

# The Interplay of Social Presence and Immersive Experience in Shaping Consumer Purchase Intentions on TikTok Live Streams in China

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## Abstract

This research explored the degree of experience of consumers in the TikTok broadcast room and investigated the influence of other people's presence and communication interaction degree on consumers' immersion experience and purchase intention. This paper took immersion experience as the mediating variable, built a research model on the influence of social presence on consumers' purchase intention, and conducted the Delphi method and empirical analysis on 12 experts and 210 samples. The results showed that social presence had a positive impact on immersion experience and consumers' purchase intention; immersion experience had a positive effect on consumers' purchase intention; and immersion experience played a partial mediating role in the influence of social presence on consumers' purchase intention. This study revealed the specific action path of social presence affecting consumers' purchase intention through an immersive experience, providing a theoretical basis and practical guidance for the high-quality development of TikTok e-commerce live broadcasting.

**Keywords:** Social presence, Immersive experience, Consumer purchase intention, E-commerce, Live streaming

## Introduction

The widespread adoption and application of the Internet have significantly propelled the development of e-commerce models, altering consumer behaviour patterns. As of June 2023, the number of online shoppers in China reached 884 million, while the number of e-commerce live-streaming users was 526 million, accounting for 81.9% and 59.5% of internet users, respectively (CNNIC, 2023). E-commerce live streaming, as an emerging commercial marketing strategy, has attracted many users due to its low entry barriers, high interactivity, and vividness, becoming an important force driving social and economic development. Among the platforms, TikTok's live streaming stands out due to its unique advantages, with 89.8% of its monthly active users watching live streams. The ultimate goal of TikTok live streaming is to sell products or services; however, with numerous live streaming platforms and hosts, content homogenisation and intense competition have expanded consumer choices. Therefore, how to attract and retain consumers in live streaming rooms, increase purchase rates, and improve repurchase rates have become focal points for live streaming platforms, hosts, and merchants.

Different from traditional e-commerce shopping platforms, Douyin Live Room creates a highly immersive and real-time interactive social shopping environment. Consumers can interact with anchors and other consumers in real time, as if they are in a natural social scene, and experience social presence (Chen & Mo, 2022). Therefore, social presence has become an important research topic in e-commerce live broadcasts. In such a virtual scene, consumer immersion is an essential factor that platforms, anchors and merchants must consider. Research shows that social presence in e-commerce live broadcasts further enhances consumers' purchase intention by enhancing their immersive experience. Wu (2024) found that social presence has a positive impact on consumer purchase intention, and immersive experience plays a partial mediating role. In addition, Li & Wang (2023) pointed out that social presence, product presence and spatial presence in e-commerce live broadcasts all significantly and positively affect consumers' online trust, immersive experience and purchase intention. These studies highlight the importance of enhancing social presence in e-commerce live-streaming environments to enhance consumers' sense of immersion and purchase intention. This study aims to explore whether enhancing social presence can improve consumer immersion and purchase intention, and how immersion plays a role in the impact of social presence on consumer purchase intention.

## Research Objectives

1. To investigate the impact of demographic variables on social presence, purchase intention, and immersive experience.
2. To examine the relationship between purchase intention and other variables.
3. To analyse the mediating role of immersive experience between social presence and purchase intention.

## Literature Review

Due to increasing media diversity, social presence (SP) has expanded across various fields. In distance education, social presence indicates online learners' sense of real presence in social, cognitive, and emotional aspects, thereby influencing the effectiveness of their education (Garrison et al., 2000). Human-computer interaction focuses on individuals' awareness of each other in a media environment, particularly during interactions with virtual characters (Lee et al., 2006). In marketing, social presence affects consumers' attitudes toward online shopping, as evidenced by a sense of closeness and social skills exhibited during online shopping experiences (Hassanein & Head, 2007).

Consumer purchase intention (CPI) is a critical indicator for predicting behaviour, with its intensity directly affecting the likelihood of the behaviour occurring (Rehman et al., 2019). It refers to the consumer's inclination when choosing a product, serving as a critical predictor of consumer behaviour. Purchase intention as the subjective probability of a consumer's willingness to take action when purchasing a specific product, highlighting the consumer's psychological state during the decision process (Wee et al., 2014). Personal characteristics such as gender, age, and education level also lead to varying purchase intentions (Huang, 2023). Psychological variables, such as perceived and emotional experiences, play a significant role, with higher perceived usefulness and positive emotional experiences enhancing purchase intention (Zhao et al., 2024).

