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RESEARCH ARTICLE

The effect of e-commerce live streaming technical features on Chinese consumers' purchase intention-mediated by social support

Mengjia Qi*, Janifer anak Lunyai

Faculty of Economics and Business, University Malaysia Sarawak (UNIMAS), 943000 Kota Samarahan, Malaysia

*** Corresponding author:** Mengjia Qi, 472981841@qq.com

ABSTRACT

With the increasingly fierce competition in the online retail industry and consumers' increasing demand for online shopping experience, the existing marketing model is difficult to sustain and effectively attract consumers, and more e-commerce websites and sellers are trying to adapt to the ever-changing business environment through the introduction of new marketing models. Understanding the effect of e-commerce live streaming's influence on online purchasing intention can provide references and suggestions for e-commerce websites and sellers to give full play to the marketing value of live streaming and improve market competitiveness by doing so.

Considering the interaction process between consumers and e-commerce live streaming platforms, we construct a relationship model between e-commerce live streaming technical features and online purchase intention based on the theory of "stimulus-organism-response". The study found that the real-time interactivity experience, perceived proximity, and authenticity of e-commerce live streaming positively influence consumer intention. By enhancing social support, these technical features further boost online buying interest. This study offers a technical review of the impact of the live streaming features on the consumer behaviour with the emphasis on the importance of the latter and provides insights into the optimal use of the resources allocation within the framework of e-commerce and live streaming technology.

Keywords: E-commerce live streaming; SOR model theory; technical features; social support; consumer intention

1. Introduction

Live streaming is a major social and economic phenomenon that has been witnessed within the world over the past few years giving its users the necessary information and interactivity. Live streaming has been added to major social networking sites such as Facebook, YouTube and Twitter since 2017. According to the report by the Interactive Advertising Bureau (2024), more than 71.2% of online users have used live streaming, and 47% still consume real-time[1].

Furthermore, according to a report by the China Internet Network Information Centre (CNNIC), live streaming and short video industry was projected to employ more than 100 million people by 2025, and thus it is a leading career choice among the youth. The major live streaming and short video companies have about 500,000 employees. China had 1.07 billion online video users, up 3.47 million on the previous year,

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which is 96.6% of the total Internet users. Short video users reached 1.04 billion, accounting for 93.8% of Internet users.

According to the findings of recent research, the role of live streaming in determining consumer purchase behavior has been on the rise especially that of technical features and interactivity. Liu and Zhang[2] revealed that interactive factors have a strong impact on the purchase intention through higher consumer engagement and trust. On the same note, Wang et al.[3] emphasized that live streaming features such as immediacy and visualization have a direct influence on the decisions of consumers. Furthermore, Yu et al.[4] found that the impulsive buying behavior is closely influenced by streamer behavior and perceived social identity and hence the significance of conceptualizing technical and social aspects in e-commerce live streaming.

Nevertheless, even though the live streaming is advancing rapidly, and its significance is getting increasingly important economically, little is known about the impact of certain technical characteristics on consumer buying behavior, and the mediating role of social support. This gap is critical to fill since it can guide e-commerce platforms, marketers and policymakers to formulate effective live-streaming strategies, increase consumer confidence and maximize purchase conversions.

With the rapid development of e-commerce live streaming, its technical feature has become crucial in shaping consumer behaviour. However, the technical attributes that influence online consumer intention remain underexplored. Existing research primarily focuses on the direct impact of live streaming on consumer engagement; the role of social support as a mediating factor is not well understood[5]. The research is a unique study that examines the mediating role of social support in the relationship between technical features and purchase intention to fill a gap in the extant e-commerce live-streaming literature. The innovation of the study is that it incorporates the S-O-R framework with the intervening factor of the social support which has seldom been explored in terms of its role in e-commerce live streaming research. In contrast to other studies that have examined the influence of the technical features on purchase intention, only directly, this work has examined the indirect routes that the technical features may have in determining the purchase intention. Live streaming of e-commerce offers a consumer a perception of proximity, interactivity of real-time interaction and authenticity, which has the potential to increase their feeling of social support. Social support, on its part, creates a sense of trust and perceived risk is lessened and consumer confidence is enhanced, which can lead to increase in purchase intention[6]. Even though live streaming is becoming increasingly popular as a marketing instrument, the theoretical and empirical bases underpinning the way in which the technical capabilities of this application stimulate online consumer intention by fostering the sense of social support is insufficient [7].

The research paper fills this knowledge gap by investigating the connection between social support, e-commerce live streaming technical features, and online consumer intention of the consumers. Knowing how these dynamics work will be of great benefit to e-commerce platforms and sellers so that they can optimise their live streaming strategies and increase consumer engagement.

This research offers a novel approach to further research on emerging technical systems, which is to promote e-commerce live streaming technical features on consumer online consumer intention. It is analyzed on the basis of the available literature about connection between e-commerce websites and social media platforms [8]. This research confirms the correlation between the technical aspect of commercial live streaming, social support and purchase intention. It examines the impact of different dimensions of e-commerce live streaming technical capability on online consumer intention that has not considered the contribution of platform technology in the past studies. The aim is to improve the knowledge and deepen the

motivation factors behind online consumer intention. The success factors of technical aspects that affect online consumption intention offer critical theoretical support in future studies about the technical aspects.

