



**International Journal of Electronic Customer Relationship Management**

ISSN online: 1750-0672 - ISSN print: 1750-0664  
<https://www.inderscience.com/ijecrm>

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**DOI:** [10.1504/IJECRM.2025.10070057](https://doi.org/10.1504/IJECRM.2025.10070057)

**Article History:**

Received:	10 September 2023
Last revised:	23 January 2025
Accepted:	23 January 2025
Published online:	16 April 2025

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## **Engaging customer in live-streaming commerce: the impact of interactivity and perceived value on trust**

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**Abstract:** This study proposes a comprehensive framework to investigate the impact of interactivity and perceived values on customer engagement toward live-streaming in s-commerce through customer trust in the beauty industry in an emerging market. The research utilised an online questionnaire to obtain data from 505 respondents throughout Indonesia and structural equation modelling (SEM) with SmartPLS to test and analyse the hypotheses. The study reveals that interactivity and perceived values relate positively to customer trust. Further, customer trust positively affected customer engagement with live-streaming commerce. The results of this study suggest that companies should provide informative and entertaining content. Managers should also ensure that interactions between the company and customers during live-streaming run smoothly because this has also increased customer trust. Both efforts will increase customer trust, eventually increasing customer engagement. The findings contribute to academic and practical considerations of live-streaming in s-commerce, on which this paper expands.

**Keywords:** live-streaming commerce; LSC; perceived values; interactivity; customer trust; customer engagement.

**Reference** to this paper should be made as follows: Amilia, R.A., Aprianingsih, A., Purwanegara, M.S., Setiawan, M. and Debby, T. (2025) 'Engaging customer in live-streaming commerce: the impact of interactivity and perceived value on trust', *Int. J. Electronic Customer Relationship Management*, Vol. 15, Nos. 1/2, pp.73–92.

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## 1 Introduction

Over the past few years, e-commerce has grown rapidly in many countries, offering various conveniences and benefits, such as more product choices and free shipping (Zhang et al., 2019). In 2020, over two billion people worldwide bought goods and services online through e-commerce (Statista, 2021). Projections show worldwide e-commerce revenue reaching US\$4.23 trillion in 2022. With a projected 2022 revenue of US\$59 billion, Indonesia is in ninth place worldwide and first in Southeast Asia (SEA) (Statista, 2021). As many as 60.6% of Indonesia's internet users shop online weekly, surpassing the world average of 58.4% (We Are Social, 2022). According to Lu et al.

(2016), although it has advantages over conventional offline shopping, one of e-commerce's most significant obstacles is its lack of a feeling of human presence and such social elements as emotion, expression, and body language. Thus, in 2015, e-retailers began to apply live video streaming as an innovative channel to attract more consumer attention (Zhang et al., 2019). This live video streaming with commercial implications refers to live-streaming commerce (LSC). Sun et al. (2019a) and Wongkitrungrueng et al. (2020) argued that LSC can occur on several platforms, such as websites, mobile apps, and social media. For this research, the LSCs studied are those on social media platforms. Social media became the main research topic of this paper because social media is seen as a platform that significantly brings major changes in social interaction, enriches social experiences, promotes self-identity development, and facilitates communication and the formation of previously inaccessible communities. Social media can also help to raise social consciousness by disseminating information quickly and mobilising large groups of people to take action (Nugraha et al., 2024).

LSC first became very popular in China and continues to grow rapidly worldwide, especially in the Asia Pacific region, since the COVID-19 pandemic started in 2020 (Ma, 2021). Indeed, consumer interest in LSC was greater there than in the rest of the world (Statista, 2021). As the leading nation in the LSC trend, China had 388 million LSC users at the end of 2020, accounting for nearly 40% of all Chinese netizens (iResearch, 2021) with an estimated market value of 2.3 trillion CNY (Statista, 2021). Meanwhile, as an emerging market, Indonesia is also experiencing increased interest in LSC. Survey results from Ipsos (2022) show that 71% of Indonesian consumers admit that they accessed LSC during the pandemic, and 56% purchased products through LSC. Moreover, online sellers in Indonesia admitted that catalogue viewership and shop traffic during live-stream events increased by 35% and 15%, respectively (Redseer, 2021). TikTok and Instagram are the platforms Indonesians use most for live shopping (Annur, 2022). This market potential is enormous, considering that the number of Indonesian TikTok users is the second largest in the world (99.1 million), while Indonesia's Instagram users are the world's fourth-largest such constituency (99.9 million) (Rizaty, 2022a, 2022b). Therefore, we use them both as LSC platforms in this study.

