

# Affective and Cognitive Social Presence in Chinese Live Commerce -Consumption Value as a Mediator-

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## Abstract

This study aims to clarify the implications of rapidly growing live commerce in China by examining the multifaceted aspects of social presence, in particular to help small commerce operators and platform companies. It examines the effect of cognitive and affective social presence on consumer engagement by evaluating consumption values and trust in streamers. In this survey study, the responses of 221 individuals residing in large cities of China were analyzed using structural equation modeling. The results showed that cognitive social presence had a positive effect on consumer engagement by mediating the utilitarian value and trust in streamers. Furthermore, affective social presence had a positive effect on consumer engagement through the hedonic value and trust in streamers. Thus, our research provides a new perspective to approaching a multidimensional social presence and understanding consumer behavior in live commerce. Moreover, it contributes to the application and expansion of social presence theory in this field.

**Key words:** Live streaming commerce, Cognitive and affective social presence, Trust in streamer, Consumer engagement

## I. Introduction

As non-face-to-face life is spreading due to the COVID-19, live commerce has emerged as a business model attracting attention. Unlike existing marketing communication methods, live commerce can increase brand attractiveness and customer engagement through real-time communication and interaction with streamers (Wongkitrungrueng & Assarut, 2020; Zhang et al., 2020). In addition, company can check consumer preferences and attitudes in real time (Wongkitrungrueng et al., 2020). China is a market where live commerce has been established first, and the development

of live commerce in China has accelerated in 2018 due to the proliferation of video social content platforms such as ‘KwaiShow’ and ‘TikTok’ (Kim, 2021). In particular, it is developing explosively thanks to the policy supports of the Chinese government. According to Matthews and Chen (2021), due to the COVID-19, live commerce shopping market in China is expected to reach RMB 2 trillion in 2021, accounting for 60% of the global e-commerce market.

Meanwhile, consumers are increasingly paying more attention to experiences and interaction than to one-way marketing communications (Cachero-Martínez & Vázquez-Casielles, 2021; Farah et al., 2019). Live shopping is meeting these consumer needs. Consumers can see, hear, and response to streamers, allowing

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viewers to become more engaged and influence the broadcast (Sjöblom & Hamari, 2017; Wongkitrungrueng & Assarut, 2020). In this process, consumers feel close to the streamer or simultaneous viewers, and they can feel the presence of others in live commerce. This interaction is similar to the feeling of face-to-face communication. This is called social presence, and it is the basic for research on various communication media. In addition, consumers enjoy watching live commerce and learn practical information (Xu et al., 2020). Through interactivity with streamers, as well as interaction with viewers and social presence that coexist in live commerce, the enjoyment will be doubled, and questions about the product will be resolved (Liang, 2021). As a result, when the purchase intention for a product is increased, the participation of consumers in the future will continue to increase.

Live commerce is ultimately about increasing consumer willingness to purchase products and consume content. In fact, the commerce market is growing not only in China but also in various countries due to COVID-19 (Baersch et al., 2022). Therefore, it is necessary to explore the psychological mechanism and implications of consumer engagement in live commerce. For instance, consumers may feel that they are in the same space with streamers who introduce products and communicate in real time. Conscious that they are in the same space, they ask questions about the material and size of the product (Song & Im, 2020). The fact that people feeling the presence of other people, such as streamers and other participants, has been analyzed by previous social presence studies. However, beyond gradually being cognitively present, consumers want to feel that they are in the same space from the emotional point of view (Shen & Khalifa, 2009; Wut & Xu, 2021). As offline emotional interaction with close people increases consumers' excitement and pleasure, affective social presence (ASP) will allow people to be more immersed in the situation, which may lead to product purchases and consumer advocacy (Li & Hua, 2022). Other media studies focus on the affective nature of social presence (Caspi & Blau, 2008; Koponen & Rytsy, 2020; Whiteside et al., 2017), but studies ex-

amining ASP in the context of live commerce is lacking. In addition, previous studies on live commerce lack studies examining the relationship between consumption and trust. Lin et al. (2020) mentioned the importance of shopping value in live commerce, and Wongkitrungrueng and Assarut (2020) conducted a study on consumption value. However, Wongkitrungrueng and Assarut (2020) did not look at the social presence that has an important influence on consumer choice, and the relationship between consumption value and trust in streamer (TS) did not appear. Therefore, it is necessary to review the consumption value and trust under the multidimensional social presence once more.

To fill this gap, there is a need to examine live commerce in a more subdivide manner rather than one simple social presence, and consider what has a greater impact on cognitive social presence (CSP) and ASP. In addition, there are insufficient studies on consumer values and characteristics of live commerce consumers. Live commerce was studied for some impulse buying and consumer perception (Choi & Jeon, 2021, Gwak & Lee, 2021), but Gwak and Lee (2021) did not find causal relationships as a study using text mining, which was just a simple descriptive study. Furthermore, although many studies have been investigated on social presence, all related studies have looked at social presence as one factor. However, in various media studies other than live commerce, social presence was divided into CSP and ASP (Caspi & Blau, 2008; Koponen & Rytsy, 2020; Whiteside et al., 2017). Therefore, this study examines the effect of cognitive and affective social presence on consumer engagement for real buyers of live commerce in China, which is rapidly growing due to the COVID-19. In particular, it is assumed that consumer value and trust in streamers, which have not been explored in previous studies, mediated social presence and consumer engagement.

This study makes several theoretical and practical contributions. First, it will be helpful in deriving a research model with high explanatory power in future research because it approaches social presence from two aspects in live commerce research. Second, a Chi-

nese live commerce operator or platform company can provide not only cognitive but emotional service experience, so it can provide implications for various constructions and supports.

## II. Theoretical Background

### 1. Social Presence in Live Commerce

Live commerce is a concept that combines a live streaming service and e-commerce, and refers to an e-commerce method that allows consumers to purchase products by communicating with sellers in real time (Kim & Kim, 2020). A live commerce platform is essentially an interactive electronic platform (Cai & Wohn, 2019). The platform provides an environment where companies and customers can jointly create value (Cai et al., 2018). Cho and Lim (2019) stated that live streaming is a form of sending content to consumers via live broadcast over the internet. Viewers can see and hear the streamer and even respond to what the streamer says and does, allowing them to interact directly. This enables a two-way connection between streamers and viewers, where streamers can directly identify and respond to viewers, and viewers can actively participate in and influence live stream (Sjöblom & Hamari, 2017). In addition, from the company's point of view, live commerce is a marketing for producing and distributing videos anytime, anywhere using the internet live streaming platform, and to achieve the brand's information delivery and marketing goals (Chunna, 2017). As a new social media format, live commerce has traditional social media attributes and includes new attributes such as concurrency (Kang et al., 2021) and authenticity (Tang et al., 2016). Through concurrency, social presence is experienced, and its use is expected to expand further by allowing consumers to experience immersion and increase participation (Kang et al., 2021; Lee, 2021).