2. Literature review

2.1. E-commerce live streaming technical features

With reference to e-commerce, technical features of e-commerce, within the framework of online shopping, means that retailers arrange various attributes using the content and structure of their websites to enhance positive emotions and deliberate reactions of online consumers. This is not only a manifestation of the perception of objective attributes of the web site by consumers, but also the perception of the subjective attributes[9]. Broadly, based literature has indicated that technical characteristics of websites play a major role in influencing online intentions of consumers, including their intentions to make continuous use, purchase intentions and participation intentions. Since 1996, e-commerce websites have become increasingly dependable in online transactions and much research has been directed to the technical aspects of e-commerce websites. Johnstone and Lindh[10] found that the technical characteristics of a site, as well as the overall atmosphere of the websites, could cause positive emotions in consumers, which subsequently results in longer browsing time and increase in consumer intentions. Nalendra et al.[11] explored the effects of the technical attribute of the social networking sites, which enhances the experience of co-creation and intentions to purchase among the consumers. The analysis of their work has shown two important characteristics of the technical environment, which are information-task matching and visual appeal. These dimensions have positive impacts on the experiences of co-creation by consumers such as learning value, social integration value, and hedonic value, which impacts subsequent participation intentions.

2.2. E-commerce live streaming technical features classification

2.2.1. Real-time interactivity

Interactivity is defined as the user's perception of human interaction. Taghipour[12] described interactivity as the capability for direct communication between individuals and organisations, regardless of distance or time. Iqbal et al.[13] expanded on this concept by integrating interpersonal relationships and machine vision, identifying five dimensions of interactivity: entertainment, choice, connectivity, information gathering, and reciprocal communication. Chou et al.[14] emphasised the real-time aspect of interactivity, focusing on how the immediacy of user participation in the media environment affects interaction. In online environments, website functionality forms the foundation of interactivity. It enables quick responses between user input, content processing, and output.

2.2.2. Perceived proximity

Perceived proximity refers to how individuals perceive the closeness or distance in their relationships with others[15,16]. This concept is closely related to psychological distance, particularly, the social distance dimension that highlights the nature of social relationships. Perceived proximity encompasses both cognitive and affective components. The cognitive component involves assessing psychological closeness or distance, while the affective component recognises that perception of proximity is not solely based on rational evaluation[17]. Research indicates that people generally feel closer to those who are geographically near[18]. However, network communication technologies can alter this perception, enabling individuals to feel connected to those who are physically distant[19].

2.2.3. Perceived authenticity

Marketing success is closely related to the concept of authenticity[20]. Despite the lack of a single, universally accepted definition, two main perspectives on authenticity are commonly discussed. The first perspective views authenticity as the true, behind-the-scenes nature of the subject being studied[21]. This approach is often applied to authentic experiences such as tourist attractions[22] and reality shows[23]. The second perspective views authenticity as a matter of degree[24]. Winarno and Indrawati[25] argue that authenticity is a social construct that can vary depending on the perceptions and interpretations of different evaluators in different contexts, including locations, situations, people, and objects. Liu[26] summarised authenticity through objectivist, constructivist, and existentialist views, suggesting that it involves the context in which personal or interpersonal emotions are engaged during an activity.

2.3. Purchase intention

Chan and Asni[27] defined purchase intention as the subjective probability that consumers will buy a particular product or service, shaped by their attitudes, evaluations, and other factors. They perceive consumer intention as a key predictor of consumer intention. Pasharibu et al.[28] emphasised that consumer intention arises from consumers' attitudes towards a product or brand, as well as certain environmental factors, reflecting their subjective inclination to choose a particular product. Lyu[29] described consumer consumer intention as the probability and potential for consumers to buy a specific product or service. According to Choi and Jeon[30], it was defined as the probability of connecting the consumer intentions with their future intentions and it is used as the probability of buying a product. According to Kim and Park[31], purchase intention is a psychological representation prior to the act of purchase by the consumers that serves as psychological guide to the selection of preferred goods or services. Park and Shin[32] reasoned that consumer purchase intention is based on purchase intention. Tsao et al.[33] noted that the purchase intention is formed when consumers gather the information depending on their experiences, preferences, and external factors, which reflect in the decision-making process about a purchase.

2.4. Social support

Social support refers to the social resources that are perceived as accessible or offered to the individuals with informational and emotional support being of central interest[34]. The notion is based on the social support theory that considers social relationship to be a crucial determinant of cognitive, emotional, and behavioural determinants[35]. Conventionally, social support related to the face-to-face contact, which investigates how people feel supported, attentive, and motivated in social circles[36]. In online contacts, however, the concept is not defined in the unanimous sense. Researchers have applied the concept of face-to-face social support to the virtual realm calling it computer-mediated communication social support or online social support to reflect the nature of communications enabled using digital technologies.

