

Determinants of Livestream Shopping Reuse Intention in Social Commerce: Role of Trusting Belief and IT Affordance

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Abstract: Livestream commerce is an emerging form of online social commerce, gaining popularity due to its increasing volume. However, despite the importance of this development, only a limited number of studies exist pertaining to the determinants of livestreaming reuse intention. Additionally, the determinants, processes and consequences of trust in streamers remain largely unexplored in predicting the usage of livestream shopping. This study develops a model identifying the antecedents of livestreaming reuse intention to fill this gap. Based on the trust establishing theory and IT affordance theory, this study aims to examine the impacts of IT affordances (i.e., visibility, metavoicing, & guidance shopping) and trust in streamer on customer intention to reuse livestream shopping. We also examine the mediating effect of customer trust in streamer on the relationships between IT affordance factors and livestreaming reuse intention. For this purpose, the empirical data was collected via an online survey from the users of livestream shopping on the Facebook platform. The data was analyzed using SmartPLS 3, and the results showed that the visibility, metavoicing and guidance shopping affordances of livestream commerce positively influence customer trust in the streamer. The results confirm that customer trust in streamers significantly mediates the impact of IT affordance factors on livestreaming reuse intention. This study has significant theoretical and practical implications.

Keywords: livestreaming reuse intention, customer trust in streamer, IT affordance, visibility affordance, metavoicing affordance, guidance shopping affordance.

社交商务中直播购物重用意图的决定因素：信任和它负担的作用

摘要：直播电商是一种新兴的在线社交电商形式，由于其数量不断增加而越来越受欢迎。然而，尽管这一发展很重要，但关于直播重用意图的决定因素的研究数量有限。此外，在预测直播购物的使用情况时，对媒体信任的决定因素、过程和后果在很大程度上仍未得到探索。为了填补这一空白，本研究开发了一个模型来识别直播重用意图的前因。基于信任建立理论和它可供性理论，本研究旨在检验它可供性（即可见性、元语音和指导购物）和对流媒体的信任对客户重用直播购物的意图的影响。我们还研究了客户对流媒体的信任对它负担因素和直播重用意图之间关系的中介作用。为此，经验数据是通过 Facebook 平台上直播购物用户的在线调查收集的。使用智能 PLS 3 对数据进行分析，结果表明，直播商务的可见性、元语音和指导购物可供性对客户对流媒体的信任产生积极影响。结果还证实，客户对流媒体的信任显著调节了它负担因素对直播重用意图的影响。本研究具有重要的理论和实践意义。

关键词：直播重用意图、客户对流媒体的信任、IT 可供性、可见性可供性、元语音可供性、购物指南可供性。

Received: February 1, 2022 / Revised: March 4, 2022 / Accepted: March 17, 2022 / Published: April 30, 2022

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1. Introduction

Social commerce is experiencing growth by adopting emerging novel applications for improving customer participation and economic value. Livestream shopping is a new form of social commerce; it has recently been integrated into social media platforms, such as Facebook. Livestream shopping enables real-time social interaction between customers and streamers and facilitates online product sales [1]. Streamers (e.g., social influencers, celebrities, self-employed sellers, or ordinary people) showcase products, carry out demonstrations, and offer special discounts to customers during livestreaming [2]. Customers can also express their opinions and post their comments on a real-time basis. Meanwhile, they can also buy products without exiting the livestream. Based on its real-time and entertaining nature, livestream shopping is becoming a playful, powerful and popular channel for online product sales that overcomes the drawbacks of asynchronous traditional online product sales [3].

Livestream shopping has improved traditional commerce in numerous ways. First, livestream commerce allows streamers to present actual products in live videos rather than only product pictures and descriptions [4]. Second, livestreaming facilitates customers to ask questions in real-time through the bullet screen, and streamers can also reply instantaneously rather than forcing them to leave the product page to contact customers [4]. Third, livestreaming also allows customers to have face-to-face interaction with the seller, providing personalized guidance to them, which can meaningfully influence their intended behavior [5]-[6].

Nowadays, e-commerce or social commerce websites – such as Amazon, YouTube, Facebook, and Instagram – have added a ‘livestream shopping’ function to their platforms [2]. Market research reported that global livestreaming market revenue reached USD 44 billion in 2018 and would grow to USD 247.28 billion by 2027. It is also reported that, in 2021, Facebook Watch had 1.25 billion monthly livestream shopping viewers who watched for at least a minute. This increasing popularity of livestream shopping among online customers has drawn much attention from practitioners and researchers [3], but studies on livestreaming commerce are still in the infancy stage [1]. According to [7], the success of a technology depends on its actual use, whereas the actual use of a technology depends on customer intentions to reuse the technology, and a similar case is true for livestreaming. The more livestream shopping is used, the more it is successful. However, customer intention to reuse livestream commerce can be a key factor in determining its success. At the same time, customers’ intended behavior of livestream shopping is

influenced by their trust in the streamer [2]. It is emphasized that trust in livestreaming differs from other online shopping scenarios because livestream commerce has its own characteristics, such as real-time demonstration, interaction, and persuasion. The determinants, processes and consequences of trust in livestream shopping remain largely unexplored. Hence, it would be worth exploring how livestream commerce helps establish customer trust in streamers and continue using livestream shopping.