Live commerce has now appeared in various live commerce platforms worldwide due to the COVID-19. As live commerce contributes greatly to the increase of sales, competition between companies in live

commerce is intensifying (Faroqui, 2022). Live commerce experiences social presence beyond interactivity through real-time communication with streamers and other participants. Not only do people interact with streamers through supportive text or emoticons, they also form an emotional connection based on how realistic their interactions are. The psychological feeling beyond this simple interactivity is called social presence. Social presence theory refers to the salience of the other person in communication interactions, and includes the concepts of immediacy and intimacy (Short et al., 1976). Immediacy is a measure of psychological distance that reinforces intimacy and non-verbal interactions with others through immediate actions such as nodding and smiling. Intimacy is described as an interpersonal relationship, and the degree of intimacy is expressed through verbal and non-verbal actions, and the interactor unconsciously maintains an appropriate level of relationship (Argyle & Dean, 1965). This theory asserts that even if they are not in the same place with the other person, they can create a sense of interaction between people through communication media such as television or internet, and they can psychologically feel the presence of another person (Short et al., 1976). This interaction is equivalent to the feeling of face-to-face communication, and in the process of watching live online shopping, consumers can feel a dynamic presence between streamers. While watching live commerce, consumers increase emotional intimacy through various activities with streamers or with consumers who watch together, in addition to giving practical responses. This pleasant experience goes beyond simply feeling close to people on the online space, as it encompasses emotionally interacting, empathizing, and forming relationships. This phenomenon is referred to as ASP. As such, it was understood that social presence is not only one dimension. Shen and Khalifa (2008) defined social presence as the perception of others beings that accompany affective and cognitive engagement with others in online mediated social space. Then, Shen and Khalifa (2009) explored three dimensions of ASP, CSP, and awareness through a multidimensional approach of

social presence in online communities. CSP is defined by Shen and Khalifa (2009) as belief about the users' relationship with other users in a social context. It refers to the degree to which a person can organize and identify relationships with others and social spaces. ASP refers to the degree of human warmth and emotional connection in virtual social interactions with others (Hassanein et al., 2009). In addition, consumers demand different levels of social presence according to media attribute. Real-time live commerce is a platform that requires high level of social presence (Tafesse, 2016). Several studies have suggested that to increase consumers' online shopping experience, they should focus on ASP by increasing emotional connections with others through facial expression, eye contact, gesture, and body language in an offline environment (Cui et al., 2010; Luo et al., 2020; Wongkitrungrueng & Assarut, 2020). Even though some live commerce studies were conducted with a single dimension, recent findings argue for a more complete inspection considering the multidimensional structure of social presence (Alhulail et al., 2019). Therefore, since multidimensional social presence has been not in live commerce studies, it is necessary to examine the social presence that greatly influences consumer choice as ASP and CSP.

## 2. Consumption Value

Values are the ideologies and principles that regulate human behavior and influence individual behavior that individuals, groups, or society consider to be right, desirable, or important, and values are intrinsic antecedents that induce behavioral changes, and it is possible to predict behaviors through them (Rohan, 2000). In addition, consumption value can be defined as a concept that links general personal values and the criteria that consumers use to evaluate products (Moon & Choo, 2008). Consumption value serves as a standard in the consumer decision-making process, and becomes a lasting belief that guides all consumer behavior (Won & Chung, 2015). Holbrook (1994) established the concept of consumption value as being formed

in exchange activities by interaction with products or services that cause value creation or consumption experience. When consumers make various choices, consumption values make a differential contribution to their choices. From this point of view, with the enhancement of interactivity through technology, live commerce is expected to affect the emotional response of consumers rather than just eliciting a simple cognitive response. To get closer to consumers, live commerce is making efforts in various dimensions of consumers' values. In previous studies of e-commerce, which appeared before live commerce, it was identified that various consumption values (hedonic, utilitarian) affect consumers' purchasing behaviors, intentions, and online word-of-mouth. In addition, consumers want to pursue both hedonic and utilitarian values during the shopping process (Carpenter et al., 2005; Holbrook & Hirschman, 1982).

Utilitarian value (UV) is task-oriented, focusing on the functional role of a product or service and its value for money, and has a rational attitude. Lin et al. (2020) recognized the important role of perceived functional value in determining consumers' purchase intention in social commerce. On the other hand, the hedonic value (HV) refers to the emotional or psychological value of the purchase. HVs include psychological states such as pleasure based on experience, excitement of shopping, and an escape from everyday life. Lombard and Ditton (1997) also found that pleasure is one of the most prominent psychological effects of social presence, which leads to satisfaction and reinforces the intention to continue using it. Therefore, it is judged that consumers of live commerce experience social presence and enjoyment through it.

## 3. Trust in Streamer

Trust is a common belief in a social exchange that one will act in ethical and socially appropriate manners and not act opportunistically (Gefen et al., 2003). It is argued that trust is a direct factor important decision-making, and in the current status quo, this concept of trust can also be formed in the relationship be-

tween people and computers (Reeves & Nass, 1996). In addition, online, non-face-to-face, trust provides truthful information, conveys expectations, and is the consumer perception of the competitiveness of a site about the good intentions of the company and the impressions it has received from the site system (Bart et al., 2005). In particular, when shopping online, consumers cannot directly experience products and services, so consumers face greater uncertainty than offline purchases: due to spatial and temporal separation, product information and face-to-face interaction between salespeople and consumers are lacking. Therefore, trust in salespeople is a very important factor (Komiak & Benbasat, 2004). Live commerce allows salespeople to interact with consumers while providing various information about products in real time through broadcasting to reduce perceived risks in products. At this point, the trust of the streamer has a very important influence on consumers' purchases (Vukadin et al., 2018; Wongkitrungrueng & Assarut, 2020).

In previous studies, trust is formed when one has confidence in the reliability and sincerity of the relationship and conceptualizes it as a role to increase dependence on the other person and to prolong the exchange relationship (Mayer et al., 1995; McKnight & Chervany, 1996). When trust is built in a relationship with a consumer, a consumer can expect the other person to act in their interest, even if they can't monitor or control the other person. In an online non-face-to-face environment, it is impossible to verify the relationship, so trust has a positive effect on purchase intention and has a significant effect on loyalty (Chen et al., 2022; Nguyen & Khoa, 2019). The user's anxiety is high due to the uncertainty of non-face-to-face transaction, so the need and value for securing trust is inevitably greater (Kim & Kim, 2005). It is a reality that more and more efforts are needed to retain consumers in an online environment where there are many customer conversion behaviors due to low search costs (Moe & Fader, 2004). Therefore, in the live commerce environment, trust will play a paramount role in reducing consumers' uncertainty about streamers and inducing purchase.