Research indicates that social presence significantly impacts consumer purchase intention. Huang et al. (2023) found that the presence of others in a live broadcast room increases consumer trust, subsequently stimulating purchase intention. Xu et al. (2021) reported that social interaction positively influences purchase intention, especially in the current social media-dominated market environment. High social presence fosters positive emotional experiences and enjoyable shopping experiences, thus promoting purchase intention (Huang et al., 2023). Xu et al. (2021) highlighted that consumer interactions with hosts and others in live sales scenarios shorten psychological distance, naturally generating a sense of closeness that positively impacts purchase intention. Media technology significantly influences social presence, with tools enhancing social presence and improving interaction quality and effectiveness (Huang et al., 2023). In e-commerce live broadcasts, social presence enhances consumer trust and purchase intention, promoting herd consumption behaviour (Xu et al., 2021). Social presence positively impacts consumer purchase intention by enhancing emotional and perceived experiences, trust, and group identification, making it a crucial factor in virtual environments.

In communication, the immersive experience (IE) is defined as the pleasurable state induced by human-computer interaction, where users of products or services experience a temporary loss of self-awareness (Nah et al., 2011). This state encourages users to remain engaged to sustain pleasure, characterised by total concentration and an accelerated perception of time (Ahn et al., 2020). Research has shown that immersive experiences positively influence user behaviour patterns, with Skadberg & Kimmel (2004) indicating that users often desire to maintain or enhance this state, driving continued engagement in online activities. Wu et al. (2010) confirm that immersive experiences enhance the behavioural intentions behind instant messaging usage. Key antecedent factors of immersive experience include perceived usefulness, ease of use, and control. Kim & Biocca (1997) highlight the roles of effectiveness, ease of use, and interactivity in forming immersive experiences, while Hsu & Lu (2004) suggest that satisfying perceived enjoyment, purposiveness, and control is essential for creating this temporary psychological feeling, which leads to time perception distortion.

Ranganathan & Ganapathy (2002) note that consumers immersed in an experience may exhibit unplanned purchasing behaviours and engage in repeat purchases. When consumers shop on brand websites, these sites create emotional and cognitive immersive experiences that enhance brand loyalty and facilitate purchasing decisions (Chen & Mo, 2022). Mollen & Wilson (2010) found that a higher quality and stronger immersive experience enhances shopping pleasure, effectively stimulating purchasing intentions. He & Gong. (2011) further confirms that immersive website experiences increase consumers' preference for the site, leading to more frequent visits and longer stays, enhancing engagement and predicting purchasing behaviour. Li & Wang (2023) investigate the impact of online interaction, perceived content quality, and perceived entertainment in live streaming on users' immersive experiences. These factors significantly enhance the immersive experience, positively influencing user interaction and purchasing behaviour.

## Methodology

### Population and Sample

12 experts have been purposive sampling selected for the Delphi analysis, categorised into three groups: Social Media Experts, E-commerce Experts, and Industry Practitioners (Table 1). Gender and location distribution are balanced within each group. The inclusion of diverse locations (Yang et al., 2024) and gender (Sun et al., 2019) is essential to capture regional perspectives that may influence social presence, immersive experience, and purchase intention in the context of live streams. This selection ensures a comprehensive and well-rounded perspective, covering critical aspects of social media, e-commerce, and industry practices, which are essential for this research on social presence, immersive experience, and purchase intention in TikTok live streams.

