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# Watch Now, Buy Now? Impact of Interpersonal Interaction Factors on Swift Guanxi and Purchase Intention in Live Streaming Commerce

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**ABSTRACT**

Live streaming commerce is becoming a new trend in e-commerce, offering online retailers tremendous consumer interaction and engagement. However, how to interact with users to improve users' purchase intention is still unclear. To fill the gap, this study explores new dimensions of interpersonal interaction and develops a research model to investigate the effects of interpersonal interaction factors on swift guanxi and subsequent purchase intention based on S-O-R theory. Cross-sectional data was collected from 351 Gen Y consumers in Mainland China who had live shopping experiences on social media platforms. The findings of PLS-SEM analysis show that perceived crowdedness among users is the most significant indicator of swift guanxi, followed by interpersonal interaction factors (expertise, likability, similarity) between streamers and users. Perceived informativeness among users showed a relatively weak relationship. Our findings provide valuable insights for retailers and platforms of live streaming commerce.

*Keywords: Live streaming commerce, Interpersonal interaction, Swift guanxi, Purchase intention*

## INTRODUCTION

The growing popularity of live streaming features in social media has prompted e-retailers worldwide to embrace this novel channel for direct interaction and product sales (Sun, Shao, Li, Guo, & Nie, 2019; Wongkitrungrueng & Assarut, 2020). It has given rise to a new trend known as "live streaming commerce", which has significantly improved the performance of retailers, particularly in China. CNNIC (2022) reported that live streaming commerce attracted an impressive user base of 464 million in China, accounting for 44.9% of all Internet users, and contributed to retailer sales of $214 million in 2022. Recognizing the potential, brands and retailers such as Uniqlo and L'oreal have also joined this trend by utilizing live streaming commerce for their marketing campaigns.

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Compared with e-commerce, live streaming commerce brings a significant change in the way buyers and sellers interact with each other. In traditional e-commerce, users obtain information through text and images and rely on user comments and feedback systems for interaction (Pavlou & Dimoka, 2006; Xue, Liang, Xie, & Wang, 2020). In comparison, users can watch streamers display products in real-time videos, ask them questions, and obtain personalized answers through synchronous communication with streamers in live streaming commerce. Furthermore, users can interact with co-viewers to acquire shopping knowledge by observing their comments, likes, and gifts, which help them make a better purchase decision (Fei et al., 2021; Lin et al., 2021; Xue et al., 2020). In other words, it brings real-time, two way, and rich interpersonal interaction between streamers and users (Sun et al., 2019; Xu, Wu, & Li, 2020). In general, live streaming commerce combine the real time social interaction with online shopping, providing users with a flow and presence experience (Sun et al., 2019; Zhang et al., 2021) as well as improved interpersonal relationship (Zhang et al., 2022). However, as social commerce platforms increasingly employ live streaming as a real-time interactive strategy, competition among retailers has intensified. Both industry reports and scholarly research, such as Guo et al. (2022) and QuestMobile (2022), consistently highlight the low purchase rate that retailers face in live streaming commerce. Consequently, how to effectively leverage the social features of live streaming to enhance purchase intention is critical for achieving the business success.

Most of the prior research has primarily examined interactivity in live streaming commerce from a technical perspective, following the conventional research route of technical interaction in e-commerce. These studies have predominantly focused on intermediary variables like experience (Sun et al., 2019), perceived value (Ma, 2023) and subsequent positive behavior. Though these studies have provided valuable insights into the mechanisms of technical interactivity, they have largely overlooked the relational transaction essence of live streaming commerce driven by social interaction. Only Chen et al. (2021) considered interpersonal interaction factors such as perceived expertise, similarity, likability of streamers to investigate consumers' live streaming shopping intention. However, it ignored the interaction between users and user, which is a vital part of live streaming commerce (Fei et al., 2021; Lin et al., 2021; Xue et al., 2020). Consequently, Ma (2021) called for future research to consider both user-streamer and user-user interactions as well as relationship quality to fully understand user behavior. As suggested by Wang et al. (2022)' preliminary qualitative work, consumers can get supplementary product information that cannot be acquired from streamers through bullet comment and sense of presence of co-viewers. Thus, this study extends Chen et al. (2021)'s study, using perceived informativeness and perceived crowdedness as interpersonal interaction factors between the user and users in live streaming commerce.

Additionally, relationship quality has been used as an important mechanism in previous studies to explain the effect of social interactions on consumers' purchase intention. However, the evolving online customer behavior in the context of live streaming commerce calls for a deeper understanding of the online relationship between streamers and customers. The concept of swift

guanxi is gaining attention in the online marketplace in Chinese culture. China differs from Western culture in the inadequate institution and legality (Ou et al., 2014). Especially in the context of social commerce, the development of institutional mechanisms lags behind the expansion of social media (Fan, Zhou, Yang, Li, & Xiang, 2019). Correspondingly, Swift guanxi, a quickly formed intimate and caring interpersonal relationship, is considered to be the key to success in the Chinese online marketplace (Ou et al., 2014; Shi et al., 2018). However, swift guanxi has not received enough attention in live streaming commerce (Chen et al., 2021; Lin, Luo, Cheng, & Li, 2019). Research examining the antecedents and the outcomes of swift guanxi remains sparse in live streaming commerce (Chen et al., 2021; Lin et al., 2019; Sun et al., 2019).

