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The Impact of Streamer Interaction and Credibility on Impulse Buying Among Gen Z TikTok Users in Indonesia

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Abstract
The phenomenon of live streaming commerce (LSC) on platforms such as TikTok has changed online shopping behavior, especially among Generation Z. This study aims to examine the effect of the quality of interaction between streamers and audiences, streamer credibility, and product information quality on impulse buying tendencies, with customer engagement as a mediating variable. The problem raised stems from the suboptimal understanding of the psychological and communication mechanisms that trigger spontaneous purchases in the context of live streaming, unlike traditional e-commerce. The novelty of this study lies in the integration of signal theory and social exchange theory to explain the cognitive and emotional pathways in impulse buying behavior in TikTok live commerce. This study uses a quantitative approach with a purposive sampling method on TikTok users from Generation Z who have participated in live shopping, and is analyzed using Structural Equation Modeling (SEM) through SmartPLS. The results show that the quality of streamer interaction has a significant effect on streamer credibility and product information quality, which in turn have a positive impact on customer engagement and impulse buying tendencies. However, customer engagement plays a more indirect role. These findings imply that increasing interactive communication and credibility in live streaming can strengthen product perceptions and encourage impulse buying. Further research is recommended to explore emotional mediators such as urgency or FOMO to gain a deeper understanding.

Keywords*: Streamer Interaction, Streamer Credibility, Impulsive Buying Behavior, Live Streaming, TikTok Live, Gen Z.*

INTRODUCTION

The growth of technology in recent decades has brought significant changes, including the emergence of online shopping technology. Online shopping is becoming increasingly attractive because it offers lower prices, a variety of products, convenience, time savings, customer reviews of a product or service, and easy access to hard-to-find products. (Bouzidi, 2023) Based on the results of the 2023 Data Report study, from 2022 to January 2023, Indonesians spent around 55.97 billion USD, or around 851 trillion IDR, on online shopping.

The presence of online shopping platforms creates an urgent (Ivana Kursan Milaković, 2023) Consumer shopping is not only to meet daily needs (i.e., utilitarian shopping value) but also for relaxation, fun, and enjoyment (Hu et al., 2023) In this digital era, people tend to make impulsive purchases because 84% of customers get products without planning, and impulsive purchases account for 40% of online consumption. (Zafar, 2020).

Online shopping through live streaming also contributes significantly to the impulsive buying phenomenon in Indonesia. (Yun Lin, 2023) Assert that this potential enhances company profits amid rising online shop competition. Real-time interaction features between consumers and sellers stimulate urges for impulsive purchases. Such activities hold considerable potential for increasing company profitability through spontaneous transactions and enhancing customer loyalty. Understanding online impulse buying is also very important for online businesses (brands) because it allows companies to create the proper marketing and communication strategies and can encourage further online impulse buying. Impulse buying is common among people around the world. Various reasons drive someone to make an impulsive purchase. (Index, 2022) Surveyed 11,049 respondents from 12 countries aged 16-64 who made impulsive purchases. Based on data from DataIndonesia.id in 2022, the most common reason Gen Z people make impulsive online purchases is because they feel they are getting benefits from attractive offers, with a percentage of 43%. In addition, other reasons that contribute to this behavior include self-

appreciation (39%), easy and fast checkout process (37%), and the pleasure of buying new items (37%). Not wanting to miss out on limited offers is also an important factor, with 36% of Gen Z respondents citing it as the main motivation.

Impulsive buying can be triggered by various things, from self-appreciation to not wanting to miss out on limited product offerings. Each generation has different reasons for shopping impulsively. This is as illustrated in the Global Web Index (GWI) report. According to the report, Generation Z shops impulsively because of an attractive offer of 43%. The millennial generation, who shop impulsively for this reason, is 46%. Meanwhile, the percentage between Generation X and baby boomers is 52% and 58%, respectively. The second biggest reason people shop impulsively in online stores is to appreciate themselves or self-reward. This reason was stated by 39% of Gen Z, 44% of Gen X, and 40% of baby boomers. Meanwhile, the second biggest reason for the millennial generation is the joy of buying new items. This was stated by 39% of respondents from the generation born in 1981-1996. However, another study shows that streamers also significantly influence impulsive buying behavior in online shopping, especially on live streaming. Research by Shao (2024) Indicates that social media influencers' credibility, content relevance, empathy, and professionalism (SMIs) enhance consumer engagement with live content and drive impulsive buying behavior. Additionally, Luo et al., (2024) Affirm that streamer interaction positively correlates with product information quality and customer engagement, subsequently influencing impulsive buying tendencies. This research suggests that effective interaction between streamers and viewers can foster an environment conducive to impulsive purchasing behavior.