Past studies (e.g., [8]-[9]) examined the streamers’ and customers’ motivations to use livestream shopping. A few studies (e.g., [10]) focused on user interface design and gift-giving features of livestreaming, whereas other studies [4] also considered the perceived values (utilitarian, hedonic, and symbolic) and motivations (utilitarian and hedonic) of livestream shopping users. However, it is essential to consider livestreaming technical features and customers’ perceptions of these features together because livestream shopping is basically a form of human-computer interaction [3]. The affordance theory can help us consider both livestreaming features and customers’ perceptions to examine the behavioral outcome of using livestream shopping. When customers use and interact with livestream shopping, the affordance is formed through the relationship between customers and the technical features of livestreaming [11]-[12]. However, there is a “black box” between affordance and following behavior [2].

Affordance lens has been used for studying social commerce in several previous studies (e.g., [2], [12]-[13]). It is believed that the concept of affordance is suitable to understand livestream shopping as an emerging form of traditional social commerce. Therefore, this study aims to examine determinants of livestreaming reuse intention by investigating the mediating effect of customer trust in streamer on the relationship between IT affordance (visibility, metavoicing, & guidance shopping) and customer intention to reuse livestream shopping. Based on the trust in establishing the belief and affordance theory, this study develops a research model emphasizing the mediating effect of customer trust in streamer on the relationship between IT affordances and customer intention to reuse livestream shopping. The study has three-fold contributions. First, this study proposes the mechanism of livestream shopping influence on customer reuse intention from the perspective of IT affordance and customer trust in the streamer. Second, this study considers both technical features of livestreaming and customers’ perceptions. Third, this study examines both antecedents and consequences of customer trust in the streamer.

2. Literature Review

2.1. Livestream Shopping in Social Commerce

Livestream shopping in social commerce has become a new channel for marketing. It allows streamers to open live streams for interacting with customers in real time [2], [8]. Livestreaming with human-computer interaction employs information technologies that instantly send viewers photos and sounds, allowing them to perceive real-time presence [2], [8]. The most attractive feature of livestream shopping is its real-time connection [2]. During livestreaming, streamers show the product features and explain how to use products in real time, giving customized demonstrations per customer requirements [2]. These real time presence features enable potential customers to have a thorough understanding of the product, making the product promotion more convincing and effective. Moreover, streamers can quickly provide a great deal of product information, shortening customers' decision-making paths [4]. The streamers can also evoke customers' impulse purchases by offering coupons and discounts to customers [5].

Three major types of livestreaming commerce were categorized in [2]. The first type is the livestreaming function embedded in e-commerce websites (e.g., Amazon, Taobao) and mobile apps (e.g., ShopShops). The second type is social media platforms (e.g., Facebook, Instagram) integrating commercial activities [3]. The third type is a platform that provides livestream services for the purpose of e-commerce activities. The streamers can also put up their website URL links, which lead the viewers to their e-commerce websites, to encourage them to buy there [1].

Livestream shopping is growing in Pakistan as an effective and low-cost marketing tool. Nowadays, many online retailers (e.g., CityDeals.pk, ELO) use Facebook livestreaming for marketing their products. In addition, the retailers can create their own product demonstrations for their viewers to promote their products [2]. Some top Facebook streamers in Pakistan have millions of viewers when broadcasting. For example, ELO, which has more than 1.7 million followers, reaches more than 8 million viewers when they open live streams on Facebook. According to Global Advertising Forecast, India, Sri Lanka, and Pakistan had a 10.3%, 14%, and 18% increase in digital ad sales in 2020, respectively, and it is expected to grow by 21%, 18%, and 21% in 2021, respectively.

Due to the increasing importance of livestream commerce, past studies focused on e-sport and video game livestreaming [9] and how livestreaming increases product sales or purchase intention [2]-[3]. At the same time, less attention has been paid to studying the impact of technical features and customers' perceptions on ongoing livestream purchase intention. Livestream shopping entails significant human-computer interaction; it is crucial to consider technical

features and customers' perception of livestream shopping usage. Therefore, this study considers the technical features and customers' perceptions together to study livestreaming reuse intention.