Besides, the existing live streaming commerce studies focus on the e-commerce live streaming context (e.g., Taobao live, JD live) instead of social commerce live streaming context (e.g., Douyin, Kuaishou) (Chen et al., 2021; Hu & Chaudhry, 2020; Kang et al., 2021). Previous studies have shown that consumer behavior differs between e-commerce live streaming and social commerce live streaming (Chong et al., 2022; Hu & Chaudhry, 2020). For example, the former serves as an alternative approach to fully introduce products, while the latter is more concerned with fostering streamer-consumer relationships to capture consumer value (CCA, 2020; Lu & Chen, 2021). Additionally, e-commerce live streaming platforms provides sufficient mechanism assurance for consumers (Zhao, Huang, & Su, 2019). In comparison, social commerce live streaming lacks rules and regulation where user are more likely rely on interpersonal relationship to make purchase decision (Fan et al., 2019; Lin et al., 2019). Thus, investigating consumer's live streaming shopping behavior on social commerce sites is needed.

Give aforementioned practical and theoretical gaps and the importance of social interaction and swift guanxi, this study examines the different factors of interpersonal interaction on consumers' purchase intention and the mechanism that can connect them from an integrative perspective. Thus, three research objectives guide this study:

(1) To explore what interpersonal interaction factors influence swift guanxi in social commerce live streaming.
(2) To investigate the impact of the swift guanxi on purchase intention in social commerce live streaming.
(3) To examine the mediating effect of swift guanxi between interpersonal interaction factors and purchase intention in social commerce live streaming.

The reminder of this study is organized as follows. The next section will review related literature. Then, Section 3 presents the related hypotheses and proposed the research model based on the SOR paradigm. In Section 4, methodology employed in this study is described. Subsequently, data analysis and findings are provided in section 5. Section 6 will be dedicated to discussions regarding the results and implications. Finally, we discuss the limation in Section 7.

## LITERATURE REVIEW

### Live Streaming Commerce

Live streaming commerce is a new trend of e-commerce which facilitate streamers and users communicate to better understand the product by live video and text-based conversation. Live streaming commerce can be divided into two categories (Wongkitrungrueng & Assarut, 2020): (1) live streaming embedded in E-commerce platforms (e.g Taobao, JD) (2) (the focus of this paper) social media platforms incorporate live streaming features for selling (e.g. Douyin, Kuaishou, Xiaohongshu) (Cai & Wohn, 2019; Wongkitrungrueng & Assarut, 2020).

The increasing prevalence of live streaming commerce has attracted the attention of researchers (Sun et al., 2019). Prior research mainly carried out on consumers' motivation to engage in live streaming commerce (Kang et al., 2021; Lin et al., 2021; Liu et al., 2021; Wongkitrungrueng & Assarut, 2020; Xue et al., 2020). Recently, some researchers began to focus on purchase intention (Sun et al., 2019; Zhang et al., 2021) and satisfaction (Ma, 2021), but they mainly explored from the IT affordance perspective (Sun et al., 2019; Wang et al., 2022). Technical factors (synchronicity, vicarious expression, visibility, guidance shopping) of live commerce make users can obtain vivid and personalization information (Sun et al., 2019), filling the requirement for face to face interaction between sellers and buyers (Sjöblom, Törhönen, Hamari, & Macey, 2019). However, existing literature did not clarify the impact of interpersonal interaction factors of streamer-user and user-user interaction on swift guanxi and subsequent consumers' purchase intention, as live streaming commerce is profit-oriented (Ma, 2021). Therefore, this study focuses specifically on live streaming in social media platforms, considering the effect of both streamer-user interaction factors and user-user interaction factors on purchase intention, as well as the mediating effect of swift guanxi.

### *S-O-R Paradigm*

This paper attempts to address the highlighted research gaps by leveraging the well-established S-O-R model. Initiating in environmental psychology, The S-O-R model of Mehrabian and Russell (1974) reveals how environmental cues (stimuli) generate a customer's emotional states (organisms) and ultimately lead to customer behavioral outcomes (reactions) (Mehrabian & Russell, 1974). The S-O-R model is beneficial for two reasons in this study. First, previous studies have consistently validated the applicability of the S-O-R model for online consumer behavior research (Hu et al., 2016; Lin et al., 2017). For example, Liu et al. (2016) adopted the SOR paradigm to explore the impact of interpersonal interaction factors on flow experience and the subsequent purchase intention in social commerce. Likewise, within the framework of the S-O-R theory, Tuncer (2021) investigated the effect of IT affordance on flow and trust, as well as subsequent purchase intention. Secondly, the shopping environment of live streaming commerce differs significantly from traditional e-commerce. The S-O-R model enables researchers to identify the unique elements of live streaming commerce and construct a comprehensive model that reflects how user interaction with this artifact results in good

consumer behavior (Hu et al., 2016; Lin et al., 2017). Therefore, this study considers five interpersonal interaction factors as the external stimulus, swift guanxi as the organism, and purchase intention as the response.

## HYPOTHESIS DEVELOPMENT

### Expertise and Swift Guanxi

Expertise refers to a person's level of domain-specific knowledge (Shen, Huang, Chu, & Liao, 2010). Higher expertise means that the streamer gives more structured information and better evaluates the product, which reduces the asymmetry of information and makes it easier for each other to understand (Hu et al., 2016). Furthermore, according to social exchange theory, when customers interact with professional salespeople who are perceived as reliable, knowledgeable, and responsive, they receive more value, and in return, the quality of their relationship with the salesperson becomes stronger (Crosby, Evans, & Cowles, 1990; Guenzi & Georges, 2010; Ladhari, Massa, & Skandrani, 2020). Also, previous research has shown that smooth interactions can lead to harmonious relationships (Tseng, Huang, Pham, Cheng, & Teng, 2022). In live streaming commerce, users can ask questions about products through pop-ups. Streamers with expertise know more about the product's features and can better personalize their answers to pop-up questions, which makes for a harmonious relationship. Therefore, it is believed that the expertise of streamers will support the formation of swift guanxi in live streaming commerce.