#### 4. Consumer Engagement

Some scholars have conducted research focusing on consumer behavior, which is engagement, for business thrive. Consumer engagement (CE) is a marketing theory developed in organizational behavior, psychology, and sociology. Engagement is a multidimensional concept that includes many factors such as involvement, interest, and preference (Hollebeek, 2011). In previous studies, it was defined as the process of thinking and the degree of effort, emotion and the customer's interest in investing effort, time, and energy (Hollebeek et al., 2014; Patterson et al., 2006). Vargo and Lusch (2008) inspected the concept of engagement from the perspective of service-dominant logic as a transcendent view of the relationship. A transcendent view of CE focuses on the experiences of consumers and stakeholders that occur in situations where consumer behavior is far more complex and multifaceted than ever before. This engagement can lead to the formation of new customer loyalty and the repurchases (Bowden, 2009).

Vivek et al. (2012) said that engagement is formed through participation in the experience provided by the organization. Brodie et al. (2013) defined "CE in a virtual brand community involves specific interactive experiences between consumers and the brand, and/or other members of the community" (p. 3) in a virtual environment. In live commerce, a virtual environment, social presence provided by the platform will provide consumers with a variety of service experiences to satisfy consumers who demand diversified values and form CE.

### III. Method

#### 1. Hypothesis Development

The purpose of this study is to investigate when cognitive and affective real-time interaction stimulates consumer value and affects CE in live commerce, a new distribution channel that has rapidly emerged as a popular form of non-face-to-face shopping. In par-

ticular, it is argued that research should be conducted on the multifaceted dimension and complex structure of social presence (Alhulail et al., 2019; Kreijns et al., 2014). Hence, in-depth studies in the social presence dimension in consume behavior are needed. For empirical research, a conceptual research model was presented based on the S-O-R theory (Fig. 1).

Consumer trust is formed when social presence is well established online, where consumers cannot see the real thing (Hassanein & Head, 2005; Luhmann, 1973/2017; Luo et al., 2020), and this trust has been shown to affect consumer behavior (Choi, 2021; Hassanein & Head, 2007). In addition, consumption value has a very important effect on consumer behavior. In previous studies related to online commerce, several consumption values were identified as important factors that had a positive effect on consumer trust and CE (Liu et al., 2021; Sun et al., 2019; Wongkitrungrueng & Assarut, 2020). CE can arise from satisfaction and enjoyment as a special level of emotional engagement, as well as for the achievement of instrumental values, which are practical reasons (Mollen & Wilson, 2010).

Therefore, the following hypothesis were established.

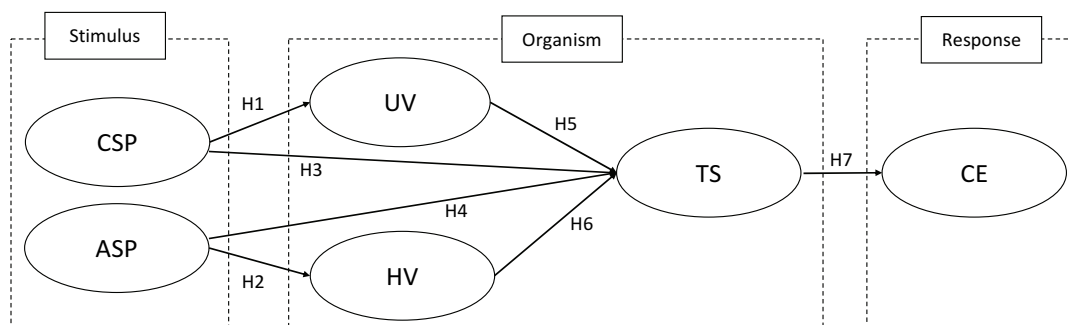
- H1. CSP has a positive effect on UV.
- H2. ASP has a positive effect on HV.
- H3. CSP has a positive effect on TS.
- H4. ASP has a positive effect on TS.

- H5. UV has a positive effect on TS.
- H6. HV has a positive effect on TS.
- H7. TS has a positive effect on CE.

## 2. Sampling and Data Collection

This study conducted a questionnaire on Chinese consumers who lived in small and medium sized cities in China and had watched live shopping broadcasts on Taobao Live Shopping Platform using a convenient sampling. The survey started with a live commerce watching time, number of live commerce product purchase, and type of platform used. Next, the questions about social presence, TS, value, and CE were configured to respond to the questionnaire, and finally, demographics. While conducting the survey, we was asked to respond while recalling the live commerce they had previously watched.

For data collection, a survey was conducted from April 23, 2021 to April 28, 2021 through the online research company 'WENJUANXING'. A total of 244 questionnaires were collected, and the remaining 221 questionnaires were used for analysis after removing invalid such as those of respondents who had no live shopping experience and incomplete information. The demographic characteristics of the sample are as follows (Table 1). Overall, the demographic characteristics of the sample of this study is symbolic to the basic situation of netizens in the 47<sup>th</sup> 『Statistics Report



CSP: cognitive social presence, ASP: affective social presence, UV: utilitarian value, HV: hedonic value, TS: trust in streamer, CE: customer engagement

Fig. 1. Conceptual research model.

**Table 1. Demographic characteristics**

Variable	Item	n	%
Gender	Male	89	40
	Female	132	60
Age	Under 20	9	4
	21-25's	66	30
	26-30's	101	46
	Over 31	45	20
Job	Office worker/public official	81	37
	Student	49	22
	Self-employed	48	22
	Etc.	43	19
Marriage	Single	135	61
	Married	86	39
Education	High school graduation	8	4
	University and college graduation	165	75
	Graduate graduation and above	48	22
Monthly income	Less than 6,000 yuan	72	32
	6,000 yuan-10,000 yuan	71	32
	10,000 yuan-15,000 yuan	48	22
	15,000 yuan	30	14

on the State of Internet Development in China<sub>4</sub> published by the China Internet Network Information Center [CNNIC] (2021). Looking at the live shopping broadcast viewing status of respondents, the average viewing time of the survey subjects was less than 30 minutes (29%), and 30 minutes - 1 hour (53%). In the number of purchases (based on 6 months), 1-2 purchases accounted for 29%, 3-5 purchases 37%, and 6-10 purchases 17%. The average price of purchased products was 100-500 yuan, accounting for more than half of the price range.

### 3. Measurements and Data Analysis

#### 1) Cognitive Social Presence

The CSP scale was developed based on the study by Friedländer (2017). CSP was defined as establishing a relationship between a user and a streamer or other

users in a live commerce environment, creating a cognitive connection, and understanding each other's intentions, motives, and cognitive state, and conducted research. CSP was operationalized based on four items, measured on a five-point rating scale (1 = strongly disagree, 5 = strongly agree) for items such as "In the live streaming room my interaction behavior can make the streamer feel my existence." And "In the live streaming room I think the streamer can pay attention to my interaction behavior." The reliability of the measure was checked by examining the value of Cronbach's  $\alpha$ , which was .793.

#### 2) Affective Social Presence

The ASP scale was developed based on the study by Biocca et al. (2001). ASP was defined as one in which a user can communicate emotionally with streamers or other users and create emotional connections in live

commerce, and conducted research. ASP was operationalized based on four items, measured on a five-point rating scale (1 = strongly disagree, 5 = strongly agree) for items such as “In the live streaming room the streamer’s interaction behavior can influence on my emotional state.” and “In the live streaming room my interaction behavior can influence the streamer’s emotional state.” The reliability of the measure was checked by examining the value of Cronbach’s  $\alpha$ , which was .808.