LSC is becoming a new method for marketing in which streamers or broadcasters open live streams to interact with consumers in real-time (Chen and Lin, 2018). This real-time interaction is the most attractive feature of LSC (Chen et al., 2020). During a live event, streamers can interact with their audiences by showing the product, introducing its use, and engaging in dialogue, while the audience can interact with the streamers and other viewers in real-time by sending text messages. In this sense, two-way communication happens, and the flow of information becomes bi-directional. The interaction in LSC also requires high real-time and speedy responses to the streamers' questions and information requests to create trust and an enjoyable shopping experience (Liu, 2003). Moreover, since audiences can easily switch channels ('active control'), this is also part of the interactivity that will affect customer trust.

Trust is essential in any online activity, including live-streaming (Featherman and Hajli, 2015). Indeed, Wang and Wu (2019) argued that trust is the most significant influence on success in online commerce. Nevertheless, Wongkitrungrueng and Assarut (2018) studied other antecedents of trust in LSC: utilitarian, hedonic, and symbolic values. The result of their study found that those three perceived values affected customer engagement through customer trust.

Although previous studies have explored the idea of LSC, the research in this area is still in its infancy (Sun et al., 2019a). This study offers a novelty by positioning trust as a mediator between interactivity and customer engagement, in contrast to other studies that primarily link interactivity to purchase intention (Zhang et al., 2019; Lu and Chen, 2021; Gao et al., 2021; Ma, 2021). This framework emphasises that while interactivity enhances trust, it is trust itself that ultimately drives long-term customer engagement. Other studies have examined customer trust and engagement in LSC and their antecedents, shopping value (Wongkitrungrueng and Assarut, 2018), and live peculiarities (Ma et al., 2022). Notably, the stronger the level of engagement between the e-vendor and the customer, the stronger the customers' intention to buy becomes (Ho and Rajadurai, 2020), and increasing consumer engagement will help to retain them as customers (Busalim et al., 2021). To fill these gaps, we explored how interactivity and perceived value impact customer trust. We also investigated the relationship between customer trust and engagement – the most important performance measure of a firm's social media presence (Wongkitrungrueng and Assarut, 2018).

In addition, this paper focuses on the beauty industry, mainly considering that the beauty business has become a prominent issue for the past couple of years and has demonstrated resilience in the face of economic uncertainty. However, creating more sustainable momentum is necessary; people also need to build real value from product differentiation supported by greater productivity (Weaver et al., 2024). Beauty products were the object of research because 41% of Southeast Asians admitted that they had bought these products through live shopping (Ipsos, 2022). This study enriches the literature on the psychological mechanisms and constructs of LSC and provides a foundation for future research.

## **2 Theoretical framework and hypothesis development**

Many researchers use the stimulus-organism-response (SOR) framework to study consumers' online behaviour, including social commerce activity. This framework often serves to explain the relationship between the external stimuli the customers receive (S) that affect their internal process (O) and their responses (R). Although this theory contributed significantly to the development of LSC research, this framework does not include internal stimuli in explaining consumers' motivation to engage with LSC. Meanwhile, previous research has suggested that consumers make online purchases based on their perceived shopping values (Wongkitrungrueng and Assarut, 2018), which, in turn, constitute internal stimuli. Integrating the reasons and motives for using LSC, as summarised in the previous literature, we finally developed our framework by incorporating perceived values as internal stimuli and interactivity as external stimuli. Thus, we argue that internal and external stimuli can affect customers' trust, eventually driving their engagement with LSC.

### *2.1 Interactivity*

Like social commerce, LSC is famous for its interactivity (Ma et al., 2022). Interactivity represents a mechanism by which individuals can perform active control, allowing them to provide two-way and synchronous communication (Shao and Chen, 2020). Roy et al. (2017) proposed that interactivity comprises customers' subjective judgments about how

much they can interact with the service to achieve their purchase goals. This subjectivity means that even customers in the same situation may judge the interactivity experience differently. The study by Hou et al. (2020) confirmed that interactivity promotes the continuous watching intention of live-streaming, thus increasing trust. Interactivity also leads to increasing customers' engagement in using mobile commerce (Wang and Choi, 2022). The analysis by Alalwan et al. (2020) asserts that there is no standard definition of interactivity; some scholars have conceptualised it as a unidimensional construct, and others have examined it as a multidimensional construct. This study uses interactivity dimensions from Liu (2003), i.e., active control, two-way communication, and synchronicity.

Active control is how users can control the information or knowledge they want to pass on or have transferred to them (Alalwan et al., 2020). Active control enables users to interact directly with content and streamers, cultivating a sense of responsibility and participation. This interaction is vital as it has been demonstrated to improve customer trust. For example, Liu et al. (2022a) asserted that interactions designed to acquire product information substantially enhance consumer trust and purchase intentions. Fang (2022) emphasises that interactions with streamers directly affect customers' purchase intentions, indicating that good communication and engagement strategies can elevate trust levels.