In this distinctive shopping landscape, streamers have become more influential than conventional advertising methods, owing to the fast-paced and interactive characteristics of live streaming commerce, which significantly amplifies the ability of streamers to drive customers towards making spontaneous buying choices. For example, it is commonly assumed that female sellers are more effective in selling skincare and cosmetic products, experiential products, in e-commerce. (Ardion Beldad, 2016). Given these facts, it is important for researchers to rethink the influence of product-streamer fit on streamer sales performance and to help online businesses (brands) select the most suitable streamers for marketing. This investigation seeks to replicate the research conducted by (Luo, 2024) By exploring the correlation between streamer interaction quality, streamer credibility, product information quality, consumer engagement, and impulsive purchasing behavior in individuals who shop through live streams. The primary distinction of this study is its focus on Generation Z consumers utilizing TikTok Live Streaming services in Indonesia. Drawing from the findings of (Luo, 2024). This research examines five key variables: the quality of streamer interaction, the credibility of the streamer, the quality of product information provided, the level of customer engagement, and the tendency towards impulse buying. The quality of streamer engagement is defined by the streamer's ability to actively involve the audience throughout the live streaming event. Streamer credibility reflects how much the audience trusts the streamer’s expertise and integrity in delivering information. Product information quality encompasses product accuracy, relevance, and detail. Customer engagement relates to the audience’s involvement and participation in the live streaming session. Impulse buying is a spontaneous and unplanned purchasing behavior, often triggered by positive interactions and experiences during the live streaming session.

The importance of this study also arises from the lack of empirical research that specifically explores the relationships among the variables involved. Previous studies have provided insights into the influence of streamer engagement and credibility in other contexts. However, none have explicitly focused on Indonesia, considering its unique market characteristics. Existing studies often ignore the impact of product information quality and customer engagement on impulse buying. This research aims to fill the gap in the literature and make a significant contribution to understanding consumer behavior in live streaming shopping in Indonesia. Currently, two leading live-streaming platforms in Indonesia compete fiercely with each other. The competition primarily occurs between Shopee and TikTok. In 2022, Shopee held the top position among live streaming platforms in Indonesia with 83.4% of users, followed by TikTok with 42.2% of users. However, by 2024, TikTok successfully claimed the top position with 77% of users, while Shopee followed closely with 74% (Ahdiat, 2024). This competition is influenced by the innovative features offered, as well as the appeal of live streaming content from each platform. Sarwar et al., (2023) Highlight that interactive user experiences and promotional discounts drive further competition. Based on data from Cube Asia regarding the use of live commerce applications by Indonesian consumers in the period from June to August 2024, TikTok is in the top position, with 77%

of respondents using it for live shopping. Shopee follows in second place with almost the same percentage, namely 74%. Meanwhile, Instagram is used by 37% of respondents, followed by Facebook (21%) and Lazada (17%). This data shows that short video-based platforms such as TikTok are increasingly dominating live commerce shopping behavior in Indonesia.

In this study, the platform that will be used is TikTok because it has shown tremendous user growth, making it the leading live streaming platform in 2024. TikTok's highly engaging and diverse content has been able to attract the attention of many consumers. This platform has successfully utilized its algorithm to present personalized content to users, thereby improving user experience and encouraging longer viewing duration. TikTok's innovative approach in integrating e-commerce and live streaming features also provides an entertaining and instant shopping experience and capitalizes on impulse buying behavior. These factors make TikTok the right place to study the influence of streamer interaction and credibility on impulse buying behavior of Gen Z consumers in the context of live streaming shopping in Indonesia.

METHOD

This research employed an exploratory approach for describing objects, events, and situations, which were investigated by Sekaran & Bougie in the year 2016. The gathering of information in this particular research will be done through the survey method, that is to say, giving out and retrieving questionnaires from the respondents, as Radjab & Jam in 2017 have stated. Such research will not affect the data, so the unit of analysis is performed on the individuals in the cross-section. It utilizes a quantitative method. Sugiyono (2020) defines quantitative methods as based on a positivist philosophy and applied in the survey of defined populations or samples. Primary data was gathered through the use of research tools, and the quantitative data collected was subjected to different analytical methods, including the use of statistical methods, in order to verify the hypothesis formulated.

The target audience in this study is TikTok users from Generation Z who meet certain criteria. Respondents involved in this study are required to actively follow live broadcasts on TikTok. In addition, this study also limits respondents who have used TikTok for at least six months, with a special focus on those who have made purchases through the platform. This criterion was chosen to ensure that the sample taken consists of individuals who are already quite familiar with using TikTok, as well as having experience in utilizing the e-commerce features in the application. (Sugiyono, 2017) Mentioned that a sample is a section of a population, such as people who share similar attributes. A sample is a group of individuals in the population who form a part of another larger population, which is the larger sampling frame. This study sets alpha (α) at five percent, which means a confidence level of 95%, while the error value (e) is 5%. In this study, the number of respondents between one hundred and six hundred people who were given a questionnaire was successfully obtained, which will be guided by the number of people who have followed the TikTok account @Mamafuji_official.