### **3) Utilitarian Value**

The UV scale was developed based on the study by Chiu et al. (2014). UV was defined as benefit that consumers get through the functional and informational benefits provided by watching the live commerce platform and conducted research. UV was operationalized based on five items, measured on a five-point rating scale (1 = strongly disagree, 5 = strongly agree) for items such as “Through watching the live streaming, I feel that I can buy the products I want.” and “Products from live streaming offer good value for money.” The reliability of the measure was checked by examining the value of Cronbach’s  $\alpha$ , which was .719.

### **4) Hedonic Value**

The HV scale was developed based on the study by Chiu et al. (2014). HV was defined and researched as non-functional benefits such as pleasure and happiness derived from using a live commerce platform. HV was operationalized based on five items, measured on a five-point rating scale (1 = strongly disagree, 5 = strongly agree) for items such as “I enjoy the time of watching the live streaming very much.” and “When I watch the live streaming, I feel so happy.” The reliability of the measure was checked by examining the value of Cronbach’s  $\alpha$ , which was .840.

### **5) Trust in Streamer**

The TS scale was developed based on the study by Gefen and Straub (2004). TS conducted research by defining consumers as providing trust, high-quality

services to streamers and not defrauding customers. TS was operationalized based on three items, measured on a five-point rating scale (1 = strongly disagree, 5 = strongly agree) for items such as “I believe that the streamer who use livestreaming are trustworthy.” and “I believe that the streamer is kind, and the streamer can consider the interests of consumers.” The reliability of the measure was checked by examining the value of Cronbach’s  $\alpha$ , which was .796.

### **6) Customer Engagement**

The CE scale was developed based on the study by Calder et al. (2009). CE was defined as the active activities of customers, such as interaction with other customers and writing reviews, which are non-transactional behaviors based on empathy on the live commerce and conducted research. CE was operationalized based on six items, measured on a five-point rating scale (1 = strongly disagree, 5 = strongly agree) for items such as “I spend more time on online shopping platform that have live streaming video.” and “I would be likely to try and keep track of the activities of an online shop that uses live streaming.” The reliability of the measure was checked by examining the value of Cronbach’s  $\alpha$ , which was .892.

SPSS 22.0 was used for frequency and reliability analysis, and AMOS 22.0 was used for measurement model and structural equation model analysis.

## **IV. Research Conclusions**

### **1. Validity of the Measurement Model**

Prior to hypothesis testing, an exploratory factor analysis (EFA) of the measurement items to be used in this study was performed. The range of KMO values is 0-1, and if the KMO value is less than .500, it is not suitable for factor analysis (Kaiser, 1974). The KMO value of this study was .941 and the significance probability of the Bartlett value was .000, indicating that the questionnaire was valid.

In addition, confirmatory factor analysis (CFA) was



performed to verify the goodness of model fit and construct validity. CFA was performed with 27 variables. The results of the CFA were  $\chi^2 = 16.183$  ( $df = 120$ ),  $\chi^2/df = 1.377$ ,  $p = .004$ , TLI = .972, GFI = .922, CFI = .981, RMSEA = .041, which satisfied the goodness of

fit. The results of CFA are presented in <Table 2>. Construct validity can be evaluated with convergent validity and discriminant validity. In the case of convergent validity, the factor loading should be statistically significant and each should be over .700, the

**Table 2. Results of confirmatory factor analysis**

Construct	Items	Standardized Factor Loading	t-value	Cronbach's $\alpha$	AVE	CR
CSP	• In the live streaming room my interaction behavior can make the streamer feel my existence.	.740	11.206***	.793	.575	.802
	• In the live streaming room I think the streamer can pay attention to my interaction behavior.	.732	11.076***			
	• In the live streaming room I can interact the streamer's interaction behavior.	.774	-			
ASP	• In the live streaming room the streamer's interaction behavior can influence on my emotional state.	.703	10.464***	.808	.589	.811
	• In the live streaming room my interaction behavior can influence the streamer's emotional state.	.802	12.073***			
	• In the live streaming room I think the emotional state between the streamer and me will affect each other.	.795	-			
UV	• Through watching the live streaming, I feel that I can buy the products I want.	.769	-	.719	.564	.721
	• Products from live streaming offer good value for money.	.733	10.620***			
HV	• I enjoy the time of watching the live streaming very much.	.812	-	.840	.637	.840
	• When I watch the live streaming, I feel so happy.	.795	13.052***			
	• Using live streaming for shopping is one that I would feel interesting.	.788	12.907***			
TS	• I believe that the streamer who use livestreaming are trustworthy.	.768	11.056***	.796	.570	.799
	• I believe that the streamer is kind, and the streamer can consider the interests of consumers.	.721	11.912***			
	• I believe in the information that the streamer provides through live streaming.	.776	-			
CE	• I spend more time on online shopping platform that have live streaming video.	.865	-	.892	.673	.892
	• I would be likely to try and keep track of the activities of an online shop that uses live streaming.	.807	14.901***			
	• I am likely to recommend sellers that use live streaming to my friends.	.803	14.677***			
	• In the near future, I will definitely buy products from a seller that uses live streaming.	.805	14.736***			

\*\*\* $p < .001$

CSP: cognitive social presence, ASP: affective social presence, UV: utilitarian value, HV: hedonic value, TS: trust in streamer, CE: customer engagement

average variance extracted (AVE) should be over .500, and the construct reliability (CR) should be over .700. In this study, all of the standard factor loading were significant and were found to be over .700, and the AVE was over .500 and the CR was over .700, so convergent validity was confirmed (Table 2). In addition, as a result of comparing the squared correlation coefficient and the AVE of each construct, the squared correlation coefficient was lower than the AVE, so discriminant validity was confirmed (Table 3).

## 2. Hypothesis Test

To test the hypothesis, a structural equation model (SEM) was conducted using the validated items. The structural model fit was  $\chi^2 = 185.901$  ( $df = 111$ ),  $\chi^2/df$

$= 1.675$ ,  $p = .000$ , GFI = .912, TLI = .956, CFI = .964, RMSEA = .055, which satisfied the goodness of fit. Results of SEM, CSP was found to have a positive effect on UV ( $\beta = .747$ ,  $p < .001$ ), so H1 was supported. ASP had a positive effect on HV ( $\beta = .761$ ,  $p < .001$ ), H2 was supported. CSP ( $\beta = .725$ ,  $p = 1.326$ ) and ASP ( $\beta = -.648$ ,  $p = -1.202$ ) had no significant effect on TS, H5 and H6 were rejected. UV ( $\beta = .345$ ,  $p < .01$ ) and HV ( $\beta = .688$ ,  $p < .001$ ) had a positive effect on TS, H5 and H6 were accepted. TS had a positive effect on CE ( $\beta = .885$ ,  $p < .001$ ), H7 also were supported. The results of the hypothesis testing are presented in <Table 4>.