2.2. The Affordance Theory

The affordance theory conceptualizes that each atmosphere has the affordance of the chance of an exact action [11]. As discussed in [14], affordance is *"the potential for behaviors related with attaining an instant concrete outcome and arising from the relation between an object (e.g., an IT artifact) and a goal-oriented actor or actors"*. Affordance has different attributes, suggesting different ways to influence user behavior to achieve objectives in a concrete environment. Affordance characteristics may vary depending on the context [15]. Past studies tried to classify several types of affordances based on their attributes, influencing viewers' behaviors to achieve objectives in a concrete environment. At the same time, IT affordance was categorized into six affordances in the context of online shopping: visibility, metavoicing, triggered attending, guidance shopping, social contacting, and trading [12].

The affordance theory has been extensively used to study the relationship between IT and social practice. For instance, in the perspective of social commerce, [12] examined the impact of IT affordances of a social commerce platform on the ties between customers and sellers. In social commerce, affordance is usually driven by users' perception of technological artifacts [12]. When streamers open live streams and customers start using livestream shopping, they will experience the features of livestreaming and subsequently form perceptions about them [3]. Therefore, the affordance lens considers technical features and customers' perceptions instead of analyzing them separately [3]. Hence, we aim to examine how livestreaming reuse intention is influenced by customer trust in the streamer from an affordance perspective.

2.3. Trust Building Theory

Trust has been extensively studied and defined according to the theoretical contexts and disciplinary perspectives. Trust has mainly been an essential factor of concern in the online shopping environment due to sellers' physical absence, which makes electronic transactions more vulnerable. It is especially critical when customers use recommender systems or other forms of online decision aids; they may wonder whether recommendations truly represent their benefits or those of the e-retailers [16]. Customer trust can trigger positive behavior toward using technology. In general, trust can be described as the other party acting ethically and socially appropriate in social exchange and will not engage in opportunistic behavior [17]. In literature, trust was considered a multidimensional or a one-dimensional concept. We consider trusting a

single-dimensional variable in our study context of social commerce. Customer trust refers to their perceptions of the institutional structure of the social commerce system and their feelings about the structural guarantees of the system. It is an institution-based type of trust. In this study, however, customer trust in streamers is defined as the expectation of online customers to be able to trust the words, presentations, or written statements of the streamers on a social commerce platform.

3. Proposed Research Model and Hypotheses Development

Livestream shopping success depends on customer intentions to continue using it, whereas customers' intended behavior of livestreaming is influenced by their trusting belief in the streamer [2]. Customer trust in streamers differs from other online scenarios because livestream shopping has its own real-time demonstration, interaction, and persuasion characteristics. When customers interact with streamers, IT affordance in social commerce is formed based on the relationship between customers'

perception and technical features of livestreaming [11]-[12]. As proposed in [12], IT affordance consists of three affordances: visibility, metavoicing, and guidance shopping. Visibility affordance meets customers' need to access product information. It requires a technical capability to help streamers in livestreaming provide visible product information [4]. Metavoicing affordance satisfies customers' need to evaluate target products; it requires the technical capability for allowing the customers to post their comments directly to the streamers [12]. In livestreaming, customers can ask streamers relevant questions about the products, and the streamers can reply using a bullet screen or a shared chat room [8]. Guidance shopping affordance assists customers to get personalized services to find required products; it requires the technical capability for enabling the streamers to provide personalized advice based on customers' needs [18]. Therefore, a research model is drawn based on the affordance theory and the online trust-building mechanism, as shown in Figure 1, depicting the mediating impact of customer trust in streamer on the relationship between IT affordances and livestream shopping reuse intention.