Two-way communication means that the exchange between the sender and receiver of the message can be mutual (Purwanto and Kuswandi, 2017). People buy beauty products to enhance their appearance. Two-way communication enables potential customers to see more of the product, whether the product is necessary or has the quality passed on the product demonstration (Wu, 2019). Customers' ability to ask questions and obtain prompt replies from streamers enhances the shopping experience's personalisation. Wu and Huang (2023) discovered that consumer trust strongly mediates perceived value in live-streaming e-commerce, indicating that effective communication could improve perceived value and, in turn, trust. Customers tend to consider product knowledge based on others' experiences more trustworthy in a growing beauty industry Paintsil and Kim (2021). The research conducted by Ming et al. (2021) demonstrated that social presence, reinforced by two-way communication, can positively influence consumer trust and impulsive purchasing behaviours.

Synchronicity refers to how long the response from the communication is felt, whether it is fast or can include a delay (Alalwan et al., 2020). Synchronicity further amplifies the effect of interactivity on trust. The immediacy of responses during live streams can create a sense of urgency and authenticity, which are critical for establishing trust. Guo et al. (2021) discussed how the dynamics of LSC necessitate a shift in understanding customer behaviour, emphasising that real-time interactions can significantly influence trust and engagement. Additionally, Liu et al. (2022b) demonstrated that interactivity in tourism e-commerce live-streaming positively impacts consumer trust, reinforcing that synchronous interactions are essential for building trust.

Interactivity can trigger user interest and motivation, leading to a better experience (Shin et al., 2016) and higher affective involvement (Shao and Chen, 2020). The live streamer and customer interaction will build emotional ties between the two (Dong et al., 2023). Thus, increasing the interaction between customers and broadcasters or among customers will promote customers' trust in LSC (Kang et al., 2020). Thereby, we propose:

H1 Interactivity has a significant positive relationship with customer trust toward LSC.

## 2.2 *Perceived values*

Concerning the use of such technological innovations as LSC, the ratio between the perceived benefits and the sacrifices required determines the value the customer perceives (Souza and Baldanza, 2018). Perceived value is often defined as a customer's evaluation of the benefits received relative to the costs incurred during purchasing. Tzavlopoulos et al. (2019) highlight that perceived value is shaped by the cost-benefit analysis and the overall purchasing experience, suggesting that a holistic view of the transaction is essential for understanding customer satisfaction and loyalty in e-commerce contexts.

Previous literature on motivations for live-streaming shopping has suggested utilitarian and hedonic values as the two main perceived values (Cai et al., 2018). However, many recent studies in the online-shopping context have shown that social or symbolic value also has a significant effect on consumer satisfaction (Gan and Wang, 2017; Evelina et al., 2020), purchase intention (Alshibly, 2014), and customer trust (Wongkitrungrueng and Assarut, 2018). Chen et al. (2023) highlighted the role of diverse content values in attracting and retaining viewers in live-streaming. Indeed, a study by Haque et al. (2020) supported this notion by concluding that utilitarian, hedonic, and social values significantly affect customers' e-shopping intention. Based on this, the present study uses three dimensions to measure the perceived values, i.e., utilitarian, hedonic, and symbolic.

Utilitarian value refers to the functional and instrumental benefits of using social commerce, such as convenience and timesaving, and focuses on performance and utility (Hsu and Lin, 2015). The vendor's legitimacy and product authenticity – utilitarian values – tend to concern online consumers (Wongkitrungrueng and Assarut, 2018). In LSC, trust forms because customers can see sellers' faces and expressions and authentic product offerings. Sellers can also try on the products and answer customers' questions, almost in real-time, which helps customers visualise the 'real' products. Besides such functionality, LSC also offers enjoyment, entertainment, and pleasure, which are included in hedonic values (Xu et al., 2020). According to Sjöblom and Hamari (2017), for some customers, watching sellers' shows and applying makeup or skincare can be fun and enjoyable and reduce boredom.

In addition to utilitarian and hedonic values, according to Wongkitrungrueng and Assarut (2018), live shopping is a social act that creates symbolic meanings. Indeed, Hu and Chaudhry (2020) argued that LSC allows customers to identify themselves with the sellers' preference or taste similarity and with other customers regarding product information and evaluation. Customers are more likely to trust LSC sellers when they perceive symbolic value in the products or services offered. Several studies have found that symbolic value has a direct and indirect effect via trust in sellers on customer engagement in LSC (Wongkitrungrueng and Assarut, 2020; Qiu et al., 2021). Trust in community members, trust in broadcasters, and trust in products positively affect consumer engagement through quickly established social bonds (Guo et al., 2021; Jiang et al., 2022). In LSC, hedonic and symbolic values positively impact customer engagement and product trust (Wu and Huang, 2023).