**Table 1** Sample of Delphi analysis

	<b>Identity</b>	<b>Gender</b>	<b>Location</b>	<b>n</b>
Social Media Experts	Scholars with extensive research experience in social media, particularly on platforms like TikTok. They can provide deep insights into user behaviour and platform characteristics.	Male(2); Female(1)	South(1); Center(1); West(1)	3
E-commerce Experts	Academics or professionals with rich experience in e-commerce, especially those studying online shopping behaviour and purchase intentions.	Male(3); Female(3)	South(3); Center(2); West(1)	6
Industry Practitioners	Including TikTok platform operators or content creators. They can provide frontline operational experience and user feedback, complementing theoretical research.	Male(2); Female(1)	South(1); Center(1); West(1)	3

The main study used convenience sampling to collect data, the demographic information of the survey respondents in this study are shown in Table 2: the gender distribution is balanced, with 93 males and 117 females, accounting for 44.30% and 55.70%, respectively. The age group is predominantly young to middle-aged adults (19-39 years old), with 138 (65.80%) individuals. 133 respondents had a bachelor's degree or higher, accounting for 63.30%. The occupational distribution is diverse, with the majority being students, school staff, and company employees, accounting for 55 (26.20%), 52 (24.80%), and 76 (36.20%) individuals respectively.

**Table 2** Demographic characteristics of the sample

	<b>Variable</b>	<b>n</b>	<b>%</b>		<b>Variable</b>	<b>n</b>	<b>%</b>
AGE	Under 19	33	15.70	GED	Male	93	44.30
	19-29	69	32.90		Female	117	55.70
	30-39	69	32.90		Student	55	26.20
	40-49	20	9.50		School Staff	52	24.80
	Over 49	19	9.00		Company Employees	76	36.20
EDU	No College	13	6.20		Government Employees	11	5.20
	College	64	30.50		Freelancers	10	4.80
	Undergraduate	103	49.00		Other	6	2.90
	Graduate	30	14.30				

## Research Instrument

The pilot study questionnaire consists of four sections: the basic information of the respondents, including gender (GED), age (AGE), education (EDU), and occupation (OCC). The Social Presence Scale is based on the research by Qiu (2021), consisting of five items; The Immersive Experience Scale is based on the study by Ge (2023), including four items; The Consumer Purchase Intention scale is based on the research by Duan (2023), including of three items. All scales use a five-point Likert scale, where "1" represents strongly disagree, "2" represents disagree, "3" represents neutral, "4" represents agree, and "5" represents strongly agree. The higher the score, the stronger the social presence, immersive experience, and consumer purchase intention.

The first round of the Delphi method questionnaire includes the pilot study questionnaire, rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). A blank space for modification suggestions follows each statement. The second round of the Delphi method questionnaire used the same rating scale as the first round and provided the statistical results from the first round for each question, including the mean and mode.

## Data Collection

In early March 2024, this study first invited several experts with extensive experience in related fields to participate in two rounds of questionnaire surveys and data analysis to ensure the appropriateness of the Chinese version and structure of the questionnaire. Each round of expert questionnaires collected 12 responses, with a recovery rate of 100%. Subsequently, to investigate the impact of social presence in TikTok live streaming rooms on consumer purchase intention, in late March 2024, a convenience sampling method was used to send online survey questionnaires via private messages to viewers of the top 50 live streaming rooms on the TikTok live streaming sales leaderboard. 210 valid questionnaires were collected, with an effective recovery rate of 85.37%.

## Data Analysis

The Delphi method was used in the research process to conduct an in-depth analysis of the questions. Reliability and validity analyses have been performed on scales. For difference analysis, an independent sample t-test and one-way ANOVA have been conducted for demographic variables to compare whether there are significant differences in social presence, immersive experience, and purchase intention among different categories of variables. Correlation analysis and regression analysis have been conducted, with social presence as the independent variable, immersive experience as the mediating variable, and consumer purchase intention as the dependent variable, to determine the direct effect of social presence on consumer purchase intention and the mediating effect of immersive experience on the impact of social presence on consumer purchase intention.

## Results

### Delphi analysis

The research conducted three iterative rounds of Delphi surveys to gather expert opinions on the social presence, immersive experience, and consumer purchasing intention scales. In each round, experts from social media experts, e-commerce experts and industry practitioners provided feedback on the importance and clarity of various evaluation items. The results of each round were analysed to determine the level of consensus among experts, aiming to refine and validate the evaluation framework. The two-round results are shown in Table 3.