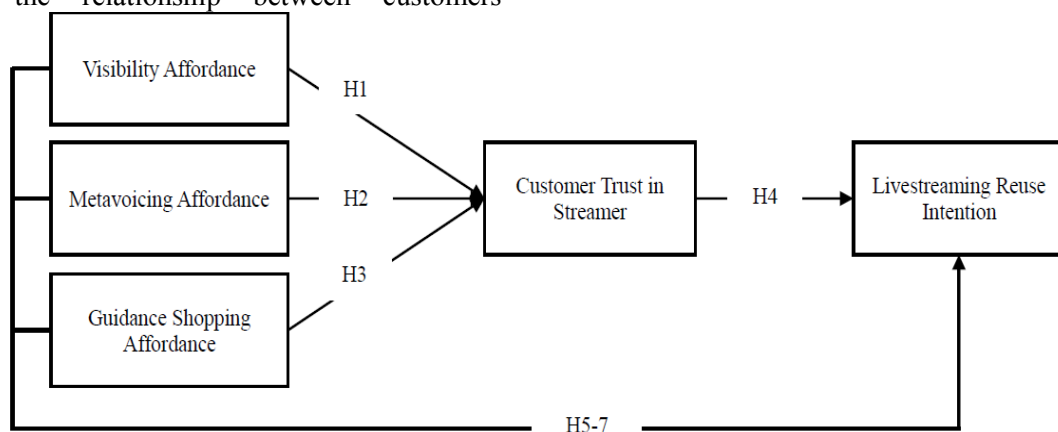


Fig. 1 The research model
Note: Bold lines refer to mediating hypotheses

3.1. Impact of IT Affordance on Customer Trust in Streamer

The visibility affordance of livestreaming enables customers to access visible product information [2]. Streamers use livestreaming to show and explain the product characteristics and how to use the product [4]. Customers can watch the streamers and also interact with them. Subsequently, they can perceive the sellers as "real people", leading to a social presence [13]. Moreover, livestreaming provides the customers with detailed product information as if they were watching and obtaining the product information at the seller's location, which gives the customer a feeling of trust in streamers [2], [19]. It was also found in the online environment that providing information regarding products and services increases a seller's trustworthiness in social commerce. Hence, the visibility affordance of livestreaming can meet customers' needs and subsequently is more likely to

enhance customer trust in streamers [2], [17]. In this study, if livestreaming enables the streamer to help the customers visualize products in the real world and answer various questions during livestreaming, customer trust in the streamer will increase. Hence, the following hypothesis is proposed:

H1: Visibility affordance of livestreaming is positively associated with customer trust in the streamer.

Metavoicing affordance assists customers to seek valuable information products and allowing to pose questions directly to the streamers via live chat rooms [18]. Even if the customers have any follow-up questions, they can reply to the streamer's response, and the streamer then can respond further accordingly [2]. However, metavoicing affordance facilitates direct communication between customers and streamers, giving customers a friendly impression and narrowing the distance between them. This interactivity creates a

sense of social presence. It subsequently reduces customer uncertainty about livestreaming and perceives it as a reliable source. Customers are more likely to chat and interact with streamers when they trust them [17]. Thus, metavoicing affordance can increase customer trust in the streamer. We propose the following hypothesis:

H2: Meta voicing affordance of livestreaming is positively associated with customer trust in the streamer.

Guidance shopping affordance provides customized service infrastructure enabling the customers to find a required product based on their requirements [12]. During livestreaming, a streamer can create a technical infrastructure to provide products according to the preferences of each customer. In addition, the customers can also directly interact with the streamer to clarify their queries [3]. Guidance shopping affordance enables customers to solve problems, increasing the utilitarian value of livestreaming [12]. It subsequently gives a positive customer experience, leading to a higher level of customer trust and repurchase intention.

Furthermore, [2] found that guidance shopping affordance enabled a streamer to respond to customers' personal preferences and needs. Therefore, it increases the likelihood of the customers' belief that the streamers understand their personal preferences and needs, indicating that they are responsible and honest. Therefore, guidance shopping affordance of livestreaming can influence customer trust in the streamer. We hypothesize that:

H3: Guidance shopping affordance of livestreaming is positively associated with customer trust in the streamer.

3.2. Impact of Customer Trust in Streamer on Livestreaming Reuse Intention

According to previous studies, trust is an essential factor in the online environment [20] because the absence of face-to-face communication creates uncertainty [21]. Therefore, the elimination of this uncertainty in the livestream shopping context occurs due to customers' interaction with the streamers, and trust is created. Several past studies (e.g., [16, 22]) showed a positive relationship between customer trust and behavioral intentions. For instance, it was found that customer trust in a seller increases customers' social commerce reuse intentions. Similarly, a positive impact of customer trust on their reuse intention of online product recommenders was reported in [16]. However, it is expected that more significant (lower) customer trust in streamers will be associated with their greater (lower) intentions to reuse livestream shopping. When customer trust is built on the steamer, the customer will continue using livestream shopping in the future. Therefore, we posit the following hypothesis:

H4: Customer trust in streamers is positively

associated with livestreaming reuse intention.

3.3. Mediating Effect of Customer Trust in Streamer

The direct impact of livestreaming affordances (i.e., visibility, metavoicing, and guidance shopping) on customer trust was validated in past studies [12]. Furthermore, the mediation effect of customer trust was also proven by several scholars in different contexts [23]. Thus, it was found that customer trusting beliefs significantly mediate the impact of used online product recommendations on customer intention to purchase and reuse the recommendation system [23]. Moreover, customer trust in the product and streamer mediates the impact of the central route, and the peripheral route triggers customer purchases intention (PI) and willingness to pay more [2]. Similarly, utilitarian and hedonic values of livestreaming were shown to affect customer engagement indirectly through customer trust in products and trust in sellers sequentially [4]. Therefore, we argue that customer trust in streamers would mediate the impact of livestreaming affordance (i.e., visibility, metavoicing, and guidance shopping) on customer intention to reuse livestream shopping due to their spillover effects. However, we propose the following hypotheses:

H5: Customer trust in streamers mediates the effect of visibility affordance on their intentions to reuse livestream shopping.