**H1:** *Perceived expertise toward streamers is positively related to swift guanxi.*

### Likeability and Swift Guanxi

Likeability refers to the degree to which an individual is perceived as nice, friendly, pleasant, and polite (Pulles & Hartman, 2017). If the first impression is favorable, consumers will likely to continue watching and interacting (Chaker, Walker, Nowlin, & Anaza, 2019). In this sense, likeability acts as a gatekeeper, determining the likelihood of continued interaction and the relationship quality between both parties (Pulles & Hartman, 2017; Smit, Van Meurs, & Neijens, 2006). Additionally, the perceived likability of a streamer represents an attitude toward the streamer (Smit et al., 2006), especially in the context of live streaming commerce, where numerous streamers appear quite similar. Information provided by well-liked streamers is considered more credible, facilitating mutual understanding (Chen et al., 2021; Xiang, Zheng, Lee, & Zhao, 2016). Furthermore, interaction with likable people is seen as a positive experience that makes people more pleasant and aroused (Ahearne, Gruen, & Jarvis, 1999; Hou, Guan, Li, & Chong, 2020; Xiang et al., 2016). In this positive atmosphere, people are more likely to reach harmony and consensus in relationships. Thus, compared with streamers with likeability, buyers are more likely to develop swift guanxi with likable streamers.

**H2:** *Perceived likeability toward streamers is positively related to swift guanxi.*

## Similarity and Swift Guanxi

Similarity refers to a match in psychographic traits such as interests, preferences, and tastes between streamers and users in live streaming commerce (Shen et al., 2010). Previous studies have shown that similarity positively affects interpersonal attraction and relationship quality, such as friendship and commitment (Cheng et al., 2020; Crosby et al., 1990; Hu et al., 2016). This can be explained by the similarity-attraction theory and social identity, as interactions between similar individuals are easier, enhancing self-esteem and maintaining congruity in self-identity (Smith, 1998). Additionally, a survey conducted on online marketplaces found that 73% of customers believed that "people like me" are trustworthy sources when seeking advice (Zhou, Dong, & Zhang, 2023) This indicates that consumers prefer to interact with similar streamers, as they can easily understand each other and have smooth interactions, leading to the formation of harmonious and reciprocal relationships. Therefore, we propose the following:

**H3:** *Perceived similarity toward streamers is positively related to swift guanxi.*

## Informativeness and Swift Guanxi

Rotzoll et al. (1996) defined informativeness as the degree to which an enterprise can provide pertinent information to assist customers in making better purchasing decisions. Within this study, the term perceived informativeness of co-viewers denotes the extent to which co-viewers are perceived to offer sufficient information to assist consumers in making informed purchasing decisions during the interaction. Previous studies have shown that peer reviews are considered more credible and thus more acceptable to users than sellers and endorsers (Fu, Lu, Chen, & Farn, 2020). In live streaming commerce, the interaction content among users ranges from basic product information and product usage experience to reviews of the streamers (Fei et al., 2021). This information allows users to better perceive product quality and fitness, thus accelerating the mutual understanding between users and streamers (Yadav & Pavlou, 2014). Thus, a mutually beneficial and harmonious relationship between users and streamers is more likely to be formed. Therefore, this study proposes:

**H4:** *Perceived Informativeness toward co-viewers is positively related to swift guanxi.*

## Crowdedness and Swift Guanxi

Perceived crowdedness refers to an individual' assessment of the population density in a retail setting (Alawadhi & Yoon, 2016). The crowdedness be judged using a variety of metrics, such as the number of users and likes in the context of live streaming commerce (Chong et al., 2022). Perceived crowdedness has different effects in offline and online environments depending on the specific purchase context. Due to the physical constraints in offline scenarios,

perceived crowdedness can result in unpleasant emotional reactions like stress and anxiety (Alawadhi & Yoon, 2016). Based on the presence theory, in a virtual environment, users can perceive the degree of crowdedness via mediated interfaces. In the realm of livestreaming commerce, perceived crowdedness provides users with a sense of social presence (Chong et al., 2022). In other words, it makes users feel a sense of being with real others. In this environment, users are more likely to form harmonious relationships (Ou et al., 2014). Furthermore, past research has demonstrated that crowdedness boosts user satisfaction and store evaluation in hedonic consumption scenarios (Li et al., 2009; Mehta et al., 2013), which can be extended to live streaming commerce scenarios. Similarly, crowdedness can serve as an indicator of the streamer's reputation and product quality, fostering user's trust while trust is a silver indicator of swift guanxi (Ou et al., 2014).

**H5:** *Perceived crowdedness toward co-viewers is positively related to swift guanxi.*

**Swift Guanxi and Purchase Intention**

Swift guanxi is defined as "a quickly formed reciprocal-based interpersonal relationship between buyer and seller" in the Chinese cultural context. As Ou and his colleagues suggested, this term refers to a multidimensional construct that includes three dimensions: mutual understanding, reciprocal favors, and relationship harmony.

Swift guanxi has been consistently reported to have a significant positive impact on consumer behavior. Consumers who have swift guanxi with a seller/host are more likely to exhibit satisfying behaviors such as engagement (Mehta et al., 2013), word-of-mouth recommendations (Bilal, Akram, Rasool, Yang, & Tanveer, 2022; Shi et al., 2018) and loyalty (Tseng et al., 2022). Previous researches also suggest that when consumers form swift guanxi with peer users, eWOM behavior and eWOM adoption behavior can increase directly (Cheng et al., 2020). Another study conducted by Lin et al. (2018) also revealed that patronage behavior and positive share intention are the results of swift guanxi.