**Table 3** Results of three rounds of Delphi analysis

Item	1st Round					2nd Round				
	M	SD	MO	QD	CV	M	SD	MO	QD	CV
SP1	4.36	0.84	5	1.25	0.19	5.00	0.00	5	0	0.00
SP2	3.86	0.86	3	2	0.22	4.64	0.50	5	1	0.11
SP3	3.64	0.74	3	1	0.20	5.00	0.00	5	0	0.00
SP4	4.43	0.65	5	1	0.15	4.50	0.52	4a	1	0.12
SP5	3.79	0.70	4	1	0.18	4.50	0.52	4a	1	0.12
IE1	4.93	0.27	5	0	0.05	5.00	0.00	5	0	0.00
IE2	3.57	0.85	3	1.25	0.24	5.00	0.00	5	0	0.00
IE3	4.07	0.92	5	2	0.23	4.64	0.50	5	1	0.11
IE4	3.93	0.73	4	1.25	0.19	4.50	0.52	4a	1	0.12
CPI1	4.50	0.85	5	1.25	0.19	5.00	0.00	5	0	0.00
CPI2	4.86	0.36	5	0	0.07	5.00	0.00	5	0	0.00
CPI3	3.79	0.89	3	2	0.24	4.50	0.52	4a	1	0.12
W		0.300						0.335		
$\chi^2$		46.24						51.516		
df		11						11		
p		0.000						0.000		

Note: a means that the smaller mode is selected if there are equal numbers of modes.

The results of two rounds of Delphi expert surveys indicated several key findings. The number of questions with an average score above 4 increased from 6 in the first round to all questions in the second round. Both rounds demonstrated a standard deviation of less than 1, suggesting low variability in expert responses. The mode of 5 increased from 6 questions in the first round to all questions in the second round, including ties. The interquartile range (IQR) of less than 0.6 rose from 2 questions in the first round to 6 questions in the second round, indicating a narrowing range of responses and greater consensus. Furthermore, the coefficient of variation was less than 0.25 in both rounds, signifying consistent responses relative to the mean. Additionally, the Kendall's W value, which measures the degree of agreement among experts, increased from 0.300 ( $p<0.001$ ) in the first round to 0.335 ( $p<0.001$ ) in the second round. These results collectively indicate that the consistency and agreement among expert opinions improved significantly in the second round, reflecting a higher level of consensus on the evaluated questions. This improvement in agreement and consistency further validates the reliability and robustness of the survey results, suggesting that the Delphi method effectively refined expert consensus on the topic.

## Reliability and validity test

To ensure the robustness and accuracy of the research instrument, reliability and validity tests were conducted (Table 4).

**Table 4** Result of reliability and validity test

Component	Loading	Communality	Variance	KMO & Bartlett's Test	Cronbach $\alpha$
Social presence	0.756	0.571	54.944%	KMO=0.875; $\chi^2=650.868$ ; $df=10$ ; $p<0.001$	0.891
	0.798	0.637			
	0.869	0.755			
	0.867	0.752			
	0.761	0.579			
Immersive experience	0.867	0.752	68.531%	KMO=0.823; $\chi^2=485.308$ ; $df=6$ ; $p<0.001$	0.885
	0.783	0.613			
	0.798	0.637			
	0.860	0.740			
Consumer purchase intention	0.789	0.622	63.523%	KMO=0.712; $\chi^2=216.339$ ; $df=3$ ; $p<0.001$	0.816
	0.828	0.686			
	0.773	0.598			

Based on the factor analysis results, the KMO values for the scales of Social Presence, Immersive Experience, and Consumer Purchase Intention are 0.875, 0.823, and 0.712, respectively. The results of Bartlett's test of sphericity are  $\chi^2=650.868$ ,  $df=10$ ,  $p<0.001$ ;  $\chi^2=485.308$ ,  $df=6$ ,  $p<0.001$ ; and  $\chi^2=216.339$ ,  $df=3$ ,  $p<0.001$ , respectively, indicating that factor analysis is appropriate. The factor loadings for each factor are all greater than 0.7, demonstrating a significant contribution of each variable to the factor and a clear structure. The communalities are all greater than 0.5, indicating that the variance of the variables is well-explained by the factors. The total variance explained rates are 54.944%, 68.525%, and 63.52%, respectively, suggesting that the extracted factors can explain most of the data variance, showing strong explanatory power. The Cronbach's  $\alpha$  values for each factor are 0.891, 0.885, and 0.816, respectively, indicating the scales' high internal consistency and reliability. In summary, the measured constructs of social presence, immersive experience, and consumer purchase intention exhibit good reliability and validity.