H6: Customer trust in streamers mediates the impact of metavoicing affordance on their intentions to reuse livestream shopping.

H7: Customer trust in streamers mediates the influence of guidance shopping affordance on their intentions to reuse livestream shopping.

4. Research Methodology

4.1. Construct Measurements

The research model presented in Figure 1 was tested via an online cross-sectional field survey of livestream shopping users on the Facebook platform. A survey questionnaire based on the measures of constructs specified in the research model and customers' demographic characteristics was developed for data collection. The items measuring each construct were mainly adopted from previous literature. The measures of visibility affordance (VIA), metavoicing affordance (MEA), and guidance shopping affordance (GSA) were adopted from [12]. The measures of customer trust in streamer (CTS) were adopted from [2]. The livestreaming reuse intention (LRI) items were adopted from [24]. All variables were measured using a five-point Likert scale anchored by “*strongly disagree*” and “*strongly agree*”.

We followed a four-step process to improve the validity of the questionnaire. First, the study constructs were adopted from previous studies. Second, an expert panel consisting of five university professors was

established to validate the measurements. Third, pre-testing was done with university lecturers and graduate students who had the experience of buying products using livestream shopping to further test the study measurements. Fourth, a pilot study was conducted with the fifty users of livestream shopping from the target population. Although the pilot results showed that the constructs had good internal consistency (all alpha values were greater than 0.80), no further modifications were made to the survey questionnaire. All the items for measuring the constructs and their definitions are shown in Table 3.

4.2. Data Collection and Demographic Descriptive Information

In this study, the Google survey platform was used to conduct an online survey with the users of livestream shopping on Facebook from mid-May to the end of August 2021. A screening question was also included in the questionnaire to identify real users of livestream shopping. The survey questionnaire was distributed among the real users of livestream shopping conducted on Facebook pages of City deals, A Million Aims, ELO, and BrandsEgo.com in Pakistan. A total of 323 responses were received, of which 304 responses were useable, while the remaining 19 responses were deleted due to significant missing data. Respondents' demographic description is shown in Table 1. The demographic results show that 58.6% are male, 60.5% are single, 42.1% have a bachelor's degree, and 30.9% are self-employed; 60% of respondents have been buying online for over 1-3 years.

Table 1 Descriptive statistics

Variables	Frequency (%)
Age Group	
Less than 20 years	24 (7.9)
20-30 years	156 (51.3)
30-40 years	90 (29.6)
40-50 years	31 (10.2)
Above 50 years	03 (1.0)

Table 2 Non-response bias analysis

Variable		N	Mean	Standard Deviation	T Statistics	Sig.	Significant Value
Visibility Affordance (VIA)	Early	50	3.481	.7823			
	Late	50	3.303	.8843			
Metavoicing Affordance (MEA)	Early	50	2.443	.7412			
	Late	50	2.334	.8772			
Guidance Shopping Affordance (GSA)	Early	50	3.718	.5432			
	Late	50	3.442	.5343			
Customer Trust in Streamer (CTS)	Early	50	3.803	.5148			
	Late	50	2.434	.4321			
Livestreaming Reuse Intention (LRI)	Early	50	3.438	.8789			
	Late	50	3.744	.6674			

5. Results

5.1. Data Analysis

For the data analysis, this study follows the two-step procedure recommended by [25] and subsequently followed by several past studies [26]. First, we

Occupation	
Employed for wages	94 (30.9)
Self-employed	67 (22.0)
A homemaker	49 (16.1)
Student	88 (28.9)
Retired	01 (0.3)
Other	05 (1.6)
Marital Status	
Single	184 (60.5)
Married	98 (32.2)
Engaged	18 (0.06)
Divorced	120 (39.5)
Others	04 (0.01)
Education Level	
High School or less	184 (1.0)
College Degree	98 (16.1)
Bachelor Degree	18 (42.1)
Master Degree	120 (39.5)
Other	4 (1.3)
Online buying experience	
Less than 1 year	27 (8.9)
1-3 years	176 (57.9)
3-5 years	90 (29.6)
More than 5 years	11 (3.6)
Gender	
Male	178 (58.6)
Female	126 (41.4)

4.3. Non-Response Bias Assessment

We assessed the non-response bias through early and late respondents. The respondents are defined as early and late, considering the first and last 50 responses [25]. A comparison of means on all study constructs is carried out using paired t-test. The results are shown in Table 2, indicating no statistically significant differences in the means of these two groups. The results indicate that those respondents who did not respond to the survey would probably have the same perceptions of the constructs as those respondents who responded to the survey and unlikely affected the results. The results of non-response bias can also be seen in Table 2.

examined the measurement model to measure reliability and validity. Second, we examined the structural model via structural equation modeling (SEM) using SmartPLS (version 2 M3). Compared to covariance-based SEM (CB-SEM), PLS is more robust to multicollinearity, and distributional variance in item

properties flexibly supports a variety of research variable types and is suitable when the data is non-normal [27].