As an online extension of the traditional relationship, the key role of swift guanxi for purchase intention and repurchase intention has been widely validated in various fields, including e-commerce (Chiu et al., 2018; Niu et al., 2020; Ou et al., 2014; Shi et al., 2018), social commerce (Lin et al., 2017; Shang & Bao, 2022). Consumers who have swift guanxi with a seller or website are more likely to show repeat purchases (Fan et al., 2019; Shang & Bao, 2022). Similar results were found in a study by Zhang et al. (2020), which highlighted that consumers who form swift guanxi with a website or seller are more willing to purchase products from the company. Indeed, establishing swift guanxi with consumers is crucial because mutual understanding, reciprocity, and harmonious relationship between consumers and sellers reduce consumer uncertainty (Chiu et al., 2018) and ensures a smooth transaction, which has benefits for both parties (Ou et al., 2014). Thus, this study proposes:

**H6:** *Consumers' swift guanxi with streamers is positively related to purchase intention.*

**Mediating Role of Swift Guanxi**

While recent studies show a positive relationship between social cues and users' positive behavior (Feng & MacGeorge, 2010; Wang & Liao, 2023), such a relationship can be further elaborated by incorporating swift guanxi (Lin et al., 2019; Ou et al., 2014). Consumers who have swift guanxi with a seller or website are more likely to exhibit positive behaviors such as sharing and purchasing (Fan et al., 2019; Niu et al., 2020; Shang & Bao, 2022). Similarly, studies have highlighted that swift guanxi occurs through social cues embedded in virtual environments and will in turn promote optimal consumer behavior (Chen et al., 2021; Lin et al., 2017). As a result, this study proposes that swift guanxi plays a crucial mechanism between live streaming commerce cues and purchase intention. Therefore, this study hypothesizes:

**H7:** *Swift guanxi mediates the relationship between expertise and purchase intention.*

**H8:** *Swift guanxi mediates the relationship between attractiveness and purchase intention.*

**H9:** *Swift guanxi mediates the relationship between interaction orientation and purchase intention.*

**H10:** *Swift guanxi mediates the relationship between media richness and purchase intention.*

**H11:** *Swift guanxi mediates the relationship between personalization and purchase intention.*

The proposed research framework is displayed in Figure.1. The next section provides a detailed explanation of the methodology.

**Figure 1:** Research framework
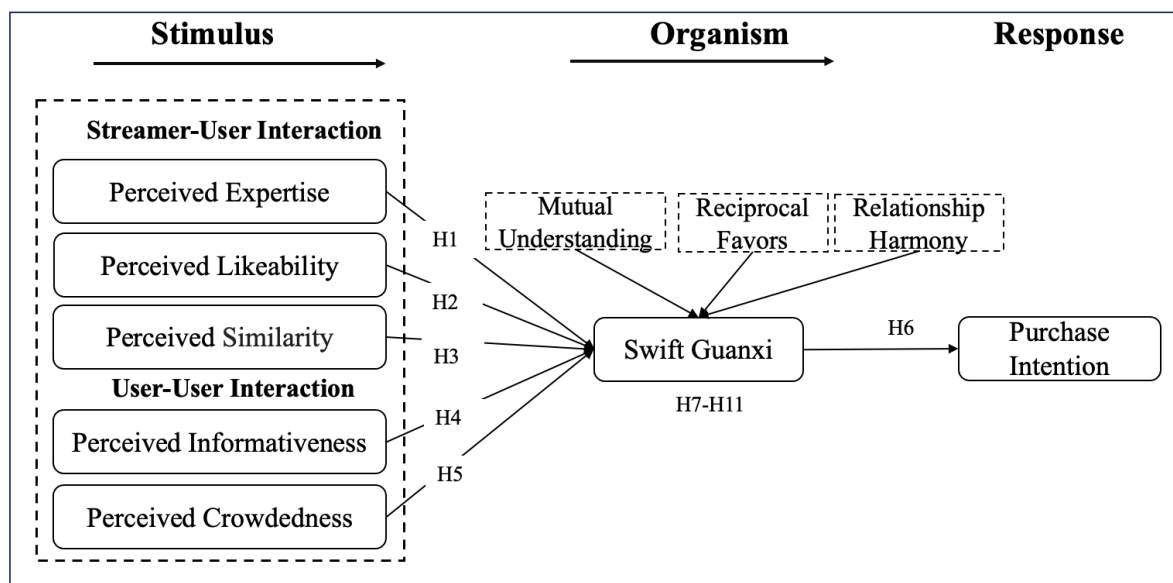
## METHODOLOTY

### Data Collection Procedures

A self-administered questionnaire was developed to collect data from Chinese Millennial social media users (born between 1981 and 1996) (Brosdahl & Carpenter, 2011; Dimock, 2019; Purani, Kumar, & Sahadev, 2019). Labeled as digital natives, Millennials' lifestyles and behaviors are heavily influenced by the rapid development of technology due to their early access to technology (McCormick, 2016; Purani et al., 2019). It is expected that studying the behavior of millennials would yield valuable insights, as this group of customers is heavily engaged in online shopping and is driving the rise of the live commerce industry (Chong et al., 2022; Hou et al., 2020; Sharma & Klein, 2020). In this study, Douyin, Kuaishou and Xiaohongshu were chosen as the primary setting because they are the top three social commerce live streaming platforms and account for more than 90% of the social commerce live streaming markets (MOF, 2021).

An online survey was designed and released on a professional online survey site (https://www.wjx.com). The quota sampling technique was used for this study as the population of each platform can be adequately included. To ensure the survey was answered by valid respondents, screen questions were settled at the beginning of the survey to make sure the respondents were Chinese millennials who had a live streaming shopping experience in the past three months in Douyin, Kuaishou, and Xiaohongshu. The questionnaire was then distributed via the online chat group (WeChat chatgroup, Xiaohongshu chatgroup, and QQ chatgroup) from May 5, 2023, to May 25, 2023. A total of 380 questionnaire were collected, of which 29 invalid responses being deleted. Among the 351 remaining responses, males constituted 41% of the sample, while females represented 59%. Moreover, the majority of respondents are 31-35 years old and have completed their undergraduate degree (73.5%). In terms of work, most respondents (57.3%) are employed in the private sector and earn between ¥9001 and ¥11,000 per month (22.2%) (see Table 1).