Customers are more attracted to purchasing through digital platforms and online shopping, including in the beauty industry. The interactivity of customers on digital

platforms may lead to the acquisition of several pieces of information, which could impact business performance. The more reliable sources customers obtain, the more perceived value they have, which influences trust and could impact customer behaviour tendencies (Xu et al., 2020). Other studies have also claimed that the more perceived value is fulfilled and the more customers are happy with the products, the more it may impact their behavioural decisions (Soe and Nuangjamnong, 2021). According to Nguyen et al. (2023), perceived value significantly influences e-commerce exchange image, affecting customer trust and loyalty. Moreover, the relationship between perceived value and customer trust is complex and multi-faceted. Wu and Huang's study emphasises that perceived value in live-streaming e-commerce is mediated by consumer trust, indicating that higher perceived value leads to increased trust in both the streamer and product (Wu and Huang, 2023). Shang et al. (2023) found that perceived value can induce consumer pleasure, which enhances trust, although the relationship between perceived trust and perceived value remains debated in traditional e-commerce research. Based on the previous studies, we propose:

H2 Perceived values have a significant positive relationship with customer trust toward LSC.

### 2.3 Customer trust and customer engagement

One of the critical aspects of LSC is the role of customer trust. Trust is widely used as an internal state to influence purchase intention in e-commerce (Mou and Benyoucef, 2021). However, according to Li et al. (2018), trust in live-streaming social commerce differs from ordinary e-commerce (i.e., text-based human-computer contact) because LSC has its characteristics. Through LSC, customers can connect with streamers and other customers while viewing and visualising actual products, which promotes their trust in both the sellers and the products (Zhang et al., 2022).

Engagement in LSC refers to customers' investment, participation, and efforts during live-streaming, such as becoming followers, recommending to friends, and spending more time on sellers' pages (Xu et al., 2020). The more customer investment and participation a company gets during live-streaming, the higher the possibility for LSC to generate sales transactions. Sun et al. (2019b) described customer engagement as a behaviour and psychological process. For instance, Moliner et al. (2018) characterised customer engagement as an emotional connection between customers and brands.

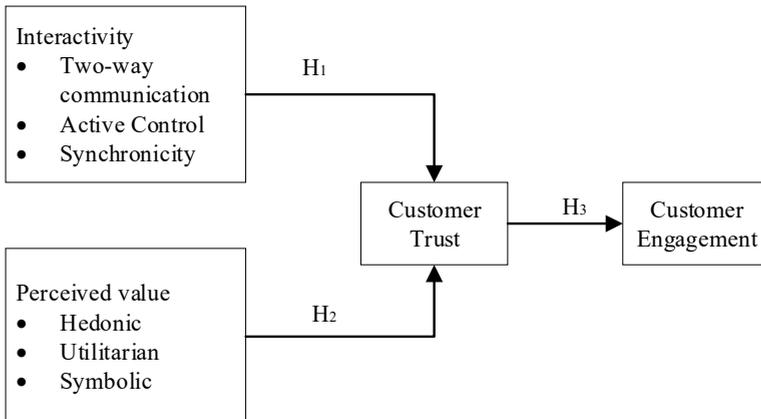
Meanwhile, Brodie et al. (2011) described customer engagement as a mental state that can be formed through a customer's experience. Wongkitrungrueng and Assarut (2018) defined customer engagement as "customers' behavioural manifestation toward a brand or company beyond purchase" in live-streaming shopping and discovered that consumers' perceived value influences their involvement in live-streaming buying. Several researchers, including Bowden (2009), have characterised consumer engagement as a psychological process. For instance, Islam and Rahman (2017) define consumer engagement as an organism state using the SOR framework. Based on the live-streaming shopping scenario, our study defines live-streaming shopping engagement as a psychological state (Brodie et al., 2011). In social commerce, customer engagement typically manifests as spontaneous online community behaviour (e.g., eWOM, thumbs up, product referral) that can benefit the company (Dwivedi et al., 2021; Zhang et al., 2017).

Trust in LSC products significantly affects seller trust, eventually affecting customer engagement (Wongkitrungrueng and Assarut, 2018). Guo et al. (2021) highlighted that customer trust significantly affects engagement in LSC. This finding is echoed by Iisnawati et al. (2022), who assert that live-streaming experiences enhance customer trust and influence online shopping decisions. Integrating trust into the live-streaming context is essential as it mitigates the uncertainties typically associated with online shopping (Dong et al., 2023). When customers emotionally connect because of trust built with live streamers in a social commerce setting, they might become the seller's followers, recommending the seller to their friends and checking out the seller's page (Xu et al., 2020). Based on this framework, we argue:

H3 Customer trust significantly correlates with customer engagement toward LSC.