The sampling is non-probability sampling, where the sampling is done according to certain criteria that are not related to chance or equal chances. In this regard, the researchers applied a purposive sampling approach, that is, the form of sampling where the researcher picks samples that they believe should fit the objectives of the research. Although using non-probability sampling techniques, such as purposive sampling, the determination of the minimum number of samples still refers to the guidelines recommended in quantitative research. According to Sekaran and Bougie (2016), a feasible sample size for social research ranges from 100 to 200 respondents in order to produce a reliable analysis. In addition, Hair et al. (2010) suggest that for multivariate analysis, the ideal sample size is at least 5 to 10 times the number of indicators in the research model. Therefore, the selection of the number of respondents in this range is considered adequate to meet the needs of data analysis in this study. Data processing was carried out using SmartPLS version 3.0, which is suitable for research models with the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. SmartPLS was chosen because it is able to handle models with high complexity and relatively small sample sizes, and is suitable for testing causal relationships between latent variables and measuring reliability and construct validity. The data collection method employed in the research involves the use of questionnaires, which are dispensed to research participants via Google Forms. Google Forms are distributed via social media sites like TikTok, to people who have previously live-streamed on TikTok, targeting Gen Z audiences.

Data used in this study could be accessed through the following link: https://bit.ly/QuestResult

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RESULTS AND DISCUSSION

Table 1. Respondent Profile

Variable	Characteristic	N= 600
Gender	Male	278
	Female	322
Highest Level Education	Elementary School	58
	Junior High School	92
	Senior High School	138
	Degree	210
	Post Graduate Degree	102
Monthly Income	Rp1.000.000 - Rp2.999.999	90
	Rp3.000.000 - Rp4.999.999	147
	Rp5.000.000 - Rp10.000.000	319
	> Rp10.000.000	44
Purchase Frequency in the Current 2 Months	Once	74
	Twice	276
	Three Times	120
	Four Times or More	130
Usage Duration	Within A Year	118
	1-2 years	200
	3-4 years	176
	4 years or longer	106

The respondent profile in this study consisted of 600 individuals with a relatively balanced gender composition, namely 278 men and 322 women. The highest level of education of respondents was dominated by bachelor's graduates, as many as 210 people, followed by high school graduates, as many as 138 people, postgraduate graduates, as many as 102 people, junior high school graduates, 92 people, and elementary school graduates, 58 people. Most respondents have a monthly income in the range of IDR 5,000,000–IDR 10,000,000 (319 people), followed by the group of IDR 3,000,000–IDR 4,999,999 (147 people), IDR 1,000,000–IDR 2,999,999 (90 people), and more than IDR 10,000,000 as many as 44 people. In the last two months, the majority of respondents made online purchases twice (276 people), followed by four or more times (130 people), three times (120 people), and once (74 people). The duration of use of online shopping platforms shows that most have used them for 1–2 years (200 people), followed by 3–4 years (176 people), less than 1 year (118 people), and more than 4 years (106 people).

Validity Test

The validity test of indicators in PLS modeling can be done by using convergent validity and measurement models with reflective indicators that can be seen from the correlation between item/indicator scores and their constructs (loading factors) that can be seen from the outer loading output. The outer loading output of the estimated results from the PLS Algorithm is as follows:

Table 2. Validity Test Results

First Order Variable	Second Order Variable	Indicator	Loading Factor	Information
CE	AFE	AFE1	0.843	Valid
		AFE2	0.836	Valid
		AFE3	0.828	Valid
	BEH	BEH1	0.785	Valid
		BEH2	0.784	Valid
		BEH3	0.816	Valid

First Order Variable	Second Order Variable	Indicator	Loading Factor	Information
		BEH4	0.788	Valid
		BEH5	0.795	Valid
	COG	COG1	0.890	Valid
		COG2	0.890	Valid
		SOC1	0.816	Valid
	SOC	SOC2	0.833	Valid
		SOC3	0.833	Valid
		IBT1	0.831	Valid
IBT	IBT	IBT2	0.804	Valid
		IBT3	0.808	Valid
		BEV1	0.791	Valid
	BEV	BEV2	0.803	Valid
		BEV3	0.828	Valid
		BEV4	0.776	Valid
		USE1	0.783	Valid
	USE	USE2	0.812	Valid
PSQ		USE3	0.812	Valid
		USE4	0.807	Valid
		VIV1	0.770	Valid
		VIV2	0.764	Valid
	VIV	VIV3	0.772	Valid
		VIV4	0.791	Valid
		VIV5	0.807	Valid
		EXP1	0.783	Valid
		EXP2	0.798	Valid
	EXP	EXP3	0.802	Valid
		EXP4	0.781	Valid
		EXP5	0.780	Valid
SC		TRU1	0.778	Valid
		TRU2	0.773	Valid
	TRU	TRU3	0.785	Valid
		TRU4	0.787	Valid
		TRU5	0.770	Valid
		EMP1	0.790	Valid
	EMP	EMP2	0.784	Valid
		EMP3	0.806	Valid
		EMP4	0.775	Valid
		REA1	0.829	Valid
SQ	REA	REA2	0.813	Valid
		REA3	0.819	Valid
		RES1	0.797	Valid
	RES	RES2	0.800	Valid
		RES3	0.817	Valid
		RES4	0.796	Valid

Based on the output of the outer loading value, it can be concluded that all indicators in this study have met the requirements for convergent validity. This can be seen from the loading factor results, which show that none of the indicator items have a value below 0.7. In other words, all indicators in each construct show a strong contribution to the latent variables they represent. The loading factor value above the threshold of 0.7 indicates that the indicators are able to measure their constructs consistently and accurately. This finding strengthens the belief that the measuring instrument used in the model has good

measurement quality in terms of internal consistency between indicators in one construct. Thus, it can be concluded that the measurement model in this study has met the criteria for convergent validity required in the PLS-SEM analysis.

