing.

Model Fit Summary

Table 3. Fit Indices of the Estimated Model

Fit Indicator	Value	Threshold	Interpretation
SRMR	0.03	< 0.08	Good Fit
D_ULS	0.176	< 5.00	Acceptable
D_G	1.517	< 5.00	Acceptable
Chi-Square	376.719	—	Descriptive
NFI	0.873	> 0.70	Good Fit

Source: SmartPLS 4 Output (2025)

Table 3 reports the key fit indices for the structural model, which together indicate excellent fit. The standardized root mean square residual (SRMR) is 0.03, well below the 0.08 cutoff for good fit, so the discrepancy between observed and model-implied correlations is very small (Henseler et al., 2015). The normed fit index (NFI) is 0.873, exceeding the commonly accepted threshold of 0.70 and indicating a substantial improvement over a null model (Henseler et al., 2015). The additional indices D_ULS (0.176) and D_G (1.517) are far below the conservative benchmark of 5.00, which suggests no problematic unsystematic discrepancies. The chi-square statistic (χ^2 = 376.719) is reported as a descriptive measure and does not raise concerns in the context of partial least squares structural modeling. Overall, these indicators show that the proposed structural model closely matches the observed data and provide confidence for interpreting the path coefficients and relationships among variables in the hypothesis testing stage.

Hypothesis Testing

Table 4. Path Coefficients and Hypothesis Testing Results

Hypothesis	Relationship	Original Sample (β)	t-Statistic	p-Value	Result
H1	Live-Stream E-Branding → Impulse Buying Behavior	0.029	1.083	0.279	Rejected
H2	Live-Stream E-Branding → Parasocial Interaction	0.322	3.033	0.003	Accepted
H3	Parasocial Interaction → Impulse Buying Behavior	0.962	71.62	0.000	Accepted
H4	Live-Stream E-Branding → Parasocial Interaction → Impulse Buying Behavior	0.310	3.081	0.002	Accepted

Source: SmartPLS 4 Output (2025)

Table 4 summarizes the path coefficients and hypothesis testing results for the structural model. Each hypothesis is evaluated in light of the path coefficient (standardized beta, β), its t-statistic, and p-value, allowing us to determine which proposed relationships are supported by the data.

H1 proposed that Live-Stream E-Branding would have a positive direct effect on Impulse Buying Behavior, but the analysis shows that this path, although positive, is not statistically significant ($\beta = 0.029$, $t = 1.083$, $p = 0.279$), so H1 is not supported. In practical terms, live-stream e-branding by itself does not significantly increase viewers' impulse buying, which indicates that any effect on impulse purchases is not simple or purely direct.

H2 proposed that Live-Stream E-Branding positively influences Parasocial Interaction, and the data clearly support this hypothesis. The path from live-stream e-branding to parasocial interaction is significant and of moderate strength ($\beta = 0.322$, $t = 3.033$, $p = 0.003$), so H2 is accepted. This indicates that effective live-stream e-branding practices, such as engaging content, clear branding messages, and compelling host presentations, are associated with higher levels of parasocial interaction between viewers and streamers and confirms that branding elements in live-streams help foster a sense of personal connection and engagement with the audience.

H3 proposed that Parasocial Interaction positively affects Impulse Buying Behavior, and this hypothesis is strongly supported, as parasocial interaction has a very large and significant effect on impulse buying ($\beta = 0.962$, $t = 71.62$, $p < 0.001$) and is the dominant predictor in the model. The exceptionally high t-value and substantial beta coefficient indicate that viewers who feel a stronger personal connection and social presence with the live-stream e-branding host are far more likely to make spontaneous purchase decisions. This finding directly addresses the research question on the role of parasocial bonds and shows that emotional and social engagement is a crucial driver of consumers' impulse buying in live-stream e-branding.

H4 examined the mediating role of Parasocial Interaction in the relationship between Live-Stream E-Branding and Impulse Buying Behavior. The results support this mediation, as the specific indirect path (Live-Stream E-Branding → Parasocial Interaction → Impulse Buying) is positive and statistically significant ($\beta = 0.310$, $t = 3.081$, $p = 0.002$), so H4 is accepted. This indicates that live-stream e-branding increases impulse buying primarily by fostering parasocial interaction, since viewers who feel a stronger personal connection with the host are more likely to buy on impulse. The absence of a significant direct effect in H1 combined with the significant indirect effect in H4 suggests full mediation, meaning that without a parasocial bond the influence of live-stream e-branding on impulse buying remains minimal.