The literature review discussed reflects the research model for this study that appears in Figure 1. To summarise, this study assumes that interactivity and perceived values affect customer engagement through customer trust.

**Figure 1** Research model



### 3 Methodology

We used online surveys to collect data from respondents all over Indonesia, distributing them across social media, including Instagram, Twitter, and Facebook. The survey targeted Indonesian social media users because the research topic is LSC on social media, and there are 191.4 million social media users in Indonesia, with a 73.7% internet penetration rate (Kemp, 2022). A pilot study of 30 respondents enabled refining the questionnaire before it was more widely distributed. The initial testing showed that all the questions in the survey passed reliability and validity tests, enabling their dissemination.

This study uses non-probabilistic purposive sampling. For this study, the data indicate that the age group 13–18 shows the highest Internet penetration rate, followed by the 19–34 group. Table 1 shows the differentiation of respondents by gender, age, and occupation. Having collected data from 541 respondents, we qualified 505 for the study.

The researcher distributed an online survey individually or en masse using a URL link. We asked respondents who participated individually to pass it on to other friends, creating a snowball effect. At the outset of the survey, respondents watched a sample LSC video to get an idea of the survey topic. To avoid data bias, we also told respondents that no answers were right or wrong, freeing them to answer according to their preferences.

The questionnaire surveyed perceived values (PV), interactivity (INT), customer trust (CT), customer engagement (CE), and demographics. Twelve items from Wongkitrungrueng and Assarut (2018) measured perceived values. Interactivity measures used eight items from Hou et al. (2020). Two items by Wongkitrungrueng and Assarut (2018) measured customer trust, and eight from the same study measured customer engagement. A five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5), captured responses to the questionnaire items. The constructs appear in Table 2.

#### **4 Results and discussion**

The 505 respondents include 64 males (12.70%) and 441 females (87.30%). The percentage of females is higher than males, which could be due to the history of beauty products, mainly cosmetics. Therefore, it could be affected that the products categorised as beauty products only involve cosmetics. However, as in the modern era, the growth of the industry and the influence of trends have led to the birth of various products from the industry, which are targeted and could be used by both women and men. Most were 18–25 years old ( $n = 359$ , 71.10%), 89 respondents (17.60%) were 26–35 years old, 27 respondents (5.30%) were less than 18 years old, 17 respondents (3.40%) were 46–55, 12 respondents (2.40%) were 36–45 years old, and one was older than 55 (0.20%). Most respondents were students ( $n = 281$ , 55.64%), followed by private employees ( $n = 94$ , 18.61%), civil servants ( $n = 29$ , 5.74%), entrepreneurs ( $n = 25$ , 4.95%), not employed ( $n = 19$ , 3.76%), housewives ( $n = 9$ , 1.78%), and others ( $n = 48$ , 9.50%). This description implies that most respondents were Generation Zs and Millennials and college students or private employees, thus matching the respondents that this study targeted. The details of the demographic profile appear in Table 1.

Table 2 indicates the descriptive statistics and measurement model results. The variables have moderate-to-high mean values. The variable with the highest mean of 3.974 is INT5, and the lowest (2.861) is CE8. The survey results generally show respondents agreeing that LSC interactivity is interesting and a more substantial reason for accessing it than perceived values. This finding might be because interactive features enable customers to process information more easily online and increase their knowledge, pleasures, and favourable responses (Brüggen et al., 2019).

Structural equation modelling (SEM) was employed using SmartPLS Version 3.2.9. All the factor-loading values were higher than 0.70, except for INT 5 (FL = 0.648). However, according to Hair et al. (2010), the factor-loading value should be higher than 0.5 – ideally, 0.7; thus, 0.648 is acceptable. Cronbach's alpha values for the constructs ranged from 0.894 (INT) to 0.943 (PV), and the composite reliability ranged from 0.916 (INT) to 0.950 (PV). The values of the average variance extracted (AVE) ranged from 0.577 (INT) to 0.784 (CT), all of which support the convergent validity and reliability of

the measurement model. Last, we evaluated the discriminant validity of the scale by the heterotrait-monotrait (HTMT) ratio. Hair et al. (2016) recommended that values of HTMT be lower than 0.90, which this study satisfies (see Table 3), supporting discriminant validity. The result confirmed the study's measurement model as reliable and valid.