In the analysis results, CSP had a positive effect on UV and that ASP had a positive effect on HV. In addition, UV and HV had a positive effect on TS and that TS had a positive effect on CE. Accordingly, to verify

**Table 3. The squared correlations and AVE of variables**

	CSP	ASP	UV	HV	TS	CE
CSP	.575 <sup>a</sup>					
ASP	.529 <sup>b</sup>	.589				
UV	.206	.212	.564			
HV	.403	.254	.413	.637		
TS	.454	.287	.412	.555	.570	
CE	.408	.319	.388	.531	.514	.673

a: Average Variance Extracted (AVE) for constructs are displayed on the diagonal.

b: Numbers below the diagonal are squared correlation estimations of two variables.

CSP: cognitive social presence, ASP: affective social presence, UV: utilitarian value, HV: hedonic value, TS: trust in streamer, CE: customer engagement

**Table 4. Result of structural equation modeling and model fit**

	Hypothesis	Standardized Coefficient	S.E.	t-value	Results
H1	CSP → UV	.747	.067	7.083***	Accepted
H2	ASP → HV	.761	.108	8.578***	Accepted
H3	CSP → TS	.725	.449	1.326	Rejected
H4	ASP → TS	-.648	.540	-1.202	Rejected
H5	UV → TS	.345	.153	2.920**	Accepted
H6	HV → TS	.688	.083	6.763***	Accepted
H7	TS → CE	.885	.117	11.142***	Accepted

\*\* $p < .01$ , \*\*\* $p < .001$

CSP: cognitive social presence, ASP: affective social presence, UV: utilitarian value, HV: hedonic value, TS: trust in streamer, CE: customer engagement

the mediating effect of UV and HV, the significance was verified by using the bootstrapping. The sample re-extracted through bootstrapping is 2,000, and a 95% confidence interval of the mediating effect coefficient of UV and HV were estimated, and the results are as shown in <Table 5>. The mediating effect of UV in CPS and TS was .031 for lower bound (LB) and .608 for upper bound (UB). And HV in APS and TS was .300 for LB and .987 for UB. Since 0 was not included, it was found to be statistically significant at the over 5% level, confirming the mediating effect of UV and HV. In addition, the mediating effect of TS in HV and CE was .514 for LB and 1.084 for UB, TS in UV and AE was .010 for LB and 1.554 for UB. Since 0 was not included, it was found to be statistically significant at the over 5% level, confirming the mediating effect of TS.

## V. Discussion

### 1. Summary of Findings

This study examined the effect of Chinese live commerce social presence on CE. In particular, Alhulail et al. (2019) asserted that a multidimensional approach to social presence is needed as consumers increasingly demand diversification. The impact of multidimensional social presence, which has been investigated a lot in media research but not much in live commerce research, was divided into ASP and CSP. Through this study, it is possible to provide a new perspective on consumer behavior of live commerce, and it will contribute to the application and expansion of the theory

of social presence. The study results are as follows. Since ASP was an emotional aspect, it has been shown that it has a positive effect on the TS through HV and, consequently, on increasing CE. Similar to the study of Hassanein et al. (2009), consumer felt close to people emotionally and participated more actively in live commerce. As in Luo et al. (2020), it was confirmed that two aspects of social presence had a positive effect on the CE of live commerce. In particular, the importance of ASP was identified.

In addition, CSP and ASP were found to have a positive effect on increasing CE by mediating TS through UV and HV. It was found that CSP and ASP do not directly affect TS, confirming that TS is mediated through consumption value. This is not to say that simple social presence affects TS, but rather that consumer's behavior is formed based on various values (Yahia et al., 2018). Wongkitrungrueng and Assarut (2020) pointed out that only HV and UV had an effect on the trust in product and did not show any effect on TS. However, in this study, it was found to have a positive effect. Therefore, to increase CE in live commerce in China, marketing strategies to make consumers to perceive useful values and trust in streamer. In addition, the emotional aspect also has a great influence on trust, so streamer should look at the emotional exchange that is sincere and authentic to consumers. Recently, since streamers focus on the interaction of product information, the interaction of viewers' emotional value should also be considered. In addition, no matter how social presence there is, it is difficult to induce active participation if the consumers' trust in the streamer does not exist. Therefore, the streamer should make ef-

**Table 5. Bootstrap results on mediation effects with 95% confidence intervals**

Path	Standardized Estimate	Bootstrap S.E.	LB	UB	p-value
CPS → UV → TS	.257	.217	.031	.608	.031
ASP → HV → TS	.524	.126	.300	.987	.001
HV → TS → CE	.609	.115	.514	1.084	.001
UV → TS → CE	.305	.203	.010	1.554	.048

CSP: cognitive social presence, ASP: affective social presence, UV: utilitarian value, HV: hedonic value, TS: trust in streamer, CE: customer engagement

forts to increase the reliability as in the results of previous studies. CE in live commerce can eventually lead to purchase intention and behavior, so it is necessary to keep this in mind.

## 2. Theoretical Implications

In consumer research, weak social presence was examined by dividing into two dimensions. Multidimensional social presence was explored in previous live commerce research. Tafesse (2016) argued that the level of social presence according to the media attribute should be explored, but there was no such attempt in the context of live commerce. Social presence is not a single dimension, and viewers or participants have already recognized and experienced various dimensions of social presence. Therefore, it was necessary to examine various social presence in consumer research, and these points were identified and used for research. Live commerce is becoming more and more active due to COVID-19, and social presence is emerging as a very important factor in a situation where a lot of research is being conducted on this. Therefore, future live commerce research has academic implications that allow researcher to examine multidimensional social presence rather than one dimension social presence. It is an attempt to study the consumption value of live commerce. Since consumption value is an important factor impacting the various intentions and behaviors of consumers, there is a need to examine them. In addition, there is a study dealing with consumption value in live commerce, but the relationship with TS could not be grasped. In particular, it was found that TS is created only when the consumer recognizes this and value (HV, UV) exist, rather than reinforcing consumer trust. This indicates that rather than simple chatting, laughing and talking about social presence live commerce, it is necessary to make consumers feel valuable beyond providing information and simply having fun. Therefore, through this study, we show that to reduce consumers' concerns about non-face-to-face consumption in live commerce re-

search, above all, it is necessary to consider a model that sets consumption value as a mediator. This is because trust is created and ultimately, various behaviors on consumers are induced.