2.5. The stimulus-organism-response model

A stimulus is the external stimulus defined in the SOR model of consumer intention which stimulates or evokes a response[37]. Stimuli in a consumer decision making process includes all the outside factors that are involved in decision making. These choices may be related to the purchase decisions (quantity/category/brand of the product), storage decisions (time, place, and price), and use or disuse. The SOR model has been used to examine the intention of the users in other context such as social media, social commerce and mobile government apps. Lin et al.[38] explored how interactivity, recommendations, and feedback on social commerce platforms influence the rapid development of relationships and trust between consumers and retailers, as well as their consumer intentions. The SOR model is also used in the analysis of the peculiarities of e-commerce live streaming as a technical aspect and presents a framework that explains

their influence on consumer intention. In this regard, therefore, it can be discussed as an effective instrument in the study of consumer buying behaviour.

3. Research hypotheses

3.1. Real-time interactivity and social support

The e-commerce live streaming experience needs to be interactive in real-time. Live streaming allows the consumers and sellers to share comments in real-time during a broadcast. This communication enables consumers to regulate the nature of the information they post and receive and provide prompt responses with sellers and other viewers. This is a timely exchange that assists the consumers in processing information fast and coming up with purchase decisions. According to the theory of task technical fit, functional features of the interactive interface and the topicality of task-related online interfaces facilitate the clarity of the steps. This allows consumers to achieve more efficient information searches and receive more information support[41]. Additionally, synchronous interaction on e-commerce platforms positively affects consumers' flow experience[64], suggesting that the real-time interactivity feature of live streaming can evoke strong emotional responses from consumers.

H1: Real-time interactivity positively affects social support.

3.2. Perceived proximity and social support

Consumers develop a sense of proximity with both the e-commerce seller hosting a live stream and other viewers during a broadcast, fostering information and emotional support[49]. Perceived proximity includes individual-to-individual connections between consumers and sellers and individual-to-group connections among viewers. In computer-mediated communication, perceived proximity is crucial because it influences how observed or unnoticed individuals feel, thereby affecting their intentions. Unlike traditional video formats, where comments are often separated from the video, e-commerce live streaming integrates comments directly into the video interface, generating a more immersive and interactive viewing experience. This setup enhances perceived proximity, making consumers feel more visible and engaged. Azam et al.[42] found that increased perceived proximity within a group intensifies its influence on individual emotions and decision-making. For consumers making purchase decisions during live streams, the influence of the virtual community formed in real-time plays a significant role. Therefore, the following hypothesis is proposed.

H2: Perceived proximity positively affects social support.

3.3. Perceived authenticity and social support

Authenticity is widely regarded as a cornerstone of modern marketing[61]. Oliveira et al.[60] note that when consumers perceive information about product quality—such as origin, materials, and production processes—as unreliable, they view purchasing these products as risky. Web-based visualisation technologies help consumers better assess product quality, mitigating online risks[55]. In e-commerce live streaming, consumers evaluate the authenticity of a product through the tangible sales environment, the seller's descriptions, and their interactions with the product during the broadcast. Higher perceived authenticity increases the sense of information support from both the seller and other viewers. Authentic marketing content is also known to foster a stronger connection between consumers and brand sellers, eliciting empathy and enhancing consumer engagement[56]. E-commerce live streaming, with its real-life scenarios, can amplify emotional connections, leading consumers to engage more actively by continuing to watch, participating in comments, and purchasing recommended products. Based on the above, this study proposes the following hypothesis.

H3: Perceived authenticity positively affects social support.

3.4. Social support and purchase intention

Social support plays an essential role in encouraging active participation in online environments[57]. On e-commerce live streaming platforms, consumers can gain both information and social support. E-commerce sellers also have the real-time provision of product information through live streams to enable customers to get the correct and up-to-date information, and this aspect qualifies as informational support. Physical communication also allows the sellers to exchange information and experiences to engage consumers at an emotional level. Emotional involvement increases the personal attachment of consumers towards the seller and their belonging to the viewing community that can be defined as emotional support[48]. The studies have shown that virtual experiences have an essential influence on intentions of users[39]. Thus, the communication and interaction in the live streaming platforms can be expected to result in the positive consumer intentions, and the consumer intention can be enhanced by informational and emotional support. In this way, the following hypothesis is offered in this work:

H4: Social support positively affects purchase intention.

3.5. Mediating effect of social support between real-time interactivity and purchase intention

Addo et al.[40] emphasize that person-centred communication supports an emotional feeling and promotes positive intention. The Internet tends to restrict emotional support as it does not allow a person to interact face-to-face and the interaction between humans and computers in an e-commerce platform is emotionally less stimulating[53]. The live streaming technology however fills this gap because it allows the sellers and buyers to communicate face to face in real-time. The quality of interactions is improved because the medium allows sellers to provide personalised services both in one-to-one and one-to-many formats. This type of individualised communication serves to break social boundaries, making the process more emotional and supportive[58]. The following hypothesis will be presented in this study.

H5: The impact of Real-time interactivity on consumer intention is mediated by social support.