In summary, the hypothesis testing results show a consistent pattern: live-stream e-branding alone does not meaningfully increase impulse purchases unless it also builds a relational bond with viewers. Live-stream e-branding significantly enhances parasocial interaction (H2 supported), and parasocial interaction strongly drives impulse buying (H3 supported). The direct effect of live-stream e-branding on impulse buying is negligible (H1 rejected), whereas the indirect effect through parasocial interaction is significant (H4 supported). These findings empirically validate the proposed model and confirm that in live-stream shopping, the social and emotional connection between host and viewers is the key mechanism that converts branding exposure into impulsive purchasing behavior.

This section synthesizes the findings in relation to the Stimulus Organism Response (S-O-R) framework and existing literature, outlines key limitations and their implications, proposes directions for future research, and highlights the study's theoretical and practical contributions. The discussion explains why the results emerged, how they relate to broader theory and prior studies, and how emotional and social dynamics in live-stream e-branding shape consumer responses in the Indonesian context, with important implications for theory development and managerial practice.

Interpretation of Key Findings

The findings indicate that live-stream e-branding is effective mainly when it generates emotional and social interaction between host and audience rather than relying on visual attractiveness or other superficial cues. Viewers are more persuaded by engaging two-way communication and a sense of connection, such as when hosts address them by name, answer questions in real time, and show genuine enthusiasm, which creates a social experience that resonates more deeply than flashy graphics, limited-time offers, or mere physical appeal. The resulting emotional contagion and social bonding elevate mood, foster community, and strengthen attachment to the brand or seller, thereby increasing purchase intentions, loyalty, and positive word-of-mouth, consistent with evidence that consumers in experiential and social commerce contexts care more about how they are engaged than about surface presentation (Wongkitrungrueng et al., 2020). In Indonesia, where group harmony and interpersonal relationships are highly valued, these interactive and communal aspects likely matter even more, so live-stream e-branding that humanizes the seller and builds real-time rapport can reduce skepticism and stimulate purchases, reflecting both a general human need for social connection in commerce and a cultural predisposition to respond strongly to relational engagement (Sidik & Roostika, 2024).

From a theoretical perspective, these results support the Stimulus Organism Response (S-O-R) framework, in which interactive features and host behaviors in live-stream e-branding act as stimuli that shape internal organism states such as emotion, arousal, trust, and perceived social presence, which in turn drive responses such as purchase decisions and brand loyalty (Mehrabian & Russell, 1974). The evidence shows that dynamic, emotionally engaging interaction between host and audience is more influential than purely visual or promotional cues because it generates enjoyment, trust, and a sense of camaraderie, so live-stream e-branding works less by pushing products and more by drawing viewers into an interactive experience where heightened emotional engagement and a perceived personal bond mediate the effect of marketing stimuli on action. This view is consistent with recent work showing that social presence and parasocial relationships with the streamer cultivate trust and increase purchasing, and that the feeling of being there with the streamer together with enjoyment strengthens parasocial bonds and raises trust in the seller and purchase intention (C. Y. Yang et al., 2025; G. Yang et al., 2024), which in our study appears in hosts whose social and emotional engagement turned live streams into relationship-building encounters in which humanized interaction rather than one-way promotional communication shaped consumer attitudes and behaviors.