Fornell-Larcker Criterion

Another method that can be used to assess discriminant validity is based on the Fornell-Larcker criterion and the values of loading and cross-loading indicators. The calculation process for the Fornell-Larcker criterion is carried out by comparing the AVE root of each construct to the correlation between one construct and another in the research hypothesis model. (Ghozali, 2008).

Table 3. Fornell-Larcker Criterion Results

	CE	IBT	PSQ	SC	SQ
CE	0.758				
IBT	0.377	0.814			
PSQ	0.448	0.502	0.745		
SC	0.427	0.477	0.639	0.751	
SQ	0.378	0.432	0.463	0.442	0.735

Based on the calculation results, it can be seen that this research model has met the criteria for discriminant validity. Discriminant validity is one of the important requirements in testing the extent to which a construct is truly different from other constructs in the same model. This finding is proven through the Fornell-Larcker Criterion value, where the correlation value of the square root of the Average Variance Extracted (AVE) located in the top row (diagonal) is greater than the correlation value between constructs in the rows and columns below it. This condition indicates that each construct in the model is more closely related to its own forming indicators than to other constructs. Thus, it can be concluded that the structural model in this study has met the criteria for discriminant validity statistically, which means that each latent variable is able to stand alone conceptually and does not overlap with other constructs in the model. This fulfilled discriminant validity strengthens the reliability and accuracy of the measurement of the research model as a whole.

HTMT Test

The last validity test is to look at the Heterotrait-Monotrait Ratio (HTMT) value. The required HTMT ratio must be less than 1 so that it can be said to meet the discriminant validity assessment. (Hair, 2010).

Table 4. HTMT Test Results

	CE	IBT	PSQ	SC	SQ
CE					
IBT	0.450				
PSQ	0.478	0.602			
SC	0.461	0.577	0.693		
SQ	0.408	0.522	0.501	0.484	

Based on the results of the discriminant validity test using the Heterotrait-Monotrait Ratio (HTMT) approach, it can be concluded that this research model has met the required criteria. The HTMT values listed in the table show that none of the construct pairs have an HTMT value above 1. This indicates that the relationship between different constructs in the model is still within reasonable limits and does not indicate any overlapping conceptual problems. HTMT value should be below 0.90 or a maximum of 1.00 to indicate that the constructs in the model truly have discriminant validity. Therefore, the absence of an HTMT value exceeding 1 in this study is evidence that each construct used, namely Streamer Interaction Quality, Streamer Credibility, Product Information Quality, Customer Engagement, and Impulsive Buying Tendency, has quite clear differences from each other conceptually. Thus, it can be concluded that the research model formed from the four variables is valid and suitable for use in further testing of structural relationships.

4.4 Reliability Test

The construct reliability test can be measured by two criteria, namely composite reliability and Cronbach's alpha from the indicator block that measures the construct. The construct is said to be reliable if the

composite reliability and Cronbach's alpha values are above 0.70. The output of composite reliability and Cronbach's alpha can be presented in the following table:

Table 5. Reliability Test

	Cronbach's alpha	Composite reliability (rho_a)
AFE	0.784	0.784
BEH	0.853	0.853
BEV	0.812	0.813
COG	0.738	0.738
EMP	0.798	0.798
EXP	0.848	0.848
IBT	0.746	0.747
REA	0.757	0.757
RES	0.816	0.816
SOC	0.770	0.770
TRU	0.838	0.838
USE	0.817	0.817
VIV	0.840	0.840

Based on the output of Composite Reliability and Cronbach's Alpha values, it is known that all constructs in the model have values above 0.70, which indicates that each construct has met the criteria for good reliability. This value indicates that the indicators that form each latent variable, such as Streamer Interaction Quality, Streamer Credibility, Product Information Quality, Customer Engagement, and Impulsive Buying Tendency, have strong internal consistency in measuring their respective constructs. Thus, it can be concluded that the measurement model in this study has a high level of reliability, and the measuring instrument used is reliable and provides stable and consistent results in reflecting the constructs studied.