<div align="center">**Table 1:** Respondent profile</div>

| Category | Item | Frequency (n=351) | Percent (%) |
|---|---|---|---|
| Gender | Male | 150 | 42.7% |
| | Female | 201 | 57.3% |
| Age | 26-30 years old | 135 | 38.5% |
| | 31-35 years old | 163 | 46.4% |
| | 36-42 years old | 53 | 15.1% |
| Education | Undergraduate degree | 258 | 73.5% |
| | Graduate Degree | 73 | 20.8% |
| | Postgraduate degree | 20 | 5.7% |
| Occupation | Employee - Government sector | 122 | 34.8% |
| | Employee - Private sector | 201 | 57.3% |
| | Self-employed | 18 | 5.1% |
| | Student | 9 | 2.6% |
| | Others | 1 | 0.3% |
| Monthly income | Below RMB 3000 | 8 | 2.3% |
| | RMB 3001–5000 | 21 | 6.0% |
| | RMB 5001–7000 | 52 | 14.8% |
| | RMB 7001–9000 | 66 | 18.8% |
| | RMB 9001–11000 | 78 | 22.2% |
| | RMB 11001–13000 | 65 | 18.5% |
| | Above RMB 13001 | 61 | 17.4% |

## Measurement

All measurements were adapted from past studies and then modified to the context of live streaming commerce. Expertise, likeability, similarity, and crowdedness were adapted from studies by Shen et al. (2010), Reinhard and Messner (2009), Liu et al. (2016), and Chong et al. (2022), respectively. To measure informativeness, four items developed by Hausman and Siekpe (2009), Alalwan (2018), and Holdack et al., (2022) were used. Swift guanxi, in turn, was assessed as a multidimensional construct by Ou et al. (2014). Lastly, purchase intention was measured using Hong and Cha's (2013) scale.

## RESULTS

This study used PLS-SEM examine the proposed relationships among the variables. The use of PLS-SEM was appropriate because it emphasizes predictive accuracy, which aligns with the predictive orientation of this study. In addition, PLS-SEM is well-suited for evaluating

complex models that involve higher-order constructs, mediation effects, and moderation effects. To perform PLS-SEM, SmartPLS 4.0.2 software was utilized in this study.

**Common Method Variance Test**

Podsakoff et al. (2003) suggests that common method variance (CMV) should be given special consideration in empirical studies, particularly when adopting self-report questionnaires to obtain data. Specifically, Harman's Single Factor was used to evaluate CMV, where the largest variance explained was 37.3% (<40%) (Fuller, Simmering, Atinc, Atinc, & Babin, 2016), indicating no single dominant factors. Next, we adopted Kock and Lynn's (2012) full collinearity approach to further evaluate the CMV. As shown in Table 2, the variance inflation factors (VIFs) for all constructs were less than 3.33, suggesting no serious CMV issues in this study.

**Table 2:** Assessment of reliability, convergent validity

| Construct | Loading |
|---|---|
| **Expertise (EXP) [α =0.824; rho_A = 0.827; CR =0.884; AVE = 0.655; Full Collinearity = 1.437]** | |
| EX1: Streamers are expert in products. | 0.846 |
| EX2: Streamers are highly experienced about products. | 0.828 |
| EX3: Streamers are very knowledgeable about products. | 0.811 |
| EX4: Compared with other sites, this channel contains lots of information and knowledge regarding products. | 0.750 |
| **Likeability (LK) [α =0.853; rho_A = 0.853; CR =0.901; AVE = 0.694; Full Collinearity = 2.163]** | |
| LK1: Streamers are very likeable. | 0.809 |
| LK2: Streamers are very friendly. | 0.839 |
| LK3: Streamers are warm. | 0.825 |
| LK4: Streamers are very nice. | 0.859 |
| **Similarity (SIM) [α =0.831; rho_A = 0.831; CR =0.888; AVE = 0.664; Full Collinearity = ]** | |
| SIM1: As regards taste in products, I am similar to the streamers. | 0.816 |
| SIM2: As regards my likes and dislikes about products, I am similar to the streamers. | 0.840 |
| SIM3: As regards preferences in products, I am similar to the streamers. | 0.830 |
| SIM4: I always have comments on a product similar to those of streamers. | 0.773 |
| **Informativeness (INF) [α =0.771; rho_A = 0.771; CR =0.853; AVE = 0.592; Full Collinearity = 1.561]** | |
| INF1: Co-viewers are a good source of product information. | 0.746 |
| INF2: Co-viewers supplies relevant product information. | 0.790 |
| INF3: Co-viewers is a convenient source of product information. | 0.779 |
| INF4: Co-viewers provides information that helps me in my buying decision. | 0.763 |
| **Crowdedness (CD) [α =0.818; rho_A = 0.822; CR =0.873; AVE = 0.580; Full Collinearity = 1.725]** | |
| CD1: There are many numbers of likes on the TikTok Live. | 0.804 |
| CD2: There are many viewers while broadcasting on the TikTok Live. | 0.767 |