5.2. Analysis of the Measurement Model

We analyzed reliability and validity for examining the characteristics of the measurement model. The measurement model results are shown in Table 3. The

factor loading results reveal that all measures are significantly loaded on their respective constructs, supporting convergent validity. In addition, Cronbach Alpha, composite reliability, and average variance extracted values (AVE) of study constructs are greater than 0.6, indicating that constructs measures are valid and reliable.

Table 3 Construct measurements, reliability, and convergent validity

Constructs and Measurements (Scale Reliability and AVE)	Descriptive and Factor Loadings
<i>Visibility Affordance</i> - The possibility of visibly demonstrating the product to customers (Cronbach's $\alpha = 0.841$, CR = 0.92 AVE = 0.713).	Mean = 3.23, SD = 1.23
Livestream shopping	0.907
VIA1: provides me with detailed pictures and videos of the products.	0.949
VIA2: makes the product attributes visible to me.	0.933
VIA3: makes information about how to use products visible to me.	0.929
VIA4: helps me to visualize products like in the real world.	
<i>Metavoicing Affordance</i> - The possibility for customers to respond to product content and sellers (Cronbach's $\alpha = 0.816$, CR = 0.86 AVE = 0.557)	Mean = 3.31, SD = .743
Livestream shopping allows me to	0.774
MEA1: comment on the products.	0.754
MEA2: react to streamers' feedback on the products.	0.790
MEA3: share streamers' opinions about the products.	0.748
MEA4: join in streamers' communal discussions on the products.	0.761
MEA5: share shopping experiences with the streamer.	
<i>Guidance Shopping Affordance</i> - The potential to help customers make purchase decisions by offering personalized services (Cronbach's $\alpha = 0.800$, CR = 0.93 AVE = 0.786)	Mean = 3.56, SD = .985
Streamers to livestream shopping can	
GSA1: provide me with information on all alternative products I intend to buy.	0.912
GSA2: help me establish my product needs without any restrictions.	0.943
GSA3: help me identify which product attributes best fit my needs.	0.924
GSA4: provide me with personal product customization based on my requirements.	0.941
<i>Customer Trust in Streamer</i> - Trust in streamer refers to consumer's belief that the streamer is trustworthy and not cheating their audience (Cronbach's $\alpha = 0.742$, CR = 0.82, AVE = 0.662)	Mean = 3.68, SD = .975
CTS1: This streamer gives me a feeling of trust.	0.912
CTS2: I have trust in this streamer.	0.943
CTS3: This streamer gives me a trustworthy impression.	0.924
<i>Livestreaming Reuse Intention</i> - The customer trust on streamers and products who increase customers' livestreaming reuse intention (Cronbach's $\alpha = 0.865$, CR = 0.91, AVE = 0.790)	Mean = 3.23, SD = 0.933
LRI1: I have trust in this livestream shopping.	0.982
LRI2: This reuse intention is to give me a trustworthy impression.	0.943
LRI3: I expect that my livestreaming reuse intention will increase.	0.912

Discriminant validity of the constructs is examined using the Fornell-Larcker criterion by comparing the results of square roots of AVEs with inter-construct correlations. As shown in Table 4, the square roots of AVEs of the study constructs are greater than their inter-construct correlations, providing evidence of construct discriminant validity.

Table 4 Correlation and discriminant validity

Constructs	LRI	CTS	VIA	MEA	GSA
LRI	0.889				
CTS	0.640	0.814			
VIA	0.381	0.616	0.897		
MEA	0.703	0.671	0.669	0.811	
GSA	0.404	0.573	0.616	0.669	0.887

Note: Diagonal values are squared roots of AVEs, and the remaining are correlation values

The Heterotrait-Monotrait (HTMT) test was suggested in [28] as an alternative approach to examine discriminant validity. It was argued that the classical

approaches (i.e., the Fornell-Larcker criterion and cross-loadings) did not reliably detect discriminant validity in the cross-sectional survey study. The HTMT test requires calculating a ratio of the average correlations between constructs to the geometric mean of the average correlations within items of the same constructs. In order to obtain the HTMT results, this study runs the bootstrapping routine in SmartPLS (version 2 M3). Cut-off points of 0.85 and 0.90 were suggested in [28] for establishing discriminant validity between two reflective constructs, whereas the HTMT value of 0.85 is the most conservative criterion. If the HTMT ratio is below 0.85, the discriminant validity between the two constructs is established. The HTMT results presented in Table 5 are less than 0.85, indicating no discriminant validity problem in this study.