3.6. Mediating effect of social support between perceived proximity and purchase intention

Information support generally means advice and information assistance that helps others in decision-making[30]. The emotional support, which is characterised by trust and reliance, is more often experienced within close-knit groups than with the strangers[50]. As a testament of the intimacy of interpersonal relationships, social proximity increases the exchange and dissemination of information. This proximity in intimate relationships e.g. between partners helps in an enhanced feeling of support. Within the framework of e-commerce live streaming, the emergence of the relationship between buyers and sellers via the online sphere provides a strong feeling of support, which is one of the key contributors to the success of the online transactions. This paper will put forward the following hypothesis based on the above.

H6: The impact of perceived proximity on consumer intention is mediated by social support.

3.7. Mediating effect of social support between perceived authenticity and purchase intention

The online community is typically seen through information sharing and interpersonal communication[19]. During e-commerce live streams, sellers can create temporary online communities, where the authenticity of the information shared plays a critical role in encouraging potential consumers to interact and share information. High levels of perceived authenticity can enhance these interactions, increasing consumers' intentions to make online purchases. Yu and Zheng[65] note that enhancing the virtual transaction environment with corporate images and the seller's personal presence can enhance this experience. Based on

the relationships among real-time interactivity, perceived proximity, perceived authenticity, information support, emotional support, and purchase intention discussed above, the following hypothesis is proposed.

H7: The impact of perceived authenticity on purchase intention is mediated by social support.

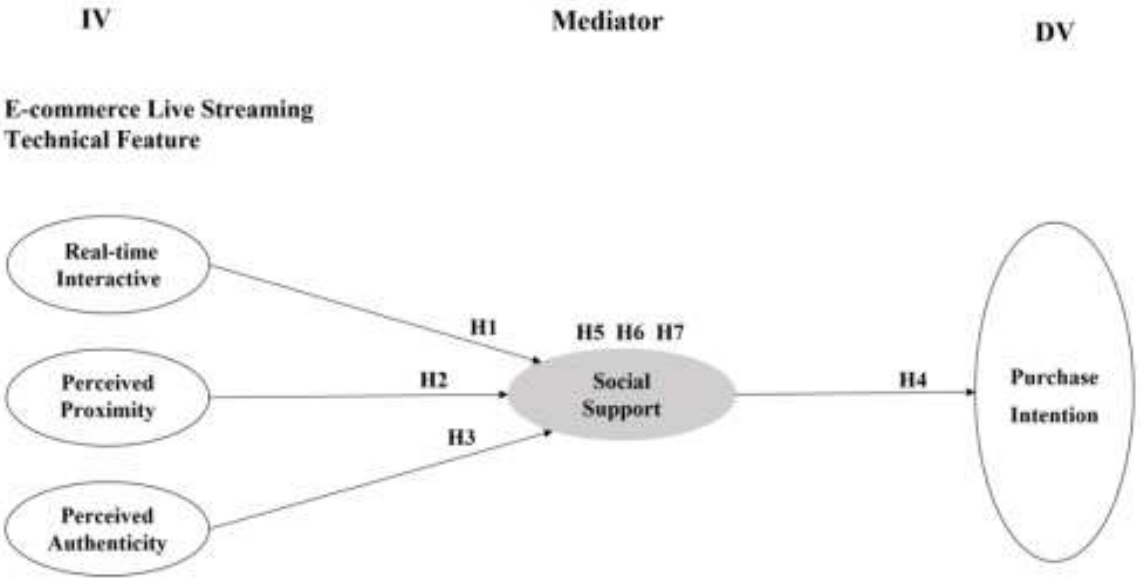

Figure 1. Conceptual framework

Note: *Figure 1 represents the variables based on the questionnaire items summed in Table 1. All constructs (real-time interactivity, perceived proximity, perceived authenticity, social support and purchase intention) are measured using multiple items as shown in Table 2, so that it is clear how one can map variables to corresponding measurements statements.*

4. Methodology

4.1. Survey instrument

This study empirically tested the research model through a survey questionnaire. Based on a review and synthesis of existing literature, a theoretical model was developed to examine how e-commerce live streaming technical features and service quality influence consumers' purchase intention. To assess the impact of e-commerce live streaming technical features and service quality on consumers' purchase intention, the questionnaire measures several dimensions. Technical features include real-time interactivity, perceived proximity, and perceived authenticity, alongside information and emotional support dimensions of social support.

4.2. Measures

The questionnaire is divided into three sections as follows. Introduction and Screening: This section provides an overview of the questionnaire and includes screening questions to ensure respondents have relevant experience. A specific question, such as “Do you have experience purchasing goods through live streaming e-commerce platforms?” is used to filter out those without such experience. Demographic Information: This section collects basic respondent information, including gender, age, education level, monthly income, occupation, and frequency of engaging with e-commerce live streaming. Variable Measurement: This section comprises detailed questions that measure the variables of interest. Respondents rate their agreement with each statement on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Real-time interactivity measurement items were modified after Iqbal et al.[13] and Chou et al.[14], perceived proximity after Baqai et al.[15] and Xu & Cao[19], perceived authenticity after Fu[20] and

Oliveira et al.[60], social support after Kusumawardani and Purniasari[34] and Stefanny et al.[36], and purchase intention after Chan & Asni[27] and Lyu[29].