**Table 1** Distribution of the respondents

<i>Categories</i>	<i>Subcategories</i>	<i>N</i>	<i>(%)</i>
Gender	Male	64	12.70
	Female	441	87.30
	Total	505	100.00
Age group	<18	27	5.30
	18–25	359	71.10
	26–35	89	17.60
	36–45	12	2.40
	46–55	17	3.40
	>55	1	0.20
	Total	505	100.00
Occupation	Student	281	55.64
	Private employee	94	18.61
	Civil servant	29	5.74
	Entrepreneur	25	4.95
	Housewife	9	1.78
	Not yet employed	19	3.76
	Others	48	9.50
	Total	505	100.00

*Source:* Authors' elaboration

The final measurement model was the main input for developing structural models. Structural model testing appears in Table 4. The results indicated support for H1, H2, and H3 was supported. Interactivity has a significant positive relationship with customer trust ( $\beta = 0.306$ ,  $t = 5.710$ ,  $p = 0.000$ ). Perceived values had a significant positive relationship with customer trust ( $\beta = 0.194$ ,  $t = 3.226$ ,  $p = 0.001$ ). Finally, customer trust also significantly and positively affected customer engagement ( $\beta = 0.689$ ,  $t = 26.370$ ,  $p = 0.000$ ). Based on the path coefficients, the direct effect of interactivity (0.306) on trust (0.371) was stronger than perceived values on trust (0.194). These findings indicate that interactivity has the strongest correlation with customer trust compared to other variables.

The result of interactivity, which positively and significantly affects customer trust (H1), aligns with the findings of Zhu et al. (2023), indicating that the interactive elements of LSC foster a synchronised environment that promotes direct connections between customers and broadcasters, thereby enhancing trust and encouraging repurchase intentions. This finding is also consistent with Hou et al. (2019), who state that interaction elevates viewer engagement and reinforces favourable attitudes toward the live-streaming experience, enhancing trust.

**Table 2** Constructs, items, descriptive statistics, and measurement model results

<i>Constructs and items</i>		<i>Means</i>	<i>SD</i>	<i>FL</i>
<i>Interactivity (CR = 0.916 AVE = 0.577)</i>				
INT1	The streamer was effective in gathering audience feedback	3.721	0.925	0.765
INT2	The streamer facilitated two-way communication between herself/himself and viewers	3.865	0.902	0.784
INT3	The streamer made me feel she/he wanted to listen to her/his viewers	3.713	0.918	0.828
INT4	I felt like I had full control of my experience in LSC	3.483	1.013	0.712
INT5	I could decide freely what I wanted to see in LSC	3.974	0.919	0.648
INT6	The sellers responded to my questions quickly during LSC	3.295	0.980	0.760
INT7	I can gain the information regarding the beauty product that I like without any delay in LSC	3.808	0.925	0.747
INT8	I felt like I got an immediate response through LSC	3.556	0.972	0.816
<i>Perceived values (CR = 0.950 AVE = 0.615)</i>				
PV1	The way beauty products show on live-streaming helps me to visualise the appearance of the product as a real figure	3.875	0.924	0.715
PV2	The way the beauty product is presented on live-streaming gives me as much sensory information about the product as I would experience in the physical store	3.547	1.002	0.781
PV3	I feel like I can ask the seller about the beauty products that I like via live-streaming	3.709	0.957	0.788
PV4	Shopping through LSC is really entertaining	3.572	1.062	0.834
PV5	Through LSC, I can forget about my problems	3.073	1.206	0.716
PV6	I enjoy getting the great deal from LSC when I shop	3.780	1.013	0.799
PV7	Shopping by LSC is a stress-relieving activity	3.259	1.139	0.774
PV8	I feel like a smart shopper when I shop for beauty products through LSC	3.269	1.060	0.831
PV9	I feel that I can identify the sellers when using LSC	3.521	0.948	0.809
PV10	I feel that the seller recognises me during the live-streaming	3.295	1.004	0.797
PV11	I feel that the seller remembers my preference during the live-streaming	3.079	1.029	0.725
PV12	I can find the beauty products that match my preference when I shop via LSC	3.574	0.950	0.830
<i>Customer trust (CR = 0.936 AVE = 0.784)</i>				
CT1	I believe in the information that the seller provides through live-streaming	3.317	0.964	0.896
CT2	I believe that the sellers that use live-streaming are trustworthy	3.453	0.964	0.893
CT3	I think the beauty products that I order from live-streaming through s-commerce will be as I imagined	3.525	0.967	0.887
CT4	I believe that I will be able to use products like those demonstrated on live-streaming in S-commerce	3.547	0.990	0.866

Notes: CR: composite reliability; AVE: average variance extracted; SD: standard deviation; FL: factor loading.