Table 5 Heterotrait-Monotrait (HTMT) test results

Constructs	LRI	CTS	VIA	MEA	GSA
LRI					
CTS	0.516				
VIA	0.54	0.51			
MEA	0.517	0.508	0.53		
GSA	0.65	0.64	0.69	0.590	

5.3. Analysis of the Structural Model

Based on the guidelines by [27], this study uses PLS-SEM to test the research model. PLS results are presented in Figure 2, which reveals that visibility affordance, meta voicing affordance, and guidance shopping affordance have a significant positive impact on customer trust in streamers with path significant coefficients ($\beta_{VIA} = 0.167$, $P > 0.001$; $\beta_{MEA} = 0.331$, $P > 0.001$; $\beta_{GSA} = 0.180$, $P > 0.001$), supporting H1, H2, and H3, respectively.

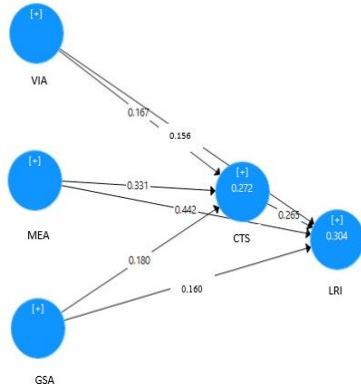


Fig. 2 PLS results of the research model

The PLS results also reveal that customer trust in streamers also has a significant positive influence on

livestream shopping reuse intention ($\beta_{LRI} = 0.265$, $P > 0.001$), thus supporting H4. Furthermore, visibility affordance, meta voicing affordance, and guidance shopping affordance also have a significant positive impact on customers' intention to reuse livestream shopping ($\beta_{VIA} = 0.156$, $P > 0.001$; $\beta_{MEA} = 0.442$, $P > 0.001$; $\beta_{GSA} = 0.160$, $P > 0.001$). Overall, the model explains 27.2% and 30.4% of the variances in customer trust in streamer and livestream shopping reuse intention, respectively.

For testing the mediating effect of customer trust in streamers, we follow three steps recommended by [27]. The first step is to test the significance of the direct effect without including the mediator. The second step is to test the significance of the indirect effect while including the mediator. The third step is to test the strength of the mediation by calculating variance accounted for (VAF) ($VAF > 80\%$ indicates complete mediation; $20\% \leq VAF \leq 80\%$ indicates partial mediation; $VAF < 20\%$ indicates no mediation). PLS-SEM was performed as recommended by [27] to analyze the trust mediation effect. Finally, the significance of the indirect effect was calculated using the Sobel test [29]. Table 6 summarizes the effect values in addition to t-values and p-values for the two paths measuring the mediating effect. Thus, the result confirmed that customer trust in streamers partially mediates the impact of visibility affordance, meta voicing affordance, and guidance shopping affordance on customer intention to reuse livestream shopping, thus supporting hypotheses H5, H6, and H7.

Table 6 Trust mediation analysis results

Causal paths	VIA → CTS → LRI			MEA → CTS → LRI			GSA → CTS → LRI		
	Effect value	t value	P-value	Effect value	t value	P-value	Effect value	t value	P-value
Without mediator									
Direct effect (VIA → LRI)	0.173	16.92	0.000	0.529	14.43	0.000	0.243	8.32	0.000
With mediator									
Direct effect (VIA → LRI)	0.167	2.568	0.011	0.331	5.937	0.000	0.180	2.604	0.009
Indirect effect (VIA → CTS → LRI)	0.156	2.347	0.019	0.442	6.803	0.000	0.160	3.129	0.007
Total effect (VIA → CTS → LRI)	0.323	4.915	0.003	0.773	12.74	0.000	0.34	5.733	0.016
Variance accounted for (VAF)	26.74%			39.91%			20.11%		
	Partial mediation			Partial mediation			Partial mediation		

6. Discussion and Research Implications

This study aims to examine the determinants of customers' intentions to reuse livestream shopping by testing the mediating impact of customer trust in streamer on the relationship between IT affordances and livestreaming reuse intention. Accordingly, we develop the research model that emphasizes IT affordances (visibility, meta voicing & guidance shopping) and customer trust in streamers to predict usage of livestreaming. The results show that visibility

affordance, meta voicing affordance, and guidance shopping affordance have significant positive impacts on customer trust in streamers, which is positively associated with customer intention to reuse livestreaming. Furthermore, the results also show that customer trust in streamers partially mediates the impacts of IT affordances on customer intention to reuse livestream shopping. This study has significant theoretical and practical implications as follows.