A summary of the constructs, measurement items and sources to be used in the current study is provided in Table 1. The survey will include 5 key constructs: real-time interactivity, perceived proximity, perceived authenticity, social support and purchase intention. All of the constructs include several measurement items based on those that had been previously developed by other researchers to guarantee the content validity. The respondents were asked to rate their agreement with every item on a 7-point Likert scale, starting with 1 = strongly disagree and at the end with 7 = strongly agree. This tabulated version can present an excellent overview of the items along with the sample statements and their sources, which increases the transparency and reliability of the measurement process.

Table 1. Constructs, measurement items, and sources

Construct	Item Codes	Sample Question / Statement	Source(s)
Real-time Interactivity	RI1 – RI5	"The platform allows immediate interaction with sellers."	Iqbal et al. (2022); Chou et al. (2022)
Perceived Proximity	PP1 – PP4	"I feel connected to the seller during the live stream."	Baqai et al. (2021); Xu & Cao (2024)
Perceived Authenticity	PA1 – PA3	"The information presented during the stream appears genuine."	Fu (2022); Oliveira et al. (2021)
Social Support	IS1–IS3, ES1–ES4	"Other viewers provide valuable advice during the live stream."	Kusumawardani & Purniasari (2021); Stefanny et al. (2022)
Purchase Intention	PI1 – PI3	"I am likely to purchase products from live streams."	Chan & Asni (2022); Lyu (2021)

4.3. Model analysis

This study employs a reflective-formative construct for technology adoption, following Qalati et al.[62] and Bagheri et al.[43]. The analysis follows a two-stage approach, first assessing the first-order model (Figure 2) and then the second-order model (Figure 3), as outlined by Qalati et al.[62] and Hair et al.[54].Building on past research in e-commerce and related fields, this study conceptualises social support as second-order formative constructs. Social support consists of informational and emotional support as its first-order reflective constructs.