**Table 2** Constructs, items, descriptive statistics, and measurement model results (continued)

<i>Constructs and items</i>		<i>Means</i>	<i>SD</i>	<i>FL</i>
<i>Customer engagement (CR = 0.947 AVE = 0.692)</i>				
CE1	I spend more time on the account pages of sellers that have live video streaming	3.055	1.117	0.781
CE2	I will become a follower of a seller that uses the live-streaming feature	3.002	1.137	0.817
CE3	I would probably try to keep track of the activity of sellers that use live-streaming	2.893	1.119	0.838
CE4	In the near future, I am likely to return to the seller's account page to view their new live-streaming	2.994	1.180	0.847
CE5	I am more likely to recommend sellers who use the live-streaming feature to my friends	3.135	1.175	0.839
CE6	I encourage my friends to conduct business with sellers that use the live-streaming feature	3.051	1.137	0.866
CE7	I encourage my family to conduct business with sellers that use the live-streaming feature	3.018	1.163	0.851
CE8	My first priority is to buy beauty products from sellers who use live-streaming	2.861	1.188	0.811

Notes: CR: composite reliability; AVE: average variance extracted; SD: standard deviation; FL: factor loading.

**Table 3** HTMT ratio results

	<i>Customer engagement</i>	<i>Customer trust</i>	<i>Interactivity</i>	<i>Perceived values</i>
Customer engagement				
Customer trust	0.747			
Interactivity	0.666	0.799		
Perceived values	0.776	0.785	0.823	

**Table 4** Results of the structural model assessment

<i>Hypothesis</i>	$\beta$ <i>values</i>	<i>T</i> <i>statistics</i>	<i>P</i> <i>values</i>	<i>Hypothesis</i>
H1 Interactivity → customer trust	0.306	5.710	0.000	Supported
H2 Perceived values → customer trust	0.194	3.226	0.001	Supported
H3 Customer trust → customer engagement	0.689	26.370	0.000	Supported

The relationship between perceived values and customer trust toward LSC was also significantly positive (H2). This result supports the previous research by Wongkitrungrueng and Assarut (2018), who found that perceived values (i.e., utilitarian, hedonic, and symbolic values) significantly positively affect trust in live-streaming. Another study by Soe and Nuangjamnong (2021) also proved that the more the perceived value is fulfilled, the more satisfied customers will be. This result also supports the findings of Wu and Huang (2023), who found that higher perceived value leads to increased trust in both the streamer and product. Previous research has only studied the relationship between the hedonic value dimension of perceived value variables affecting

customer trust in live-streaming but not in the business of beauty products. In addition, according to Wongkitrungrueng and Assarut (2018), hedonic value in live-streaming is demonstrated through enjoyment, with the products being showcased or presented, thus increasing trust in the products and sellers. As for symbolic value, customer engagement can also be created through trust built through live-streaming. Therefore, in conclusion, customers buy beauty products through live-streaming in social commerce, not only for enjoyment, entertainment, or merely wanting the experience from live-streaming itself but also for people interested in watching live-streaming for beauty products to meet customers' needs or to fulfil their necessities.

Lastly, customer trust significantly and positively influences customer engagement in LSC (H3). Live-streaming can build trust between audiences and sellers. Live-streaming could also affect customers' trust and the intention of the audience to watch live-streaming or purchase products (Chandruangphen et al., 2022). This finding aligns with previous research, which proves that customer trust is a variable that affects customer engagement (Guo et al., 2021; Ma et al., 2021; Wongkitrungrueng and Assarut, 2018). When there is an emotional connection between sellers and customers that is based on trust within a live-streaming social commerce platform, the customer feels safer to respond spontaneously through eWOM, thumbs up, and product referral (Alalwan et al., 2020; Zhang et al., 2017) or becoming the seller follower (Xu et al., 2020).

## **5 Implication**

This study contributes to the research on customer behaviour in live-streaming social commerce in the beauty industry in emerging markets, differentiating this study from previous research conducted in general e-commerce or entertainment-oriented live-streaming. Furthermore, this study provides supporting evidence on the role of interactivity and perceived value in building consumer trust in live-streaming social commerce, as it was conducted using social commerce platforms such as TikTok and Instagram.

This study also finds that interactivity has a direct impact on customer trust. This finding implies that the nature of the LSC is to put active control in customers' hands and allow them to interact quickly and directly with sellers, which will improve the customer's trust in the sellers. Specifically, this study confirmed that perceived values (i.e., utilitarian, hedonic, and symbolic) are vital in determining customer trust in LSC. It means that the empowerment consumers receive from their peers and the perceived benefits they feel, such as entertainment and visualisation, make consumers trust LSC, especially for beauty products. These findings confirm the argument of Paintsil and Kim (2021), who stated that customers tend to consider product knowledge based on others' experiences more trustworthy in the growing beauty industry. In LSC, this sharing experience happens instantly and quickly during live events, leading to trust. On the other hand, LSC also entertains consumers and allows them to visualise sellers' products and realise symbolic meaning about themselves, leading to trust.