Inner Model Test

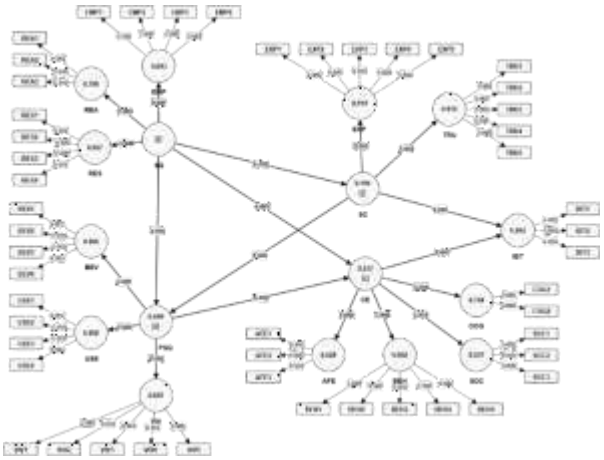

Figure 2. Inner Model Test

Hypothesis testing between constructs, both between exogenous constructs and endogenous constructs (γ) and between endogenous constructs (β), is carried out using the bootstrap resampling method. The bootstrap method is a non-parametric statistical technique used to estimate the distribution of model parameters by randomly resampling the original data with replacement, resulting in thousands of replicate samples. This technique allows researchers to obtain more accurate estimates of standard error values, t-statistic values, and the significance of the relationship paths between variables in the model. In the context of PLS-SEM, the use of bootstrapping is very important because it does not require the assumption of normal distribution in the data, making it suitable for exploratory data analysis and non-normal distributions. The results of this bootstrap process are then used to test the significance of direct and indirect influences between constructs in the structural model, thus providing a strong basis for drawing conclusions about whether or not the hypothesis proposed in the study is accepted.

Hypothesis Testing

Table 6. Hypothesis Test Conclusion

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
SQ -> SC	0.442	0.443	0.043	10.233	0.000
SC -> PSQ	0.540	0.540	0.043	12.660	0.000
SQ -> PSQ	0.224	0.224	0.046	4.920	0.000
PSQ -> CE	0.347	0.346	0.047	7.410	0.000
CE -> IBT	0.212	0.213	0.047	4.509	0.000
PSQ -> CE -> IBT	0.074	0.074	0.021	3.550	0.000

H1: Streamer Interaction Quality → Streamer Credibility (SQ → SC)

The results show that streamer interaction quality has a positive and significant effect on streamer credibility, with an original sample value of 0.442, a t-statistic value of 10.233, and a p-value of 0.000. This means that the higher the interaction quality perceived by consumers, the higher the credibility they give to the streamer. The hypothesis is supported.

These findings suggest that the quality of interactions built by streamers plays an important role in shaping the perception of credibility in the eyes of the audience. In the context of live streaming, interactions are not just one-way communication but involve active participation from viewers who expect direct responses, openness, and emotional involvement from the streamer. When viewers feel that the streamer is responsive, appreciates input, and is able to create a fun interactive atmosphere, this forms the impression that the streamer is honest, trustworthy, and has relevant knowledge. This credibility is a key factor that influences how viewers respond to the content delivered, including product or service recommendations. In other words, high-quality interactions encourage the formation of audience trust and confidence in the streamer as a figure worthy of being a reference. This explains why, in a highly competitive digital environment, streamers who are able to present good communication with their audiences tend to have a higher level of credibility than those who are less interactive.

This study is in line with the findings of (Ho et al., 2024) Who revealed that the quality of interaction between streamers and viewers has a significant influence on the perception of streamer credibility. In the study, it was explained that intense and two-way interactions, such as responding to comments in real-time, using personal greetings, and showing empathy towards the audience, can increase the perception of honesty and competence of a streamer. This confirms that in a digital context that relies heavily on interpersonal communication, the quality of relationships that are built consistently will strengthen the professional image and trust in the streamer. In line with that, (Ma et al., 2022) Also emphasized that emotional involvement built through positive interactions is an important basis for forming audience loyalty to content or products promoted by streamers.

H2: Streamer Credibility → Product Information Quality (SC → PSQ)

Streamer credibility is proven to have a positive and significant influence on product information quality, with an original sample value of 0.540, a t-statistic of 12.660, and a p-value of 0.000. This shows that the more credible a streamer is, the more likely consumers are to assess the product information conveyed as quality. Hypothesis supported.

These results indicate that streamer credibility plays an important role in shaping consumer perceptions of the quality of product information delivered during live streaming sessions. Credibility reflects the extent to which a streamer is considered honest, trustworthy, and competent in delivering information. When a streamer is considered to have high credibility, consumers tend to be more open to receiving and trusting the information provided, both regarding features, benefits, and product advantages. This makes the information delivered not only accurate and relevant, but also valuable and convincing. In this context, credibility is a bridge that connects digital marketing communications with perceptions of content quality. Therefore, streamers who are able to build a credible self-image will find it easier to influence consumer perceptions, especially in assessing whether the product information is worthy of being used as a basis for making purchasing decisions. Therefore, efforts to build credibility consistently are an important strategy in increasing the effectiveness of product communication on live streaming platforms.

This study is in line with previous research by (Xiong & Li, 2024) Which found that trust in broadcasters (streamer credibility) is a key mediator that influences consumer perceptions of product information quality (PIQ) in the context of e-commerce live streaming. In his study, Xong explained that the higher the level of consumer trust in the credibility of the streamer, as shown through honesty, competence, and consistency of communication, the greater their confidence in the accuracy and relevance of the product information conveyed. Similar results were also shown by (Faizza & Roostika, 2024) Who stated that streamers with a high level of credibility and expertise were able to build audience trust in product information more effectively? The effect of this trust not only increases the validity of information in the eyes of consumers but also strengthens the purchase intention and loyalty of viewers to the brand or product being promoted. In other words, broadcaster credibility acts as a psychological foundation that strengthens the relationship between the audience and commercial content, making it a strategic factor that cannot be ignored in live-streaming-based marketing communication planning.