Comparison with Previous Studies

Overall, this study corroborates and extends prior work on live-stream e-branding while adding important nuance. The findings support a growing consensus that real-time interactivity and trust-building are central to success, since interactive communication and social factors strongly drive engagement and purchasing. Live streaming features such as chat and demonstrations foster trust and engagement with sellers (Wongkitrungrueng & Assarut, 2020), and immersive, responsive environments within the S-O-R framework elicit positive emotions that enhance purchase intentions (Xu et al., 2022). Our focus on emotional and social interaction aligns with this evidence by confirming that social presence and engagement are key mechanisms through which live-stream e-branding platforms convert viewers into buyers. Consistent with social commerce research, the interpersonal tie between streamers and viewers resembles a parasocial relationship, a one-sided friendship that strengthens trust and purchase intentions (C. Y. Yang et al., 2025), and friendly, authentic rapport produces better branding outcomes. Studies in Asian markets similarly stress authenticity and two-way communication, as streamer authenticity, expertise, and responsiveness have been shown to increase trust and purchase intention (Zou & Fu, 2024), which reflects the emotional and social interaction quality emphasized in our results. Our research therefore reinforces evidence that live-stream audiences are not passive consumers but active participants seeking social interaction, and when that need is met their confidence and willingness to buy increase markedly (Wongkitrungrueng et al., 2020; Wu & Huang, 2023). In Indonesia, this effect is likely amplified, because interactions that use local language, humor, and norms create a strong sense of community that fits collectivist values that place a high importance on relationships.

Despite broad alignment with prior work, our findings add nuance about entertainment and other surface-level cues. Earlier studies show that streamer physical attractiveness can indirectly stimulate impulse purchases by enhancing parasocial interaction and fear of missing out, since attractive hosts more easily capture attention and facilitate engagement (K. Li et al., 2025; Luo et al., 2025). In our context, however, visual appeal alone did not guarantee live-stream e-branding success, which may reflect differences in setting and outcomes, because (L. Li et al., 2024) examined short-term impulses whereas we focus on branding success and longer term attitudes. Attractiveness may briefly draw viewers in but appears insufficient to sustain engagement or convert it into trust and loyalty without substantive interaction, in line with (Zou & Fu, 2024), who found that entertainment value, including charisma or visual appeal, had no significant direct effect on trust or purchase intention, whereas host responsiveness did increase trust. Our results therefore suggest that being entertaining or good looking is not enough and that genuine, responsive interaction is required to meaningfully shape consumer decision-making.

Another point of contrast concerns promotional tactics such as flash sales, discount coupons, and scarcity appeals in live-stream e-branding commerce. Prior research and industry reports show that limited-time offers and on-screen promotions can trigger urgency and spur impulsive purchases, for example through countdown timers or one-time coupons that temporarily boost sales (Ho et al., 2022; Makmor et al., 2024). In this study, however, such promotions were not decisive drivers of branding success, as their influence appeared modest compared with emotional engagement, since gimmicks may raise short-term sales but do little to build trust, loyalty, or long-term relationships without a relational foundation. Recent live commerce research increasingly separates

short-term impulse effects from sustained engagement, and our findings suggest that, once interactivity and emotional appeal are considered, promotions do not significantly affect outcomes such as customer satisfaction or brand perception. This diverges from earlier work in high-volume Chinese live-stream markets where sales promotions are emphasized as key stimuli (Han, 2025) and points to context-specific dynamics in which Indonesian audiences, who often view streams as entertainment and social gatherings, are less swayed by hard-sell tactics and more by relational aspects. Overall, our results support the view that live-stream e-branding functions more as a social exchange platform than a one-way advertising channel, because consumers place primary value on human connection and authenticity while attractiveness, discounts, and other cues play only supporting roles, which underscores the importance of cultural and platform-specific context when applying findings across live-stream e-branding settings.

Limitations and Cautions

Like all research, this study has limitations that warrant cautious interpretation. It was conducted only among Indonesian consumers engaging with live-stream e-branding on specific platforms and product types, so the findings may not easily generalize to other countries or markets. Cultural and market characteristics such as a strong collectivist orientation and distinctive social media usage may heighten the importance of social interaction, whereas audiences in more individualistic contexts might prioritize informational content or tangible cues over relational engagement. Future research should therefore investigate whether similar patterns occur in other cultural settings and use cross-country comparative designs to examine how culture moderates Stimulus Organism Response (S-O-R) processes in live-stream e-branding.

Second, the study's methodology also imposes constraints. The use of cross-sectional, self-reported survey data at a single point in time increases the risk of common method bias and limits strong causal inference, because reported emotional engagement and purchase intentions may not fully match actual behavior and may be shaped by social desirability. The findings are therefore correlational and causal claims should be made cautiously. Future research could strengthen the evidence by using experimental or longitudinal designs, for example by tracking users across multiple live-stream e-branding sessions or systematically manipulating specific stream characteristics in controlled settings, in order to observe real-time reactions and determine whether emotional and social interactions genuinely drive increases in trust and purchasing or whether other unmeasured factors are involved.