Trust among content users eventually drives them to be loyal and share their reviews with others, which can qualify as an engagement. In LSC, customer engagement behaviour is usually judged as spontaneous (e.g., hitting the 'like' and 'share' buttons, typing chat, or giving gifts), which creates value for the company. Therefore, customers

who feel that their responses are answered well and quickly will watch the live-streaming events longer and press buttons that indicate engagement. LSC also allows customers to communicate with the streamer in two ways, usually through a comment feature, where the customers leave an impression or interaction in the comment section; then, the streamers can directly answer it.

The findings from this study can provide recommendations to people in the field on how live-streaming can accommodate merchants for their benefit. The results show that interactivity has a stronger relationship with trust than perceived value. In designing a live-streaming marketing campaign, the company must emphasise the interactivity of the campaign. This interactivity can be from the seller's part and the platform. From the sellers' point of view, they need to ensure they can provide real-time feedback and two-way communication. The sellers can improve more by understanding the audience and improving the way the hosts communicate with the audience. As for two-way communication, the host can try to find topics that can relate to the audience to open the live-streaming, based on the experience from the previous live-streaming sessions. There are several suggestions to increase communication by creating Q&A regarding the products; if the audience can answer, they can get a reward from the brand, or the merchants can do giveaway sessions during the live-streaming, which also could avoid the audience scrolling down the live-streaming or leave the live-streaming and make the audience stay involved. In addition to maintaining synchronicity, the merchants must create a team that monitors the customers' feedback or questions and answers them immediately.

Furthermore, it is related to active control as well, to attract the audience to stay in the live-streaming room of the merchant by their will. Therefore, the merchants also understand what kind of content the audience wants. From the platform developers' perspectives, they must provide a platform with strong interactive features such as real-time Q&A, personalised responses, and two-way communication tools.

In this study, we investigate all utilitarian, hedonic, and symbolic values. The results show that perceived values are positively correlated with consumer trust. Thus, sellers need to improve the perceived value of their products to improve trust. For utilitarian value, the customer can provide detailed information on the beauty products and step-by-step explanations on how to use the product appropriately. To fill in the hedonic value needs, the seller should provide entertainment and enjoyment to the customers. They can do this by providing quizzes or games in the session. Lastly, the sellers can provide personalised interaction and recognise consumer differences for symbolic value. Sellers can address the customer by addressing their name and remembering their preferences or previous visits to the live-streaming sessions.

## **6 Limitations and future research**

This study had several limitations. First, the research context was limited to the Indonesian social commerce market for beauty products. Future research can apply to another industry or analyse another market, for example, food and beverage, considering that the industry is becoming one of the top three categories among live-streaming events (McKinsey, 2021). Second, this study focused on samples collected from Indonesian respondents. Future research could analyse the live-streaming business in the industry's market in different nations, leading to different results. Hofstede's cultural dimension

theory also states that cultural differences between countries might differentiate how businesses function. Future studies should gather samples from more than one nation and compare the results to produce more complex studies.

Furthermore, most respondents were female and young, which may have led to gender and age biases. Future studies should consider conducting research using balanced demographics. This study uses cross-sectional data to investigate trust. Since trust needs to be built over time, it may be necessary to study the variable longitudinally because repeated interactions may improve or decrease the level of trust that the consumer has. Investigating how sellers can rebuild customer trust when unforeseen mishaps break it during a live-streaming session may also be interesting. This study measured engagement using a self-administered survey, which may have led to response bias. Therefore, future research may consider including purchase frequencies, time spent watching live-streaming, or the number of interactions they have with sellers. Future research may also investigate other factors influencing trust and engagement from the platform perspective, such as the platform interface, platform security, payment system and security, and network externalities.

## Declarations

Open data can be accessed in: <https://zenodo.org/records/15003817>.

Open contributorship statement:

- Conceptualization and study design: Atik Aprianingsih and Mustika Sufiati Purwanegara.  
Data collection and curation: Rizkia Ayu Amilia, Margareth Setiawan and Teresia Debby.
- Methodology and formal analysis: Rizkia Ayu Amilia and Teresia Debby.
- Writing – Original Draft Preparation: Rizkia Ayu Amilia, Margareth Setiawan and Teresia Debby.
- Writing – review and editing: Atik Aprianingsih and Mustika Sufiati Purwanegara.
- Supervision and project administration: Atik Aprianingsih and Mustika Sufiati Purwanegara.

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