| | |
|---|---|
| CD3: There are many other buyers feel interested with the product while broadcasting. | 0.780 |
| CD4: There are many other buyers sharing live video while broadcasting | 0.707 |
| CD5: There are many other buyers purchasing products while broadcasting | 0.744 |
| **Swift guanxi (SW)** | |
| **Mutual understanding (MU) [α =0.856; rho_A = 0.857; CR =0.897; AVE = 0.634; Full Collinearity = 1.06]** | |
| MU1: The live streamers and I understand each other's needs. | 0.820 |
| MU2: The live streamers and I understand each other's point of view. | 0.806 |
| MU3: The live streamers and I can make ourselves heard. | 0.801 |
| MU4: The live streamers and I can follow the flow of conversation. | 0.801 |
| MU5: The live streamers and I show interest in each other's opinions | 0.752 |
| **Reciprocal favors (RF) [α =0.771; rho_A = 0.774; CR =0.853; AVE = 0.592; Full Collinearity = 1.019]** | |
| RF1 : If I buy from the live streamer, he/she will provide a discount for me. | 0.729 |
| RF2 : The live streamers and I offer positive ratings or comments to each other. | 0.796 |
| RF3 : The live streamers and I help each other. | 0.759 |
| RF4 : The live streamers and I proved to be friends by doing favors for each other. | 0.791 |
| **Relationship harmony (RF) [α =0.793; rho_A = 0.817; CR =0.878; AVE = 0.706; Full Collinearity = 1.741]** | |
| RH1: The live streamers and I maintain harmony. | 0.875 |
| RH2: The live streamers and I avoid conflict. | 0.777 |
| RH3: The live streamers and I respect each other. | 0.865 |
| **Purchase Intention (PI) [α =0.780; rho_A = 0.791; CR =0.872; AVE = 0.694; Full Collinearity = 2.192]** | |
| PI1: I would like to purchase the products from the streamers. | 0.864 |
| PI2: I would like to recommend my friends and family to purchase the products from the streamers. | 0.837 |
| PI3: If there is a product that I want to purchase, I would like to purchase it from the streamers. | 0.797 |

## Reflective Measurement Model

To ensure the measurements' reliability and validity, this study employed three main reports to evaluate the reflective measurement models: internal reliability, convergent validity, and discriminant validity of the constructs (Cheah, Sarstedt, Ringle, Ramayah, & Ting, 2018). As shown in Table 2, all reflective constructs exhibited reliability and consistency, surpassing the threshold values of Cronbach's alpha (CA), composite reliability (CR), and Dijkstra Henseler (rho_A), which were set at 0.70 (Hair, Sarstedt, Ringle, & Gudergan, 2017). Furthermore, the outer loadings and average variance extracted (AVE) were used to evaluate the convergent validity. The results suggested that all items' outer loadings exceeded the recommended benchmarks of 0.4 (Bagozzi, Yi, & Phillips, 1991), and all construct' AVE scores showed above the threshold of 0.50 (Fornell & Larcker, 1981). Lastly, the heterogeneity-monogeneity (HTMT) ratio was used to test discriminant validity. With values below the cutoff of 0.85, Table 3 shows that all constructs demonstrated sufficient discriminant validity (Kline, 2016).

**Table 3:** Assessment of the Discriminant Validity using HTMT

|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| CD | ■ | | | | | | | | | |
| EXP | 0.614 | ■ | | | | | | | | |
| INF | 0.535 | 0.623 | ■ | | | | | | | |
| LK | 0.689 | 0.700 | 0.660 | ■ | | | | | | |
| MU | 0.604 | 0.618 | 0.614 | 0.640 | ■ | | | | | |
| PI | 0.814 | 0.650 | 0.608 | 0.745 | 0.719 | ■ | | | | |
| PR | 0.108 | 0.101 | 0.090 | 0.154 | 0.219 | 0.134 | ■ | | | |
| RF | 0.686 | 0.632 | 0.576 | 0.638 | 0.758 | 0.720 | 0.137 | ■ | | |
| RH | 0.620 | 0.646 | 0.567 | 0.653 | 0.628 | 0.683 | 0.098 | 0.766 | ■ | |
| SIM | 0.562 | 0.608 | 0.568 | 0.666 | 0.685 | 0.706 | 0.134 | 0.579 | 0.509 | ■ |

The swift guanxi was considered a reflective-formative higher-order construct consisting of three lower-order constructs: mutual understanding, reciprocal favor, and relational harmony. The disjoint two-stage approach in PLS-SEM was used to assess this higher-order construct. First, Cheah et al.'s single-global item approach was used to assess the convergent validity of HOCs. The results showed a global item value of 0.708, which is significantly larger than the magnitude of 0.70 (Cheah et al., 2018). Second, multicollinearity among LOCs is also not a severe issue as the external variance inflation factor (VIF) value ranged from 1.68 to 1.97 (below 3.33) (Diamantopoulos & Siguaw, 2006). Finally, the p-values of the outer weights of all three dimensions (mutual understanding = 0.479; reciprocal favor= 0.302; and relational harmony=0.395) are significant at 0.05.

**Table 4:** Assessment of higher-order constructs

| Second-order constructs | First-order construct | Convergent validity | OuterVIFs | Outer weights | Std error | t-value | p-value |
|---|---|---|---|---|---|---|---|
| Swift guanxi | Mutual understanding | 0.708 | 1.717 | 0.479 | 0.060 | 8.659 | <0.001 |
| | Reciprocal favors | | 1.974 | 0.302 | 0.050 | 5.762 | <0.001 |
| | Relationship harmony | | 1.677 | 0.395 | 0.050 | 7.546 | <0.001 |

**Structural Model Assessment**

This study uses a five-step approach to evaluate the structural model. First, the inner VIF was used to check the collinearity problem. As shown in Table 4, The VIF values are well below the 3.33 cutoff for all the constructs (Diamantopoulos & Siguaw, 2006). As a result, this model does not present a multicollinearity issue.

Next, the bootstrap technique (5000 resamples) was used to assess the hypotheses. The results in Table 5 show that crowdedness (H1c: $\beta$ = 0.243, p < 0.001) was the strongest indicator of swift guanxi. In addition, expertise (H1c: $\beta$ = 0.206, p < 0.001), likeability (H1c: $\beta$ = 0.182, p = 0.023), similarity (H1c: $\beta$ = 0.197, p = 0.001), and informativeness (H1c: $\beta$ = 0.158, p < 0.001) all had a significant positive effect on swift guanxi. As we hypothesized, the positive relationship of swift guanxi (H3c: $\beta$ = 0.675, p < 0.001) on purchase intention was supported. And then, as can be seen in Table 5, all interpersonal interaction factors explained 59.4% of the variance of swift guanxi, while 45.5% of the variance in purchase intention was explained by swift guanxi.