## 3. Practical Implications

There are implications for small private online store operators in China. On large platforms in China, several small businesses strive to increase CE and purchase. However, because consumers are constantly changing, they are no longer satisfied with a one-dimensional social presence. It should not be limited to traditional online shopping platforms, but should combine live commerce to provide consumers with a better shopping experience. This is because consumers increasingly demand satisfaction on various dimensions such as experiences and emotions. Since the characteristics of the medium called live commerce are suitable for running ASP, it is necessary for the streamer to focus on it. If small live commerce company implement a strategy that can induce emotional assimilation in addition to providing practical information to consumers, they can further increase consumer participation and ultimately lead to a purchase. Therefore, it will be helpful to increase market share in the future if online small business owners in China make efforts to increase ASP and TS along with the CSP in order to survive in fierce competition. Live commerce platforms and operators understood that they should strive to deliver value to consumers. Exaggerated streamer behavior can arouse consumer interest and fun, but non-face-to-face uncertainly must go beyond this level. In particular, the trust in the streamer can be built only when the consumer recognizes values. In other words, instead of exaggerated publicity, fun, or empathy, the time cost and emotional cost of watching live commerce should be compensated. A live commerce platform company will be able to grow even more if it provides various structures and support for emotional fun, although cognitive aspects such as product usefulness are also important. In this study,

only Taobao, the largest live commerce in China, was examined. Various platforms exist, but Taobao has a near monopoly market share. Therefore, in various other live commerce platforms, if they do not miss the ASP that can increase the CE and adopt it as a differentiation strategy, it will help the growth of the company. Currently, consumers are increasingly accustomed to non-face-to-face due to COVID-19, but they are also seeking offline experiences. Various platforms should try not to overlook these points and try to satisfy the needs of consumers. Therefore, we want to suggest that small live commerce platform companies need to prepare various structures and supports that can provide an emotional dimension to consumer on the platform.

#### 4. Limitations and Future Research

The limitations are as follows. First, when conducting future research, it is necessary to select samples more carefully and use more refined questionnaires. Perhaps it is a questionnaire used by the media field, and for it to be used in consumer research, it is necessary to conduct research based on validity and reliability. Thus, with reference to this study, it is proposed to develop a multidimension social presence for consumer research in a follow-up study. Second, various moderators were not used. If the moderators were set and utilized in various ways, more colorful research results would have been derived. However, the results of the study were simpler than expected due to the inability to set the moderators. Of course, examining the multidimension social presence and consumption value that were not shown in previous studies will serve as the basis for subsequent studies. If researcher add more diverse social influences and social norms, it will be possible to provide even higher implications for live commerce. Therefore, it is expected that better research results will be obtained if various social variables or consumer related variables are used in future studies. Third, live commerce is developing in various countries recently due to COVID-19. However, it is dif-

ficult to generalize because the study was conducted only on China. Therefore, even in Asia, if researcher look at the development of live commerce in the COVID-19 ear through comparison with Korea, China and Japan or with the West, it will be a more meaningful study.

## References

- Alhulail, H., Dick, M., & Abareshi, A. (2019). The influence of social presence and trust on customers' loyalty to social commerce websites. In F. Saeed, N. Gazem, F. Mohammed, & A. Busalim (Eds.), *Recent trends in data science and soft computing: Proceedings of the 3rd International Conference of Reliable Information and Communication Technology (IRICT 2018)* (pp. 1013–1024). Cham: Springer. doi:10.1007/978-3-319-99007-1\_94
- Argyle, M., & Dean, J. (1965). Eye-contact, distance and affiliation. *Sociometry*, 28(3), 289–304. doi:10.2307/2786027
- Baersch, S., Richard, L., & Siepermann, M. (2022). Live-stream shopping is landing in Germany: An analysis of the stickiness intention of German customers. *Wirtschaftsinformatik 2022 Proceedings*. 2. Retrieved from [https://aisel.aisnet.org/wi2022/digital\\_retail/digital\\_retail/2](https://aisel.aisnet.org/wi2022/digital_retail/digital_retail/2)
- Bart, Y., Shankar, V., Sultan, F., & Urban, G. L. (2005). Are the drivers and role of online trust the same for all Web sites and consumers? A large-scale exploratory empirical study. *Journal of Marketing*, 69(4), 133–152. doi:10.1509/jmkg.2005.69.4.133
- Biocca, F., Harms, C., & Gregg, J. (2001). The networked minds measure of social presence : Pilot test of the factor structure and concurrent validity. *Proceedings of the 4<sup>th</sup> Annual International Workshop on Presence, USA*, 1–9.
- Bowden, J. L.-H. (2009). The process of customer engagement: A conceptual framework. *Journal of Marketing Theory and Practice*, 17(1), 63–74. doi:10.2753/MTP1069-6679170105
- Brodie, R. J., Ilic, A., Juric, B., & Hollebeek, L. (2013). Consumer engagement in a virtual brand community: An exploratory analysis. *Journal of Business Research*, 66(1), 105–114. doi:10.1016/j.jbusres.2011.07.029
- Cachero-Martínez, S., & Vázquez-Casielles, R. (2021). Building consumer loyalty through e-shopping experiences: The mediating role of emotions. *Journal of Retailing and Consumer Services*, 60:102481. doi:10.1016/j.jretconser.2021.102481
- Cai, J., & Wohn, D. Y. (2019). Categorizing live streaming moderation tools: An analysis of Twitch. *International Journal of Interactive Communication Systems and Technologies*, 9