H3: Streamer Interaction Quality → Product Information Quality (SQ → PSQ)

Streamer interaction quality also has a positive and significant effect on product information quality with an original sample value of 0.224, t-statistic 4.920, and p-value 0.000. This shows that active and responsive interactions during live broadcasts also increase the perception of product information quality. The hypothesis is supported.

These results indicate that the quality of streamer interactions during live broadcasts significantly contributes to how consumers assess the quality of the product information delivered. Interactions that are carried out actively, responsively, and communicatively create a dialogic atmosphere that allows viewers to ask questions, ask for clarification, or express opinions directly. When streamers are able to respond clearly, friendly, and on target, this strengthens the perception that the information delivered is not only one-way but is tailored to the needs and concerns of the audience. This kind of interaction also shows that the streamer understands the product well and cares about his/her viewers. As a result, the product information distributed during live streaming sessions becomes more convincing, relevant, and is considered quality by consumers. In other words, quality interactions can be an effective medium for delivering information because they create emotional and cognitive interactions between streamers and audiences, which ultimately increase trust in the product content delivered.

This study is in line with the findings of (Fadhil & Hati, 2025), which shows that the quality of interaction in e-commerce live streaming significantly increases user perceptions of immersion experience and purchase intention through responsiveness, which then forms the perception that the product information provided is trustworthy and useful. In addition, a study emphasized that interactivity that includes quick responses to audience questions and intense two-way communication strengthens trust in sellers, and ultimately increases the effectiveness of delivering product information. Downstream, high-quality interactions not only act as a medium of communication but also as a signal of information quality because these interactions reduce ambiguity, demonstrate the streamer's expertise, and create a personal and relevant dialogue with the audience's needs.

H4: Product Information Quality → Customer Engagement (PSQ → CE)

The results show that product information quality has a positive and significant effect on customer engagement, with an original sample value of 0.347, a t-statistic of 7.410, and a p-value of 0.000. The better the information conveyed about the product, the higher the customer engagement. The hypothesis is supported.

These findings suggest that the quality of product information delivered during live streaming sessions plays an important role in driving customer engagement. Product information presented clearly, completely, accurately, and relevantly is able to attract the attention of the audience and arouse their interest to engage further in interactions during the broadcast. When customers feel that the information provided is able to answer their needs and curiosity, it creates a sense of trust and interest that encourages active engagement, whether in the form of comments, questions, or actions to share content. This engagement reflects the emotional and cognitive connection of customers to the content displayed, which ultimately strengthens the relationship between customers and the streamer or brand being promoted. Thus, the quality of product information not only functions as a message deliverer but also as a primary trigger for deeper and more meaningful customer engagement during the live streaming marketing process.

This study is in line with the findings of (Kuntara et al., 2019) Who, using the Uncertainty Reduction theory, found that interactions between sellers and consumers during live streaming sessions, either through direct product demonstrations or interactive discussions, proved quite effective in reducing the uncertainty felt by consumers and increasing their purchasing interest. This interaction provides an opportunity for consumers to obtain more in-depth and direct information while building trust in the product and its provider. In addition, a recent study in the Asia Pacific region published last week confirmed that direct interaction in the context of live streaming not only enriches consumer knowledge about the services and products offered but also strengthens the emotional attachment between users and the broadcaster or brand concerned, which ultimately has an impact on increasing overall customer engagement. More broadly, a systematic review by (Rismawan & Sukresna, 2024) Shows that the interactive and immersive characteristics of live streaming are consistently found to be able to create a more personal and immersive experience for the audience, which encourages consumer engagement both cognitively and affectively. This suggests that responsive two-way communication and real-time experiences during live streaming are important elements in creating strong engagement, building trust, and increasing the potential for faster and more spontaneous purchasing decisions.

H5: Customer Engagement → Impulsive Buying Tendency (CE → IBT)

Customer engagement is proven to have a significant effect on impulsive buying tendencies, with an original sample of 0.212, a t-statistic of 4.509, and a p-value of 0.000. This means that the higher the emotional involvement or attention of customers during live streaming, the more likely they are to make impulsive purchases. The hypothesis is supported.

These results indicate that customer engagement during live streaming sessions significantly contributes to the increased tendency to make impulsive purchases. The engagement in question can be in the form of full attention, emotional response, to active customer participation in following the flow of content presented by the streamer. When customers feel emotionally and cognitively connected to the streamer's content or images, they tend to experience the urge to make purchases without careful consideration. This can happen because high engagement creates an atmosphere that supports quick decisions, especially when the streamer conveys limited offers, special discounts, or encourages urgency through convincing interactions. This situation makes it easier for customers to be driven by spontaneous feelings, such as enthusiasm, pleasure, or the desire not to miss the moment (fear of missing out/FOMO). Thus, customer engagement not only strengthens the relationship between the audience and the streamer but also becomes an important trigger in the process of making impulsive purchasing decisions during the live streaming session.