## Difference analysis

This research used difference analysis to analyse the influence of different demographic variables on Social Presence, Immersive Experience, and Consumer Purchase Intention (Table 5). Males ( $M=2.943$ ,  $SD=0.748$ ) have significantly lower consumer purchase intention ( $t=-4.436$ ,  $p<0.001$ ) compared to females ( $M=3.456$ ,  $SD=0.894$ ), indicating that females may be more influenced by social presence and immersive experiences in their purchasing decisions. Secondly, regarding age, different age groups exhibit significant differences in immersive experience, particularly the 19-29 years ( $M=3.351$ ,  $SD=0.862$ ) and 30-39 years ( $M=3.413$ ,  $SD=0.805$ ) groups, which have significantly higher immersive experience ( $F=2.765$ ,  $p<0.05$ ) compared to the under 19 years ( $M=2.939$ ,  $SD=1.122$ ) and over 49 years ( $M=3.711$ ,  $SD=1.008$ ) groups, indicating that the impact of age on immersive experience has a phased characteristic. In terms of education, different educational groups show significant differences in Social Presence ( $F=3.467$ ,  $p<0.05$ ), Immersive Experience ( $F=4.910$ ,  $p<0.01$ ), and Consumer Purchase Intention ( $F=7.257$ ,  $p<0.001$ ), suggesting that as educational level increases, individual needs and behaviours in experience and purchasing vary. Lastly, regarding occupation, different occupational groups exhibit significant differences in consumer purchase

intention ( $F=3.767$ ,  $p<0.01$ ), with freelancers and other categories (including company employees, school staff, etc.) showing higher mean purchase intentions, which may be related to their purchasing power and motivation. Overall, gender, age, education, and occupation all show significant differences in social presence, immersive experience, and consumer purchase intention, with education having the most significant impact on consumer purchase intention, indicating that these demographic variables should be considered when designing marketing strategies.

**Table 5** Result of difference analysis

	<b>Variables</b>	<b>SP</b>		<b>IE</b>		<b>CPI</b>				
		<b>M</b>	<b>SD</b>	<b>t/F</b>	<b>M</b>	<b>SD</b>	<b>t/F</b>	<b>M</b>	<b>SD</b>	<b>t/F</b>
Gender	Male	3.13	0.78	1.320	3.23	0.99	1.220	2.94	0.75	4.436***
	Female	3.28	0.79		3.39	0.89		3.46	0.89	
Age	Under 19	2.96	0.88	1.581	2.94	1.12	2.765*	2.90	0.96	2.331
	19-29	3.17	0.78		3.35	0.86		3.23	0.84	
	30-39	3.29	0.72		3.41	0.81		3.28	0.86	
	40-49	3.33	0.83		3.09	1.06		3.20	0.70	
	Over 49	3.42	0.72		3.71	1.01		3.63	0.89	
Degree	No College	2.95	0.70	3.467*	2.58	1.31	4.910**	2.62	1.11	7.257***
	College	3.08	0.83		3.16	0.91		2.98	0.82	
	Undergraduate	3.22	0.78		3.42	0.94		3.34	0.83	
	Graduate	3.59	0.65		3.61	0.57		3.64	0.74	
Occupation	Student	2.99	0.83	1.755	3.07	1.08	1.669	2.92	0.94	3.767**
	School Staff	3.31	0.70		3.40	0.79		3.51	0.84	
	Company	3.31	0.80		3.32	0.97		3.27	0.79	
	Employee									
	Government	2.93	0.83		3.46	0.77		2.79	0.97	
	Employee									
	Freelance	3.36	0.52		3.65	0.62		3.37	0.60	
	Others	3.43	0.79		3.92	0.61		3.72	0.61	

Note: \* $p<0.05$ ; \*\* $p<0.01$ ; \*\*\* $p<0.001$

### Correlation analysis

The correlation analysis aims to provide insights into how social presence, immersive experience, and consumer purchase intention interact and influence each other in TikTok live streaming. Table 6 presents the results of the correlation analysis.