- (2), 36–50. doi:10.4018/IJICST.2019070103
- Cai, J., Wohn, D. Y., Mittal, A., & Sureshbabu, D. (2018). Utilitarian and hedonic motivations for live streaming shopping. *Proceedings of the 2018 ACM International Conference on Interactive Experiences for TV and Online Video, Korea*, 81–88. doi:10.1145/3210825.3210837
- Calder, B. J., Malthouse, E. C., & Schaedel, U. (2009). An experimental study of the relationship between online engagement and advertising effectiveness. *Journal of Interactive Marketing*, 23(4), 321–331. doi:10.1016/j.intmar.2009.07.002
- Carpenter, J. M., Moore, M., & Fairhurst, A. E. (2005). Consumer shopping value for retail brands. *Journal of Fashion Marketing and Management*, 9(1), 43–53. doi:10.1108/13612020510586398
- Caspi, A., & Blau, I. (2008). Social presence in online discussion groups: testing three conceptions and their relations to perceived learning. *Social Psychology of Education*, 11(3), 323–346. doi:10.1007/s11218-008-9054-2
- Chen, X., Sun, J., & Liu, H. (2022). Balancing web personalization and consumer privacy concerns: Mechanisms of consumer trust and reactance. *Journal of Consumer Behaviour*, 21(3), 572–582. doi:10.1002/cb.1947
- China Internet Network Information Center. (2021, February). The 47th Statistical Report on China's Internet Development. *China Internet Network Information Center*. Retrieved from <https://www.cnnic.com.cn/IDR/ReportDownloads/202104/P020210420557302172744.pdf>
- Chiu, C.-M., Wang, E. T. G., Fang, Y.-H., & Huang, H.-Y. (2014). Understanding customers' repeat purchase intentions in B2C e-commerce: the roles of utilitarian value, hedonic value and perceived risk. *Information Systems Journal*, 24(1), 85–114. doi:10.1111/j.1365-2575.2012.00407.x
- Cho, Y., & Lim, S. (2019). Psychological effects of interactivity for internet live broadcasting viewers: Moderating role of user motivations on parasocial interaction, social presence, and flow. *Korean Journal of Broadcasting & Telecommunications Research*, (105), 82–117.
- Choi, E.-J., & Jeon, S. (2021). The effect of the new culture live commerce on purchase intention: Focusing on the moderating effects of impulsive buying. *Journal of Culture Industry*, 21(3), 201–213. doi:10.35174/JKCI.2021.09.21.3.201
- Choi, M. Y. (2021). The effect of the interactivity of livestreaming commerce on behavior intention-mediated social presence and relationship quality. *Journal of the Korean Society of Costume*, 71(4), 69–87. doi:10.7233/jksc.2021.71.4.069
- Chunna, D. U. (2017). An analysis of the marketing strategy of the micro - public public marketing under the new media marketing. *Peak Data Science*, 6(5), 97–98. doi:10.19551/j.cnki.issn1672-9129.2017.05.040
- Cui, N., Wang, T., & Xu, S. (2010). The influence of social presence on consumers' perceptions of the interactivity of Web sites. *Journal of Interactive Advertising*, 11(1), 36–49. doi:10.1080/15252019.2010.10722176
- Farah, M. F., Ramadan, Z. B., & Harb, D. H. (2019). The examination of virtual reality at the intersection of consumer experience, shopping journey and physical retailing. *Journal of Retailing and Consumer Services*, 48, 136–143. doi:10.1016/j.jretconser.2019.02.016
- Farooqui M. (2022, February 16). Live commerce to post strong growth as more players bet on shoppable videos. *Moneycontrol*. Retrieved from <https://www.moneycontrol.com/news/trends/live-commerce-to-post-strong-growth-as-more-players-bet-on-shoppable-videos-8111431.html>
- Friedländer, M. B. (2017). Streamer motives and user-generated content on social live-streaming services. *Journal of Information Science Theory and Practice*, 5(1), 65–84. doi:10.1633/JISTaP.2017.5.1.5
- Gefen, D., Karahanna E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51–90. doi:10.2307/30036519
- Gefen, D., & Straub, D. W. (2004). Consumer trust in B2C e-Commerce and the importance of social presence: experiments in e-Products and e-Services. *Omega*, 32(6), 407–424. doi:10.1016/j.omega.2004.01-006
- Gwak, H.-Y., & Lee, K.-H. (2021). Consumer perception of types of fashion live commerce: Using text mining. *Journal of Fashion Business*, 25(3), 90–107. doi:10.12940/jfb.2021.25.30.90
- Hassanein, K., & Head, M. (2005). The impact of infusing social presence in the Web interface: An investigation across product types. *International Journal of Electronic Commerce*, 10(2), 31–55. doi:10.2753/JEC1086-4415100202
- Hassanein, K., & Head, M. (2007). Manipulating perceived social presence through the web interface and its impact on attitude towards online shopping. *International Journal of Human-Computer Studies*, 65(8), 689–708. doi:10.1016/j.ijhcs.2006.11.018
- Hassanein, K., Head, M., & Ju, C. (2009). A cross-cultural comparison of the impact of Social Presence on website trust, usefulness and enjoyment. *International Journal of Electronic Business*, 7(6), 625–641. doi:10.1504/IJEB.2009.029050
- Holbrook, M. B. (1994). The nature of customer's value: An axiology of service in consumption experience. In R. T. Rust, & R. L. Oliver (Eds.), *Service quality: New directions in theory and practice* (pp. 21–71). Thousand Oaks, CA:

- SAGE Publications, Inc. doi:10.4135/9781452229102.n2
- Holbrook, M. B., & Hirschman, E. C. (1982). The experiential aspects of consumption: Consumer fantasies, feeling, and fun. *Journal of Consumer Research*, 9(2), 132–140. doi:10.1086/208906
- Hollebeek, L. (2011). Exploring customer brand engagement: definition and themes. *Journal of Strategic Marketing*, 19(7), 555–573. doi:10.1080/0965254X.2011.599493
- Hollebeek, L. D., Glynn, M. S., & Brodie, R. J. (2014). Consumer brand engagement in social media: Conceptualization, scale development and validation. *Journal of Interactive Marketing*, 28(2), 149–165. doi:10.1016/j.intmar.2013.12.002
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31–36. doi:10.1007/BF02291575
- Kang, K., Lu, J., Guo, L., & Li, W. (2021). The dynamic effect of interactivity on customer engagement behavior through tie strength: Evidence from live streaming commerce platforms. *International Journal of Information Management*, 56:102251. doi:10.1016/j.ijinfomgt.2020.102251
- Kim, D. I. (2021, February 18). 포스트코로나 신마케팅, 중국의 라이브커머스 시장 [Post COVID-19 new marketing, live commerce marketing in China]. *KOTRA*. Retrieved from <https://news.kotra.or.kr/user/globalBbs/kotranews/782/globalBbsDataView.do?setIdx=243&dataIdx=187133>
- Kim, W., & Kim, B. (2020). The critical factors affecting the consumer reselling of limited edition products: A case in the Korean fashion sector. *Sustainability*, 12(19):8181. doi:10.3390/su12198181
- Kim, Y. H., & Kim, D. J. (2005). A study of online transaction self-efficacy, consumer trust, and uncertainty reduction in electronic commerce transaction. *Proceedings of the 38th Annual Hawaii International Conference on System Sciences, USA*, 170c. doi:10.1109/HICSS.2005.52
- Komiak, S. X., & Benbasat, I. (2004). Understanding customer trust in agent-mediated electronic commerce, web-mediated electronic commerce, and traditional commerce. *Information Technology and Management*, 5(1-2), 181–207. doi:10.1023/B:ITEM.0000008081.55563.d4
- Koponen, J. P., & Rytty, S. (2020). Social presence and e-commerce B2B chat functions. *European Journal of Marketing*, 54(6), 1205–1224. doi:10.1108/EJM-01-2019-0061
- Kreijns, K., Van Acker, F., Vermeulen, M., & Van Buuren, H. (2014). Community of inquiry: Social presence revisited. *E-Learning and Digital Media*, 11(1), 5–18. doi:10.2304/elea.2014.11.1.5
- Lee, A. R. (2021). Investigating the factors influencing the use of live commerce in the un-tact era: Focusing on multidimensional interactivity, presence, and review credibility. *Knowledge Management Research*, 22(1), 269–286. doi:10.15813/kmr.2021.22.1.013
- Li, M., & Hua, Y. (2022). Integrating social presence with social learning to promote purchase intention: Based on social cognitive theory. *Frontiers in Psychology*, 12:810181. doi:10.3389/fpsyg.2021.810181
- Liang, W. (2021). *Ready for livestream e-commerce?: The effects of peer cues and communication immediacy on purchase intentions: A cross-cultural study in the Netherlands and China* (Unpublished master's thesis). University of Twente, Enschede.
- Lin, J., Guo, J., Turel, O., & Liu, S. (2020). Purchasing organic food with social commerce: An integrated food-technology consumption values perspective. *International Journal of Information Management*, 51:102033. doi:10.1016/j.ijinfo mgt.2019.11.001
- Liu, M., Park, J.-Y., & Lee, H.-E. (2021). Technology acceptance model in live commerce context: The effect of parasocial interactivity and source characteristics on consumers' shopping intention on live commerce platform. *The Journal of the Korea Contents Association*, 21(6), 138–154. doi:10.5392/JKCA.2021.21.06.138
- Lombard, M., & Ditton, T. (1997). At the heart of it all: The concept of presence. *Journal of Computer-Mediated Communication*, 3(2):JCMC321. doi:10.1111/j.1083-6101.1997.tb00072.x
- Luhmann, N. (2017). *Trust and power* (H. Davis, J. Raffan, & K. Rooney, Trans.). Cambridge and Medford: Polity. (Original work published 1973)
- Luo, H., Yuan, Z., Xu, H., Peng, C., Zheng, Y., & Ma, S. (2020). An empirical study on the impact of social presence on customer citizenship behavior in e-business. *Proceedings of the 2020 IEEE 3rd International Conference on Electronic Information and Communication Technology (ICEICT), China*, 25–30. doi:10.1109/ICEICT51264.2020.9334305
- Matthews, E., & Chen, L. (2021, June 17). Livestream commerce: An online shopping phenomenon from China goes global. *Alizila*. Retrieved from <https://www.alizila.com/livestream-commerce-an-online-shopping-phenomenon-from-china-goes-global/>
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20(3), 709–734. doi:10.5465/amr.1995.9508080335
- McKnight, D. H., & Chervany, N. L. (1996). *The meanings of trust*. Minneapolis, MN: Carlson School of Management, University of Minnesota.
- Moe, W. W., & Fader, P. S. (2004). Dynamic conversion behavior at e-commerce sites. *Management Science*, 50(3), 326–335. doi:10.1287/mnsc.1040.0153