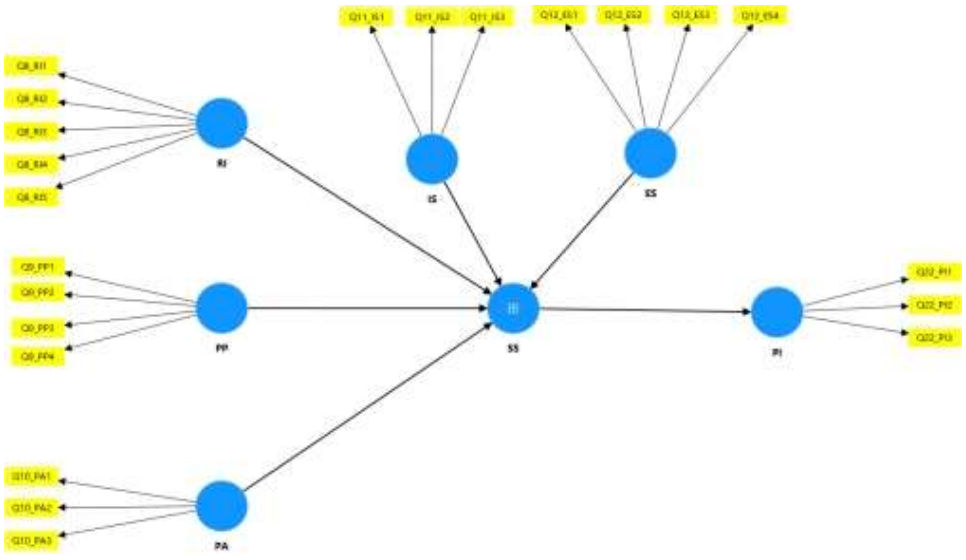

Figure 2. First-order model

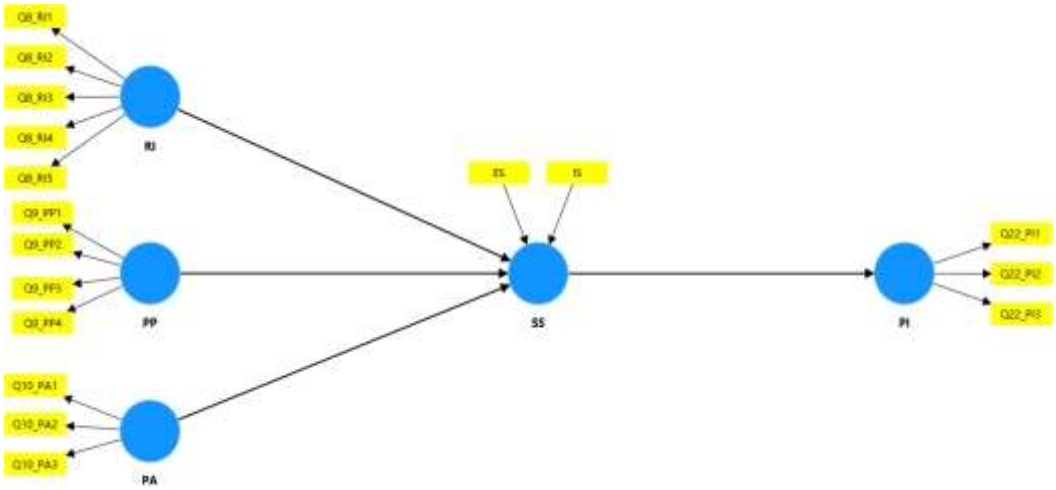

Figure 3. Second-Order Model

5. Results and discussion

5.1. Sample characteristics

Table 2 shows the basic characteristics of the respondents counted. Gender of the survey sample. Among survey respondents, 45.0% were male and 55.0% were female who had watched or purchased on e-commerce live streaming platforms, representing more female than male respondents. Nearly 80% of the respondents in the study sample were under the age of 35, with approximately 50% falling between the ages of 19 and 30. This indicates that the respondents comprised a large portion of younger age groups. Based on the China Online Shopping Market Research Report (CNNIC, 2024), the audience with the highest participation rate for live shopping is younger generations under the age of 30. Specialist and undergraduate qualifications accounted for more than 70% of the total number of respondents, with only a few having high school or lower qualifications. This finding suggests that e-commerce live shopping as a mode of consumption can be quickly accepted by the highly educated group. In this survey, the proportion of students was the largest, followed by company employees and freelance professionals. Due to the lower income levels of students, most respondents reported a monthly income of less than 3,000 RMB. The distribution of occupation and income aligns with the overall age demographics, ensuring a reasonable and representative sample structure. Most respondents engage with live streaming at least once a week or several times a week. Given its entertainment value, some individuals watch at a higher frequency, reaching once a day or even multiple times a day. The statistical distribution indicates a balanced proportion of both frequent and infrequent viewers, ensuring the survey results are reasonable and representative.

Table 2. Demographic variables for samples

S/N	Demographic Variables	Frequency (N = 493)	Valid %
I	Gender		
	Male	222	45.0
	Female	271	55.0
2	Age		
	under 18 years old	14	2.8
	19 to 25 years old	198	40.2
	26 to 35 years old	171	34.7
	36 years old and above	110	22.3
3	Education Level		
	High school and below	45	9.1

S/N	Demographic Variables	Frequency (N = 493)	Valid %
	Specialist	156	31.6
	Undergraduate	230	46.7
	Graduate and above	62	12.6
	Monthly Income		
	below 3000 RMB	150	30.4
4	3000 to 4999 RMB	132	26.8
	5000 to 7999 RMB	113	22.9
	more than 8000 RMB	98	19.9
	Occupation		
	Student	237	48.0
5	Company employee	133	27.0
	Institution worker	37	7.5
	Freelance worker	54	11.0
	Other	32	6.5
	Viewing Frequency		
	Several times a day	47	9.5
	Once a day	55	11.2
6	Several times a week	181	36.7
	Once a week	98	19.9
	Several times a month	67	13.6
	Once a month	45	9.1

5.2. Measurement model

According to Hair et al.[54], AVE represents the average variance explained by the items, with a value above 0.50 indicating sufficient construct representation. A valid research model requires standardised factor loadings above 0.7 and composite reliability of at least 0.7[44]. As stated by Qalati et al.[62], composite reliability must exceed 0.70 to ensure the findings are highly reliable and the data are suitable for further analysis. Table 3 shows that all the items for constructs have individual factor loadings that are higher than the recommended level of 0.7. Furthermore, the overall constructs have AVE values greater than 0.5 and high composite reliability, with values exceeding 0.7. Therefore, the results show evidence of convergent validity (CV).

Table 3. Convergent validity

Variables	Items	Outer loadings	AVE	Composite reliability
Real-time interactivity (RI)	RI1	0.871	0.752	0.938
	RI2	0.840		
	RI3	0.877		
	RI4	0.847		
	RI5	0.863		
Perceived Proximity (PP)	PP1	0.854	0.755	0.925
	PP2	0.874		
	PP3	0.866		
	PP4	0.849		
Perceived Authenticity (PA)	PA1	0.884	0.774	0.911
	PA2	0.887		
	PA3	0.878		
Information Support (IS)	IS1	0.895	0.765	0.907
	IS2	0.860		
	IS3	0.866		
Emotional Support (ES)	ES1	0.862	0.766	0.929
	ES2	0.858		
	ES3	0.885		
	ES4	0.869		

Variables	Items	Outer loadings	AVE	Composite reliability
Purchase Intention (PI)	PI1	0.890	0.783	0.916
	PI2	0.878		
	PI3	0.887		

Table 3. (*Continued*)

In addition, the AVE is used to determine discriminant validity, and it must be bigger than the squared correlations among constructs[51]. Table 4 indicates that, the AVE of each construct is larger than the corresponding squared inter-scale correlation, indicating discriminant validity.