Subsequently, to confirm the significance of each path, effect sizes ($f^2$) were then evaluated according to Cohen's (1988) guideline (refer to Table 5). The results of the study in Table 5 show that the swift guanxi showed a large effect on purchase intention ($f^2 = 0.835$). With regards to swift guanxi, expertise ($f^2 = 0.059$), likability ($f^2 = 0.039$), similarity ($f^2 = 0.058$), informativeness ($f^2 = 0.040$), and crowdedness ($f^2 = 0.088$) showed a small effect.

Finally, a blindfolding procedure was performed to evaluate the model's predictive relevance ($Q^2$). $Q^2$_predict values for swift guanxi (0.309) and purchase intention (0.412) were found to be greater than zero, indicating that the model possesses a predictive potential (Hair et al., 2017). Apart from that, the PLSpredict technique was used to further evaluate the predictive relevance of the endogenous constructs (Shmueli et al., 2019). As seen in Table 6, except for PI1, a majority of item values of purchase intention in the PLS model showed lower prediction errors (RMSE and MAE), compared with the linear model (LM). Therefore, purchase intention exhibited medium predictive power (Shmueli et al., 2019).

**Table 5:** Results of the structural model

| Path Relationship | Std. Beta (Direct Effect) | Std. Beta (Indirect Effect) | SE | *t*-value | *p*-value | Results | VIF | R² | *f²* | Q² |
|---|---|---|---|---|---|---|---|---|---|---|
| H1: Expertise -> Swift guanxi | 0.206** | | 0.046 | 4.482 | <0.001 | Supported | 1.781 | 0.594 | 0.059 | 0.309 |
| H2: Likeability-> Swift guanxi | 0.182* | | 0.080 | 2.276 | 0.023 | Supported | 2.112 | | 0.039 | |
| H3: Similarity ->Swift guanxi | 0.197* | | 0.057 | 3.451 | 0.001 | Supported | 1.642 | | 0.058 | |
| H4: Informativeness -> Swift guanxi | 0.158** | | 0.043 | 3.690 | <0.001 | Supported | 1.565 | | 0.040 | |
| H5: Crowdedness-> Swift guanxi | 0.243** | | 0.051 | 4.736 | <0.001 | Supported | 1.655 | | 0.088 | |
| H6: Swift guanxi -> Purchase intention | 0.675** | | 0.035 | 19.055 | <0.001 | Supported | 1.000 | 0.455 | 0.835 | 0.412 |
| H7: Expertise -> Swift guanxi-> Purchase intention | | 0.139** | 0.032 | 4.311 | <0.001 | | | | | |
| H8: Likeability-> Swift guanxi-> Purchase intention | | 0.123* | 0.055 | 2.246 | 0.025 | | | | | |
| H9: Similarity -> Swift guanxi-> Purchase intention | | 0.133* | 0.039 | 3.407 | 0.001 | | | | | |
| H10: Informativeness -> Swift guanxi-> Purchase intention | | 0.107** | 0.030 | 3.602 | <0.001 | | | | | |
| H11: Crowdedness-> Swift guanxi-> Purchase intention | | 0.164** | 0.037 | 4.463 | <0.001 | | | | | |

*Notes*: *p < 0.05; **p < 0.001;

**Table 6:** Assessment of PLS predict

| | Q²predict | PLS | | LM | | PLS-LM | | Predictive power |
|---|---|---|---|---|---|---|---|---|
| | | RMSE | MAE | RMSE | MAE | RMSE | MAE | |
| PI1 | 0.385 | 0.552 | 0.410 | 0.537 | 0.417 | 0.015 | -0.007 | Medium |
| PI2 | 0.331 | 0.617 | 0.478 | 0.620 | 0.491 | -0.003 | -0.013 | |
| PI3 | 0.291 | 0.692 | 0.551 | 0.703 | 0.573 | -0.011 | -0.022 | |

*Note*: PI (purchase intention); RMSE (Root mean squared error); MAE (Mean absolute error)

**Assessment of Mediation Effect**

Preacher and Hayes' (2008) guidelines were used to evaluate the mediating effect of swift guanxi (see Table 5). As predicted, the findings showed that the mediating effect of swift guanxi between expertise (H7: $\beta = 0.139$), likeability (H8: $\beta = 0.123$), similarity (H9: $\beta = 0.133$), informativeness (H10: $\beta = 0.107$), crowdedness (H11: $\beta = 0.164$) and purchase intention were significant at $p<0.05$, supporting H7-H11.

# DISCUSSIONS AND IMPLICATIONS

## Discussion of Findings

Using the S-O-R paradigm as a theoretical framework, this study investigated the influence of interpersonal interaction factors on swift guanxi and subsequent purchase intention among Chinese Generation Y in social commerce live streaming context.

First, this study showed that perceived expertise, likability, and similarity of streamers significantly impact swift guanxi (H1, H2, H3), which meet our research expectations. Live streaming commerce enable users watch the streamers' gesture, voice and interact in real time like offline. Therefore, interpersonal interaction factor perceived by users plays a significant role in shaping relationship quality (e.g., swift guanxi) between streamers and users. Specifically, streamers with expertise delivering professional product presentations and answer user' question with most suitable personalized information, making each other understood and smooth relationship to be achieved. Next, likability was found to be a significant predictor of swift guanxi. This is consistent with previous findings (see Nagel et al., 2021; Pulles & Hartman, 2017; Reinhard & Messner, 2009) that likability works as a gatekeeper, determining the likelihood of continuing interaction and the quality of future relationships. In addition, higher similarity between streamers and users will lead to higher swift guanxi. This is in line with previous literature that similarity was a fundamental step in developing online relationships (Ladhari et al., 2020; Nagel et al., 2021).