- Mollen, A., & Wilson, H. (2010). Engagement, telepresence and interactivity in online consumer experience: Reconciling scholastic and managerial perspectives. *Journal of Business Research*, 63(9-10), 919–925. doi:10.1016/j.jbusres.2009.05.014
- Moon, H.-K., & Choo, H.-J. (2008). The effects of clothing consumption values on ambivalent clothing consuming behavior. *Journal of the Korean Society of Costume*, 58(2), 1-14.
- Nguyen, M. H., & Khoa, B. T. (2019). Customer electronic loyalty towards online business: The role of online trust, perceived mental benefits and hedonic value. *Journal of Distribution Science*, 17(12), 81–93. doi:10.15722/jds.17.12.201912.81
- Patterson, P., Yu, Y., & de Ruyter, K. (2006). Understanding customer engagement in services. *Proceedings of ANZMAC 2006 Conference, Australia*, 4–6.
- Reeves, B., & Nass, C. (1996). *The media equation: How people treat computers, television, and new media like real people and places*. New York, NY: Cambridge University Press.
- Rohan, M. J. (2000). A rose by any name? The values construct. *Personality and Social Psychology Review*, 4(3), 255–277. doi:10.1207/S15327957PSPR0403\_4
- Shen, K. N., & Khalifa, M. (2008). Exploring multidimensional conceptualization of social presence in the context of online communities. *International Journal of Human-Computer Interaction*, 24(7), 722–748. doi:10.1080/10447310802335789
- Shen, K. N., & Khalifa, M. (2009). Design for social presence in online communities: A multidimensional approach. *AIS Transactions on Human-Computer Interaction*, 1(2), 33–54.
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. London and New York: Wiley.
- Sjöblom, M., & Hamari, J. (2017). Why do people watch others play video games? An empirical study on the motivations of Twitch users. *Computers in Human Behavior*, 75, 985–996. doi:10.1016/j.chb.2016.10.019
- Song, R., & Im, S.-H. (2020). The effect of interaction and relationship quality on consumers' purchase intention in social commerce via live streaming. *Journal of Distribution and Management Research*, 23(5), 5–20. doi:10.17961/jdmr.23.05.202010.5
- Sun, Y., Shao, X., Li, X., Guo, Y., & Nie, K. (2019). How live streaming influences purchase intentions in social commerce: An IT affordance perspective. *Electronic Commerce Research and Applications*, 37:100886. doi:10.1016/j.elerap.2019.100886
- Tafesse, W. (2016). An experiential model of consumer engagement in social media. *Journal of Product & Brand Management*, 25(5), 424–434. doi:10.1108/JPBM-05-2015-0879
- Tang, J. C., Venolia, G., & Inkpen, K. M. (2016). Meerkat and periscope: I stream, you stream, apps stream for live streams. *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems, USA*, 4770–4780. doi:10.1145/2858036.2858374
- Vargo, S. L., & Lusch, R. F. (2008). Why “service”? *Journal of the Academy of Marketing Science*, 36(1), 25–38. doi:10.1007/s11747-007-0068-7
- Vivek, S. D., Beatty, S. E., & Morgan, R. M. (2012). Customer engagement: Exploring customer relationships beyond purchase. *Journal of Marketing Theory and Practice*, 20(2), 122–146. doi:10.2753/MTP1069-6679200201
- Vukadin, A., Wongkitrungrueng, A., & Assarut, N. (2018). When art meets mall: impact on shopper responses. *Journal of Product & Brand Management*, 27(3), 277–293. doi:10.1108/JPBM-01-2017-1406
- Whiteside, A. L., Dijkers, A. G., & Swan, K. (Eds.). (2017). *Social presence in online learning: Multiple perspectives on practice and research*. Sterling, VA: Stylus Publishing.
- Won, J.-H., & Chung, J.-E. (2015). The segmentation of single-person households based on Sheth's theory of consumption values. *Journal of Consumer Studies*, 26(1), 73–99.
- Wongkitrungrueng, A., & Assarut, N. (2020). The role of live streaming in building consumer trust and engagement with social commerce sellers. *Journal of Business Research*, 117, 543–556. doi:10.1016/j.jbusres.2018.08.032
- Wongkitrungrueng, A., Dehouche, N., & Assarut, N. (2020). Live streaming commerce from the sellers' perspective: implications for online relationship marketing. *Journal of Marketing Management*, 36(5-6), 488–518. doi:10.1080/0267257X.2020.1748895
- Wut, T.-m., & Xu, J. (2021). Person-to-person interactions in online classroom settings under the impact of COVID-19: a social presence theory perspective. *Asia Pacific Education Review*, 22(3), 371–383. doi:10.1007/s12564-021-09673-1
- Yahia, I. B., Al-Neama, N., & Kerbache, L. (2018). Investigating the drivers for social commerce in social media platforms: Importance of trust, social support and the platform perceived usage. *Journal of Retailing and Consumer Services*, 41, 11–19. doi:10.1016/j.jretconser.2017.10.021
- Xu, X., Wu, J.-H., & Li, Q. (2020). What drives consumer shopping behavior in live streaming commerce? *Journal of Electronic Commerce Research*, 21(3), 144–167.
- Zhang, M., Qin, F., Wang, G. A., & Luo, C. (2020). The impact of live video streaming on online purchase intention. *The Service Industries Journal*, 40(9-10), 656–681. doi:10.1080/02642069.2019.1576642



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