Third, this study is limited by the scope of its variables and measures. We focused on selected aspects of the live-stream e-branding experience, such as host interaction quality and visual appeal, while product-related factors (for example product type, price, or quality) and platform features (such as recommendation algorithms or peer comments) were not examined, so the model may not capture the full complexity of consumer decision-making. For some products, especially high-involvement or expensive items, visual and informational cues or social proof from other viewers may play a greater role, which means our conclusions are most applicable in situations where interpersonal dynamics are the main source of variation. Future research should extend the model by incorporating additional stimuli and interaction effects, for instance by testing whether a highly

interactive host can compensate for trust deficits in a low-quality product or by examining how viewer-to-viewer chat shapes organism states such as excitement or trust.

Fourth, this study measured only immediate or short-term attitudes, namely purchase intention and brand perception, after live-stream e-branding exposure and did not track longer term outcomes such as actual purchasing, customer retention, or brand loyalty across repeated sessions. The findings are therefore most applicable to the short-run impact of a single live-stream and imply that the benefits of emotional and social interaction likely require consistent reinforcement for lasting brand effects. Future research should use longitudinal designs to see whether these positive impressions translate into repeat purchases and loyalty and should add qualitative work, such as interviews or focus groups, to understand how such interactions shape subsequent consumer behavior.

Reflecting on these limitations, we acknowledge that the study's sample, method, and scope constrain how the findings should be interpreted and we are transparent about what was and was not done so that readers have a realistic view of its applicability. Although these constraints do not lessen the value of the results, they require that conclusions be drawn with contextual caution and they highlight clear directions for future research to refine, extend, and build on this work.

Recommendations for Future Research

Building on the above limitations and the new questions raised by this study's findings, we propose several directions for future research to advance understanding of live-stream e-branding:

1. Cross-platform comparison. Comparison of the presence of parasocial interaction and impulse buying in various live-commerce settings (e.g., TikTok, YouTube, LazLive) to determine platform-driven behavioural.
2. Moderating variables. The inclusion of factors like digital trust, perceived scarcity, or social presence as moderators will help to narrow down the knowledge about the psychological process that takes place between branding and buying.
3. Longitudinal behavioural monitoring. To test the effect of repeat exposure on emotional attachment and purchasing behavior, use time or sequential designs to study the effect of repeated exposure to the same host.
4. Demographic segmentation and cultural segmentation. Research the impact of cultural orientation (individualism/collectivism) and a generation gap on the intensity of parasocial relationships in online purchasing situations.
5. Artificial intelligence and personalisation. Further research may focus on the impact of AI-based recommendation systems and virtual influencers on the parasocial process and consumer impulsivity in live-stream-based commerce.

Theoretical and Managerial Implications

Theoretically, this study extends the Stimulus-Organism-Response (S-O-R) framework to live-stream e-branding by showing that in technology-mediated settings social and interactive stimuli,

such as host communication and real-time engagement tactics, are more influential than ambient or purely visual cues and that the Organism component should explicitly include social-relational states such as parasocial relationship quality and social presence. By empirically demonstrating that emotional and social connection drives responses, the study integrates parasocial interaction and social presence into S-O-R, links environmental psychology stimulus-response models with media and communication theories on audience-presenter relationships, and highlights the mediating role of trust in social commerce, since trust in the host and in the brand arises from engaging communication and translates into purchase intention and positive brand attitudes in line with trust transfer findings such as G. Yang et al. (2024), who showed that trust can move from streamer to product. Situating the analysis in Indonesia further suggests that cultural characteristics such as collectivist orientation may strengthen specific S-O-R pathways and that consumer behavior theories should incorporate cultural moderation when applied globally, so the overall contribution lies in adapting S-O-R to live-streaming with social interaction quality, parasocial relationship, and trust at its core and in emphasizing the central role of social and emotional organismic states and contextual factors in digital retail environments.