Table 4. Discriminant validity

	ES	IS	PA	PI	PP	RI
ES	**0.869**					
IS	0.424	**0.874**				
PA	0.434	0.492	**0.883**			
PI	0.488	0.491	0.442	**0.885**		
PP	0.496	0.309	0.421	0.44	**0.861**	
RI	0.535	0.479	0.48	0.472	0.423	**0.860**

Multi-collinearity in a regression analysis is evaluated by the variance inflation factor (VIF). Freund and Littell[52] also defined VIF as the extent to which multi-collinearity would affect the instability of the estimates. Kock (2015) suggests that if the VIFs of the inner model, obtained through a full collinearity test, are 3.3 or lower, the model can be regarded as free from common method bias (CMB). Since social support is formative indicator, it is necessary to test their dimensions for multi-collinearity. Table 5 presents the variance inflation factor (VIF) result for assessing the second-order formative latent variables in this study. The findings indicate that VIF value confirming that common method bias (CMB) is not a concern. Therefore, this study validates that social support can be conceptualized as formative indicator.

Table 5. Formative variance inflation factor result

Formative Construct	Items	Outer Weight	t-value	VIF
Social Support	IS	0.567	9.396	1.259
	ES	0.604	9.942	1.259

5.3. Structural model

We tested the fit of the proposed model using SEM. The results showed a good model fit. Table 6 shows that the SRMR for this study was 0.037, well below the 0.08 threshold, confirming a good model fit. Furthermore, the normative fit index (NFI) was 0.885, where values closer to 1 indicate a better fit[63].

Table 6. GoF (SRMR-NFI)

Model fit	Saturated Model	Estimated Model
SRMR	0.037	0.054
NFI	0.885	0.875

According to Qalati et al.[62] and Chin[46], R^2 values are classified as substantial (>0.60), moderate (0.33), and weak (0.19). Table 7 shows that the R^2 for SS was 0.487, and the R^2 for PI was 0.568, indicating that the model explains all variance in the construct. This confirms that the models in this study are valid and accepted. Following Qalati et al.[62] and Ramadhan et al.[18], Stone-Geisser's Q^2 predictive relevance (Q^2) values greater than 0 ($Q^2 > 0$) confirm that exogenous constructs contribute to predicting the endogenous construct. Table presents the Q^2 values for SS (0.474), and PI (0.511), all of which exceed 0, thereby

confirming the predictive relevance of the inner model. These findings validate the model's predictive power and overall acceptability.

Table 7. Coefficient of determination (R^2) and (Q^2)

Variables	R^2	Q^2
Social Support (SS)	0.487	0.474
Purchase Intention (PI)	0.568	0.511

Even though the direct path coefficient of the relationship between social support and purchase intention is 0.156, the value of R 2 of purchase intention (0.568) signifies the overall effect of the direct and indirect relationships. The effects of real time interactivity, perceived proximity and perceived authenticity on purchase intention are indirectly mediated by social support and increases the total amount of variance explained significantly. Thus, the reported value of R 2 is within agreement with the structural model.

Table 8 presents the path coefficients and hypothesis testing results for the direct relationships in H1–H4. Path coefficients range from -1 to +1, with values closer to +1 indicating strong positive associations[62,43]. While high coefficients generally suggest statistical significance, this study further verifies significance through bootstrapping. A path coefficient is considered significant if it meets the 0.05 threshold, following the criteria established by Qalati et al.[62] and Bagheri et al.[43]; this requires a t-value above 1.96 and a p-value below 0.05 in a two-tailed test. Therefore, hypothesis testing supports the model for H1 to H4. Real-time interactivity positively affects social support. Perceived proximity positively affects social support. Perceived authenticity positively affects social support. Social support positively affects consumer intention.

Table 8. Testing of direct effect hypotheses

Hypotheses	Paths	Path coefficient	Mean	Standard Error	T-statistics	*P*-values
H1	RI→SS	0.316	0.317	0.046	6.898	0.000**
H2	PP→SS	0.205	0.205	0.051	4.046	0.000**
H3	PA→SS	0.355	0.355	0.050	7.109	0.000**
H4	SS→PI	0.156	0.155	0.070	2.214	0.027*

Notes: *Significant at 0.01** Significant at 0.05**

Bootstrapping was conducted to test the indirect or mediating effects in this study. This method is preferred for inferential testing of mediators, as it is more valid and statistically powerful than other approaches[45,59]. The path coefficient results and model hypothesis testing indicate an indirect relationship (mediating effects), as presented in Table 9. Thus, the path coefficients for H5 to H7 are supported, indicating positive relationships, with values of 0.049, 0.032, 0.055, respectively[62,43]. Additionally, all hypotheses are statistically significant at $p < 0.05$. Additional analysis shows that the mean values for H5 to H7 were 0.050, 0.031, 0.055, respectively, with low standard deviations of 0.025, 0.016, 0.026. This suggests that the data are reliable, as they are closely clustered around the mean. The bias-corrected 95% confidence interval [LLC, ULC] does not include 0, indicating the presence of a mediating effect. Therefore, hypothesis testing confirms the support.