6.1. Theoretical Implications

This study contributes to the literature on livestream shopping in three ways. First, it reveals why customers intend to continue using livestream shopping from IT affordance and customer trust in streamer perspective. Livestream commerce has changed many aspects of traditional social commerce, but previous studies (e.g., [4]) focused less on these changes. In this study, we jointly examined technical features and customers' perceptions from the perspective of IT affordance and trust in the streamer. We also define customer trust in streamers as a mediating mechanism for IT affordance to influence customer intention to reuse livestream shopping. Our results show that the IT Affordances consisting of visibility, meta voicing, and guidance shopping can influence customer intention to reuse livestream shopping through customer trust in the streamer. When we examined the literature, we could not find any studies analyzing the mediating or indirect impact of customer trust in streamers on the relationship between IT affordances and livestreaming usage.

Second, this study primarily adopts the affordance factors, a new research perspective for studying the adoption of livestream shopping. Previous studies (e.g., [4]) of social commerce and social livestreaming have separately examined social commerce features and how customers perceive them. Although some recent social commerce studies [12]-[13] adopted the affordance lens, this perspective has not previously been used to study the adoption of livestream shopping. Some other studies showed that livestream shopping could be built on customer trust in social commerce [2]. However, it was unknown whether customer trust in streamers can lead to livestream shopping continued use. However, there are some deficiencies in previous livestreaming research that this study has somewhat addressed.

6.2. Practical Implications

Our results provide practical implications for social livestreaming designers, administrators, and vendors. Based on our findings, IT affordances of livestreaming can indeed positively influence customer trust in streamers, which subsequently has a spillover effect on livestreaming continued use. Therefore, the customer trust in streamers can be improved by optimizing the IT affordances of livestream shopping. For instance, sharing photos, videos, or relevant information about the target products or services and effectively presenting them or proactively guiding the potential customers to make a buying decision through livestreaming can improve affordance and subsequently generate customer trust. At the stage of product evaluation and buying decision, the increased affordance for customers to access valuable information and get guidance shopping will increase the likelihood to continue using livestream shopping due to improved customer trust. For example,

streamers should ensure having thorough product knowledge before offering guidance to customers.

Moreover, the designer could improve the visibility and metavoicing of livestreaming to strengthen the presentation of products to customers. With a higher level of visibility, metavoicing, and guidance shopping, designers can increase the functionality of customer-streamer interactions. However, improving practitioners' knowledge regarding the IT affordance of livestreaming contributes to increasing customer trust and positively influencing the adoption of livestreaming.

7. Study Limitations and Future Research

This study has several limitations, like any other research. First, our study is limited to only Facebook livestream shopping, and accordingly, the study results have generalizability. Future studies can consider other livestreaming platforms (e.g., YouTube, Instagram) as each platform has unique characteristics affecting livestream shopping usage. Second, our research focuses on the IT affordance of livestreaming and trust in streamers for predicting the usage of livestream shopping; future studies may also consider product-related factors as the main influencing factors on customer buying behavior. Third, our study sample is limited to only one country. However, the future study sample could be taken from different countries to verify the generalizability of the results because there may be differences in customer behavior due to their cultural differences. Fourth, our research measures only customer intention to reuse livestream shopping. If customers' actual behavior is incorporated into the model in future studies, it will result in a higher reference value to practitioners based on understanding whether there is a difference between intentions and real action.

8. Conclusion

Despite the rising trend of livestream commerce, less attention has been paid to the antecedents, processes, and performance of customer trust in streamers in predicting livestreaming reuse intention. Utilizing the trust establishing theory and IT affordance theory, we developed a research model to explore the relationships among IT affordances as antecedents, trust in streamers as a process, and livestreaming reuse intention. In this study, we jointly examined technical features and customers' perceptions from the perspective of IT affordance. We found that visibility, metavoicing, and guidance shopping affordances significantly influence livestreaming reuse intention through customer trust in streamers, confirming the mediating role of customer trust in streamers in boosting livestreaming commerce. Contrary to prior studies that focused on motivations (utilitarian and hedonic) of livestreaming users, interface design and

gift-giving features, and perceived values (utilitarian, hedonic, and symbolic) of livestream shopping, this study significantly contributed to analyzing the mediating or indirect impact of customer trust in streamer on the relationship between IT affordances and livestreaming usage. The results indicate that visibility, metavoicing, and guidance shopping aspects of livestream commerce can increase the functionality for customer-streamer interactions and continued use of livestream shopping. However, improving livestreaming visibility, metavoicing, and guidance shopping affordances contribute to building customer trust in streamers and boosting the success of livestreaming.

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