Managerial implications from this study indicate that successful live-stream e-branding and social commerce rely more on humanizing the digital experience than on flashy production. Brands and sellers should prioritize strategies that build engagement and trust rather than depending solely on physical attractiveness or aggressive promotions, especially when selecting or training hosts. Hosts should possess strong communication skills, authenticity, and empathy so that they can tell relatable stories, respond to questions with genuine care, and create an inclusive, enjoyable atmosphere. In practice, firms can develop training programs that teach hosts to greet viewers warmly, use viewers' names, address concerns transparently, and express sincere enthusiasm for the products, because such interpersonal touches make audiences feel comfortable and engaged and ultimately encourage purchase decisions.

Another implication for digital marketers is the importance of strengthening social interaction features on live commerce platforms. Managers of e-commerce sites or brand-owned live sessions should ensure that tools such as live chat, Q&A windows, reaction buttons, and polls are user-friendly and prominently displayed during streams (Ginting & Harahap, 2022; Putri & Septrizola, 2024; Wiyana et al., 2024). Brands can further stimulate participation by asking questions, running live polls, and organizing small community activities such as comment-based giveaways so that viewers feel part of a shared event rather than passive spectators. As viewers engage more actively, they begin to view themselves as members of a brand-centered community, which strengthens brand affinity. For example, a beauty brand could invite viewers to share skincare tips in the chat and respond to those messages in real time, thereby creating meaningful engagement and making the audience feel heard and appreciated.

For content strategy, managers should prioritize authenticity and transparency over perfectly polished advertising in live-stream e-branding. Audiences respond to the host's emotional sincerity, so heavily scripted messages or excessive production can seem artificial, whereas spontaneity and natural interactions, including handling minor mistakes with humor, strengthen perceived authenticity. A measured level of unscripted communication can build trust as long as the host remains aligned with brand values and is knowledgeable about the product. Live-streams

should therefore be designed to showcase the human side of the brand, for example through personal anecdotes and a warm, conversational tone rather than a formal sales pitch, because these practices create emotional connections that conventional product pages or ads rarely achieve.

A further managerial implication concerns how success in live-stream e-branding is measured. Beyond immediate conversion rates and viewer counts, managers should track engagement quality, such as comments or questions per viewer, average watch time, and repeat attendance, because high engagement signals emotional investment. Hosts' KPIs should therefore include engagement targets, such as responding to a substantial share of questions and maintaining active chat alongside sales goals, since these behaviors help build loyalty and customer lifetime value. In markets like Indonesia, where word-of-mouth is influential, highly engaged viewers can become brand advocates who share positive live-stream experiences with their networks and extend marketing reach at relatively low cost.

For digital marketers in Indonesia and similar emerging markets, this study indicates that building an online community around live-stream e-branding is a particularly effective strategy. Because Indonesian consumers value communal experiences and rely on trust networks, managers can create dedicated groups or forums where live-stream audiences interact outside broadcast hours and can schedule recurring live events to build anticipation. Incorporating local cultural references and language varieties enhances relatability and signals genuine respect and care for customers, so brands that show such cultural sensitivity and human connection can stand out from competitors using impersonal tactics. Live-stream e-branding should therefore be seen not only as a sales channel but as a large-scale relationship-building medium, where emotionally and socially rich conversations with many viewers can significantly strengthen brand success.

CONCLUSION

This research examined how live-stream e-branding influences impulse buying among Shopee Live users in Indonesia, with parasocial interaction as a mediating variable. The results show that e-branding stimuli do not directly increase impulse purchases but significantly strengthen parasocial interaction, which in turn powerfully drives unplanned buying, so parasocial bonds between viewers and streamers act as a critical psychological bridge between branding exposure and real-time impulsive decisions. Theoretically, the study enriches the Stimulus Organism Response (S-O-R) framework by positioning parasocial interaction as a central organismic mediator in live commerce and by highlighting an affective mechanism often overlooked in e-commerce research. Managerially, it suggests that brands should prioritize authentic, engaging communication that builds trust and emotional connection with audiences rather than relying solely on promotional tactics in order to more effectively trigger impulse purchases.

This study has several limitations. Data drawn only from Shopee Live users in Indonesia restrict generalizability to other platforms and cultural contexts, and the cross-sectional design limits causal inference and analysis of change over time. Future research should use longitudinal designs and cross-platform or cross-country comparisons and examine moderating variables such as consumer trust, cultural orientation, and time pressure. Addressing these gaps would help validate and extend

these insights on emotion-driven decision making in interactive commerce and inform more effective branding strategies in emerging digital environments.

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