Table 9. Indirect effects from bootstrapping

Hypo-theses	Paths	β	Mean	S.D	T-statistics	P-values	LLC	ULC
H5	RI→SS→PI	0.049	0.050	0.025	1.988	0.047*	0.005	0.101
H6	PP→SS→PI	0.032	0.031	0.016	2.043	0.041*	0.004	0.064
H7	PA→SS→PI	0.055	0.055	0.026	2.104	0.035*	0.006	0.109

Notes: *Significant at 0.01** Significant at 0.05**

6. Discussion

We find that our results align with Liu and Zhang[2] that found that real-time interactivity positively affects consumer trust and purchase intention when it comes to live streaming. On the same note, Wang et al.[3] also established that visualization and communication immediacy have a positive impact on the perceived value of consumers such as the effectiveness of technical features, as evidenced in our study. In contrast to these studies, we have found that social support plays a mediating role in showing that both the technical features have direct and indirect effects on the purchase intention. Moreover, Yu et al.[4] also emphasized the role of streamer behavior and social identity, which is consistent with our data that consumer perceptions of authenticity and social interaction are significant to enhance purchase confidence.

6.1. Conclusion

The impact of e-commerce live streaming technical features (real-time interactivity, perceived proximity, and perceived authenticity) on consumer intention is mediated by social support.

Social support serves as a mediator between the technical features of e-commerce live streaming and online consumer intention. In particular, real-time interactivity, perceived proximity and perceived authenticity affect purchase decisions because they help to create the perception of social support in the minds of consumers.

Real-time interactivity is one of these characteristics that will be central in addressing the information needs of the consumers through real-time communication with the sellers. The increased ease of communication, faster response, and smooth synchronisation contribute to the level of consumer satisfaction as they are able to retrieve useful information through timely means. This enhances their rapport with the sellers and makes them make informed decisions when buying.

Perceived proximity also improves social support as it helps consumers to observe and interact with fellow buyers. Live streaming sites offer information on audience behaviours, including viewing, subscribing, engaging and buying, which affects the consumer decision-making process.

Social support and consumer intention also relies on perceived authenticity. Since virtual shopping is uncertain, authenticity is one of the concerns. The live streaming creates a realism due to its spontaneity and unedited quality hence creating trust and assurance to the consumer.

The close relationship between consumer intention and social support implies that consumers are seeking emotional relationship in online shopping which is on top of transactions. In an era of information overload, they value not just product details but also a sense of belonging and confidence. Live streaming e-commerce nurtures these connections through personalised services and direct interactions, ultimately strengthening consumer trust and encouraging purchases.

6.2. Contribution of study

This study validates the applicability of the stimulus-organism-response (SOR) model to assess its marketing effect. Extensive research exists on the relationship between marketing strategies and consumer behaviour in both traditional and digital environments, forming a well-established research framework. In the context of e-commerce live streaming, platform design factors are driven by technical features, Findings confirm that technical features significantly enhance consumers' online consumer intention. This study identifies two core influences—stimulus (technical features) and organisms (social factors)—that shape consumer behaviour in live stream e-commerce. By applying the SOR model theory, the research highlights how live streaming's technical features enhance social support. Ultimately, this study addresses gaps in previous research on key influencing factors in e-commerce, expanding the theoretical application within the evolving landscape of e-commerce live streaming.

6.3. Practical implications

As online shopping continues to dominate due to variety, speed, and cost advantages, consumers face increased uncertainty in a virtual sales environment. Reducing information asymmetry and improving shopping efficiency are critical concerns. E-commerce live streaming addresses these challenges by offering real-time product demonstrations and direct interactions with sellers. Live broadcasts should be used to allow consumers to check the authenticity of products, conduct question and answer sessions and make better informed decisions regarding their purchases. This is particularly the case in items that are sold by experience like clothes where live try-ons can give helpful purchasing feedback. Live content is unedited as well so it promotes transparency, reducing any misleading claims and fraud. As live streaming becomes one of the main channels used by consumers to interact with each other, the e-commerce sellers must realise its importance as an effective marketing instrument to establish trust, credibility, and competitive edge in the online market.

Online marketplace is highly competitive where consumer attention and sales conversion are paramount concerns to e-commerce sellers. Since live streaming is a potent instrument in increasing consumer intention, it has emerged as a vital instrument in marketing. To reap maximum benefits, sellers should know the main factors that affect consumer decision-making and use live streaming to its benefit to engage and appeal to buyers. Social support is a very important aspect of consumer engagement. Being proactive in sending messages, accepting of feedback, and having interactive dialogues are good to establish a stronger emotional connection. The quality of services can also be improved by providing information on the product in more details, using more real-time communication, and introducing promotional incentives, including discounts, coupons, interactive games, and giveaways to create further interest in the purchase. Finally, the main goal of providing interesting, educative, and interactive live streams is to acquire brand credibility, boost sales and develop long-term customer loyalty.

6.4. Limitations and future work

Despite the insightful findings in this study, the study must be interpreted with caution because of the demographic composition of the sample. The proportion of young (less than 35) individuals, females, highly educated, and low-income students was big and this restricts the generalization of the findings to the overall population of Chinese consumers. To confirm and expand these results, future studies ought to utilize a better-differentiated and stratified sampling method, such as older consumers, higher income groups, and those in other regions.

Conflict of interest

The authors declare no conflict of interest

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