Second, perceived informativeness and crowdedness of user-user interaction have also been identified as essential indicators of swift guanxi between the streamers and users (H4 and H5). In line with the findings of Zhou et al.(2023), informativeness in user-user interaction enables users to gain more knowledge about the product endorsed by streamers and better evaluate the streamers, making it easier for users to form a mutual understanding and harmonious relationship with the streamers. However, the low path coefficient ($\beta = 0.107$) suggests that the informativeness of user-user interactions may not be a panacea for improving swift guanxi. High-volume interactive text that is irrelevant to the consumer's goals may distract the viewer from the product and the streamers (Fei et al., 2021). Furthermore, unlike the effect of

crowdedness in conventional offline settings, perceived crowdedness of user-user interaction was found to be the best predictor of Gen Y building swift guanxi with the streamers. It has been documented that crowdedness was an indicator of product quality and seller reputation (Li et al., 2009; Mehta, 2013). Noteworthily, users tend to form swift guanxi with streamers when they hold a positive attitude toward the products and sellers (Guo et al., 2021).

Thirdly, this study finds that swift guanxi has a significant impact on purchase intention (H6) which is consistent with prior studies (Chen et al., 2021; Lin et al., 2019; Zhou et al., 2023). Establishing swift guanxi with consumers is crucial because mutual understanding, reciprocity, and harmonious relationship between seller and consumers reduce consumer uncertainty (Chiu et al., 2018) and ensures a smooth transaction.

Lastly, underpinned by the S-O-R model, this study confirms that swift guanxi mediates the relationship between all interpersonal interaction factors and purchase intention (H7, H8, H9, H10, H11). This is consistent with past research where swift guanxi was found to mediate the relationship between social cues and consumer behavior between sellers and users (Cheng et al., 2020; Lin et al., 2018). As a novel mode of online shopping, live streaming shopping facilitates frequent interpersonal interaction among streamers and users like offline, which inspires the formation of swift guanxi and ultimately leads to purchase intention.

**Theoretical Implication**

This study makes theoretical contributions to the extant literature with findings from the context of social commerce live streaming. First, this study extends the interpersonal interaction factors in live streaming commerce from both streamer-user interaction and user-user interaction perspective. Previous research on live streaming commerce has mainly (e.g.,(Sun et al., 2019; Tuncer, 2021)) emphasized the effect of technical interactivity on experience and perceived value, neglecting the relational essence driven by interpersonal interaction. Furthermore, as the important part of live streaming commerce, user-user interanion is largely ignored. This study provides a new way by integrating interpersonal interaction factors of both streamers and users on swift guanxi, leading to user' purchase intention.

Second, this study extends the guanxi literature and demonstrates that swift guanxi serves as an important mechanism between interpersonal interaction factors and purchase intentions in the context of social commerce live streaming. Previous studies have shown that the mediating variable that link interpersonal interaction factors and purchase intention vary according to the different research environment (Liu et al., 2018; Shen et al., 2010). This study demonstrated that swift guanxi serves as a mediator between interpersonal interaction and purchase intention in social commerce live streaming, consolidating the guanxi literature in social commerce live streaming.

**Managerial Implication**

This study also provides important managerial implications for practitioners of live streaming commerce.

Retailers should effectively use the social features of platform to enhance interpersonal interaction. To improve the perceived expertise, retailers should strengthen the training of the streamer's professional ability, so that the streamer is familiar with the performance of the

product and be able to clearly convey it to the users using in-depth language. The streamers with professional qualifications can also upload their certificates to the platform to improve users' expertise perception. In addition, retailers can regard appearance as a recruitment standard when hiring streamers to improve the likeability. The training of the ability to communicate in a friendly mannercan can also increase streamers' likeability. Retailers also need to focus on the influence of co-viewers. For example, streamers can encourage users to enter the live room through a lucky draw, ultra-low-price products, or social media campaigns. They can also encourage users to actively discuss and engage in activities to improve their perceived informativeness and crowdedness. Furthermore, considering the notable impact of swift guanxi on purchase intention, retailer should focus on the three dimensions of swift guanxi, including mutual understanding, reciprocity, and harmonious. Effectively addressing their questions and offering them extra giveaways will help the swift guanxi formation and further lead to favorable responses.

In addition, there are some advice for live streaming commerce platforms. Using innovative methods, such as data mining techniques and recommendation algorithm, platform can effectively segment different customers into homogeneous groups and then connect streamers and users with similar interests based on their characteristics and behaviors.

## LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Despite these contributions, the study has some limitations that need further investigation in the future. First, the sample of this study was China's Gen-Y, thus affecting the generalizability of the findings to the whole population. Although Gen-Y accounts for a sizable portion of the e-commerce population, it is still necessary to examine the views of other populations, as different factors may be involved in the purchase intention of different populations, such as the consideration of internet self-efficiency for Gen-X (Chung, Park, Wang, Fulk, & McLaughlin, 2010) and product uniqueness for Gen-Z (Goldring & Azab, 2021). Second, the antecedents of swift guanxi can be extended by incorporating other salient variables to enhance the explanatory power of the model. For example, the technical features of the platform (Lin et al., 2017), the language style of the streamer (Liao, Chen, Qi, Li, & Yu, 2022), as well as the relationship selling behavior of the streamers (Arli, Bauer, & Palmatier, 2018). Scholars can also construct a holistic model integrating social and technical factors to fully understand the swift guanxi and customer behavior in live streaming commerce. Finally, given the rapid development of digital technologies, it is also expedient to understand the impact of different types of streamers, such as virtual streamers (Gao, Jiang, & Guo, 2023), to further explore online relationship marketing in the context of live streaming commerce.

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