This study is in line with previous research conducted by (Luo, 2024), which showed that customer engagement has a significant mediating role in the relationship between product information quality and impulsive buying tendency in the context of live-streaming e-commerce. The study explained that product information that is delivered, interestingly and relevantly can increase consumers' attention and emotional involvement during live broadcasts. This involvement serves as a bridge connecting the perception of information with the tendency to make impulsive purchases. This means that quality information not only strengthens understanding but also creates a psychological attachment that makes it easier for consumers to make spontaneous purchasing decisions. This is reinforced by (Luo & Siew, 2024), which found that elements of interactivity, such as two-way communication, mentioning the audience's name, and the streamer's emotional expression, can create an emotional trance, a condition in which the audience is immersed in the broadcast atmosphere and is more emotionally connected to the content. This kind of emotional involvement has been shown to encourage impulsive buying behavior because consumers are driven by enthusiasm, interest, and fear of missing out (FOMO). Thus, customer engagement is not just a passive response, but an active mechanism that bridges the influence of information quality on fast and unplanned purchasing decisions.

H6: Customer Engagement Mediates the Relationship between Product Information Quality and Impulsive Buying Tendency (PSQ → CE → IBT)

The results of the mediation path show a significant indirect effect between product information quality and impulsive buying tendency through customer engagement, with an original sample value of 0.074, t-statistic 3.550, and p-value 0.000. This indicates that customer engagement significantly mediates the relationship. The hypothesis is supported.

These results indicate that customer engagement plays a significant mediator role in the relationship between product information quality and impulsive buying tendencies. That is, well-delivered product information not only directly influences consumers' perceptions but also indirectly drives impulsive behavior through increasing their engagement during the live streaming session. When product information is delivered clearly, interestingly, and relevantly, customers become more emotionally and cognitively engaged. This engagement creates an intense interaction atmosphere, forming a psychological closeness between customers and the content displayed, making them more easily motivated to make spontaneous purchases. In other words, high information quality increases engagement, and high engagement in both increases the likelihood of impulsive buying. This mediating role emphasizes the importance of a communication strategy that focuses not only on the content of the information but also on how the information can build a strong emotional connection with the audience to encourage quick and unplanned purchasing decisions.

This study is in line with previous research conducted by (Luo & Siew, 2024) which states that customer engagement has a significant mediating role in the relationship between product information quality and impulsive buying behavior in the context of live streaming commerce. In his study, Luo emphasized that when product information is delivered in an interesting and relevant manner, it increases consumers' attention and emotional involvement in the content, which then triggers a spontaneous desire to buy the product, even without going through deep rational consideration. This finding strengthens the results of this study that high information quality not only has a direct impact on impulsive buying but also indirectly drives it through increased consumer engagement. In this context, an effective communication strategy must not only focus on delivering factual content, but also on the ability of the content to build emotional resonance that increases the likelihood of spontaneous buying during a live streaming session.

4.7 F-Square Test

Table 7. F Square Results

	f-square
CE -> IBT	0.050
PSQ -> CE	0.124
SC -> IBT	0.166
SC -> PSQ	0.426
SQ -> PSQ	0.073
SQ -> SC	0.243

The results of the study show that each variable has a significant influence on other variables in the model. The Customer Engagement (CE) variable has a 5% influence on Impulsive Buying Tendency (IBT), as evidenced by the coefficient of determination (R2) of 0.050. Furthermore, the Product Information Quality (PSQ) variable contributes 12.4% to CE (R2 = 0.124). Meanwhile, Streamer Credibility (SC) has a 16.6% influence on IBT (R2 = 0.166) and 42.6% on PSQ (R2 = 0.426), indicating the important role of streamer credibility in shaping the quality of product information. The Streamer Interaction Quality (SQ) variable has a 7.3% influence on PSQ (R2 = 0.073) and 24.3% on SC (R2 = 0.243), indicating that streamer interaction contributes to increasing the credibility and quality of product information received by consumers.

4.8 Determination Coeficient

Table 8. Determination Coefficient Results

	R-square	R-square adjusted
CE	0.237	0.235
IBT	0.264	0.262
PSQ	0.449	0.447
SC	0.196	0.194

Based on the results of the analysis, the independent variables simultaneously showed a significant influence on several dependent variables in the model. The independent variables had an influence of 23.7% on Customer Engagement (CE), as evidenced by the coefficient of determination (R2) of 0.237. In

addition, the independent variables also had an influence of 25.4% on Impulsive Buying Tendency (IBT) with an R2 value of 0.254. The greatest influence was shown on Product Information Quality (PSQ) of 44.9% (R2 = 0.449), which indicates the important role of independent variables in shaping perceptions of product information quality. Meanwhile, the influence on Streamer Credibility (SC) was recorded at 19.6% with an R2 value of 0.196. These findings indicate that the independent variables in the study have a fairly strong contribution to the formation of consumer behavior and perceptions in the context of live streaming.

CONCLUSION

Based on the research findings, it can be concluded that the quality of interaction between the streamer and the audience has a positive effect on the streamer's credibility. This shows that the better the quality of communication and interaction built during the live broadcast session, the higher the level of trust and perception of expertise possessed by the streamer in the eyes of the audience. Furthermore, the credibility of the streamer also has a positive impact on the audience's perception of the quality of the product information conveyed. This means that when the streamer is considered credible, the product information conveyed is also considered more convincing, clear, and trustworthy.

In addition, the quality of interaction between streamers and audiences also contributes directly to the quality of product information. Responsive, two-way, and informative interactions allow audiences to obtain more comprehensive product explanations, thereby increasing their perception of the accuracy and completeness of the information received. Good product information quality has been shown to have a positive effect on customer engagement. Information that is delivered clearly and interestingly can arouse the interest, attention, and active participation of the audience during the broadcast.

Furthermore, the results of the study also show that customer engagement has a significant effect on impulsive buying tendencies. The higher the emotional, cognitive, and behavioral involvement of customers during the live streaming session, the greater their chances of making spontaneous purchases. Another important finding is that customer engagement mediates the relationship between product information quality and impulsive buying tendencies. This means that the influence of product information on purchasing decisions is not direct, but rather through customer engagement as a psychological mechanism that strengthens the intention to buy impulsively in the context of live commerce such as TikTok.

Suggestion

Based on the research results, there are several suggestions that can be given, especially for live streamers, to increase the effectiveness of sales strategies and build stronger relationships with their audiences. First, it is important for streamers to actively improve the quality of interactions with viewers. This study shows that good interactions not only increase the credibility of streamers, but also strengthen the audience's perception of the quality of product information. To achieve this, streamers are advised to create a personal experience through responsive communication, responding to comments in real time, and showing attention to the needs and questions of the audience. This kind of engagement can build trust and emotional closeness, which will ultimately increase audience loyalty to the streamer and the content presented.

In addition to building engagement, presenting clear and informative product information is also crucial. Viewers tend to trust streamers who provide honest, accurate, and relevant information about the products they display. Live demonstrations of product usage, emphasizing key features, and compelling narratives can make information more digestible and impactful for the audience. However, streamers must also maintain a balance in delivering information not too little to be uninformative, and not too much to be confusing. By providing high-quality information, streamers can create a positive impression and encourage purchase intention, even if an impulse purchase does not occur in the near future. This study also shows that although customer engagement does not directly drive impulse purchases, it still plays an important role in building long-term relationships with audiences. Therefore, streamers need to continue to entertain and engage viewers with interactive elements such as quizzes, polls, giveaways, or reading comments directly. These engagement strategies can strengthen a sense of community and build a loyal community, creating potential for future purchases.

To encourage spontaneous purchases, streamers can also combine entertainment aspects with planned sales tactics. For example, by offering limited-time discounts, exclusive promotions only during the live

stream, or special bonuses for first-time buyers. These tactics not only create urgency but also tap into the potential emotional urge of viewers to buy immediately. By combining compelling engagement with a clear call-to-action, streamers can strategically turn interactions into purchase conversions. This hybrid approach will increase the effectiveness of live content from both the entertainment and commercial side, while strengthening streamers' position in the increasingly competitive live commerce market.

For Further Researchers

This study has several limitations that need to be considered. One of them is the limitation of the mediating variable used, namely customer engagement, which in the findings of this study did not show a direct influence on impulsive buying tendency. In addition, the quantitative approach used has not fully described the psychological complexity of impulsive behavior in the context of live streaming. Therefore, for further research it is recommended to explore other emotional mediating factors, such as enthusiasm, urgency, or FOMO (fear of missing out), which may have a greater influence in driving impulsive buying. Researchers can also consider external factors such as social influence from other viewers or community dynamics in live broadcasts as part of the mechanism that influences spontaneous purchasing decisions. Research might further be expanded by investigating the influence of various product categories on the links discovered in this study. High-involvement products, such as electronics or luxury items, may need more precise information and greater degrees of trustworthiness to influence purchase decisions. Low-involvement items, such as cosmetics or apparel, may generate greater impulsive behavior in response to entertainment and an emotional connection with the streamer. Future research might look into how various product kinds influence user engagement and purchasing habits, providing more personalized strategies for streamers and marketers.

Additionally, longitudinal research could provide more comprehensive insights into how customer engagement develops over time and its potential cumulative effects on impulsive buying. Rather than focusing on a single live-streaming session, future studies could explore whether repeated exposure to the same streamer increases viewers' likelihood of making impulsive purchases. This approach would help determine if sustained engagement gradually builds trust and familiarity, eventually leading to more spontaneous buying behavior. Understanding these long-term dynamics would be valuable for both streamers and brands looking to optimize their live-stream commerce strategies.

Finally, future research should expand to include different live-streaming platforms beyond TikTok. Each platform, such as YouTube Live, Instagram Live, and Facebook Live, offers unique engagement features and caters to different audiences, which may influence the relationship between streamer interaction, credibility, and consumer buying behavior. Exploring these platforms would provide a broader understanding of how live-streaming commerce functions across various digital ecosystems, allowing marketers and streamers to adapt their strategies based on platform-specific factors.

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