**Table 6** Correlation analysis results of social presence, immersive experience and consumer purchase intention

	<b>SP</b>	<b>IE</b>	<b>CPI</b>
SP	1		
IE	0.431**	1	
CPI	0.504**	0.499**	1
M	3.213	3.314	3.275
SD	0.784	0.938	0.773

Note: \* $p<0.05$ , \*\* $p<0.01$

According to the analysis results in Table 6, there is a significant positive correlation between social presence and immersive experience ( $r=0.431, p<0.01$ ) and consumer purchase intention ( $r=0.504, p<0.01$ ); immersive experience and consumer purchase intention ( $r=0.499, p<0.01$ ) also show a significant positive correlation.

### Regression analysis

This study used demographic variables (i.e., gender, age, education, occupation) as control variables to establish a relevant model and conduct regression analysis.

**Table 7** Regression analysis results of social presence, immersive experience and consumer purchase intention

	<b>Model 1</b> <b>CPI</b>	<b>Model 2</b> <b>IE</b>	<b>Model 3</b> <b>CPI</b>
SP	0.559***	0.516**	0.394***
IE			0.320***
R <sup>2</sup>	0.254	0.186	0.351
F	70.892	47.523	56.057

Note: \*  $p<0.05$ , \*\*  $p<0.01$ , \*\*\*  $p<0.001$

Model 1 indicates that social presence significantly positively affects consumer purchase intention ( $\beta=0.559, p<0.05$ ). Model 2 shows that social presence significantly positively affects immersive experience ( $\beta=0.516, p<0.05$ ). Model 3 reveals that immersive experience significantly positively affects consumer purchase intention ( $\beta=0.32, p<0.05$ ). In summary, the independent variable, social presence, significantly affects the mediating variable, immersive experience, and the dependent variable, purchase intention. The mediating variable, immersive experience, also significantly affects the dependent variable, purchase intention.

**Table 8** Decomposition of the total effect, direct effect and the mediating effect

		<b>Effect</b>	<b>BootSE</b>	<b>BootLLCI</b>	<b>BootULCI</b>
Total effect	X→Y	0.559	0.066	0.428	0.690
Direct effect	X→Y	0.394	0.069	0.258	0.529
Indirect effect	X→M→Y	0.165	0.039	0.095	0.248

Further mediation effect testing was conducted using the PROCESS with the Bootstrap method. The Bootstrap test showed that the 95% confidence interval for the indirect effect did not include 0, indicating a significant mediation effect. According to the results in Table 8, the indirect impact of immersive experience in the relationship between social presence and consumer purchase intention is significant, with a 95% confidence interval of [0.095, 0.248], which does not include 0. This indicates the presence of a partial mediation effect.

## Discussions

Empirical results show that social presence positively influences immersive experience. In TikTok live streams, increased interaction between consumers and hosts, merchants, and other consumers enhances product awareness, leading to a strong sense of social presence, similar to the physical sense of face-to-face interaction. This social presence encourages consumers to stay longer in the live stream, fully engage, and seek pleasure and a sense of belonging. The immersive and real-time interactive environment created in the live stream provides consumers with a socialised scene, allowing them to deeply experience the positive emotional state brought by immersion, consistent with the views of Huang et al. (2023). Social presence positively affects consumers' purchase intentions. TikTok live streams form a highly three-dimensional and real-time interactive social shopping scene as participation and interactivity increase. Consumers experience a strong sense of social presence in this scene, as if they are in a natural social environment, feeling the presence of others. This experience enhances consumers' action efficiency, promotes quick decision-making, and increases their willingness to stay in the live stream, deepening interactions with hosts and other consumers. These interactions strengthen emotional connections and enhance user stickiness. Previous studies have shown similar outcomes, where high social presence in online environments leads to increased consumer trust and purchase intention (Ming et al., 2021). In high-social-presence live streams, consumers can fully understand product information and are influenced by host recommendations and other consumers' evaluations, thereby increasing their purchase intention for live-stream products, consistent with Huang et al. (2023).

Immersive experience positively influences consumers' purchase intentions. In TikTok live streams, after experiencing positive emotions from immersion, consumers become more immersed in the live stream, spend more time staying, and respond more actively to the recommendations of the host and other consumers, interacting with them, thereby generating stronger purchase intentions for the recommended products, consistent with the views of Qiu (2021). Immersive experience partially mediates the impact of social presence on consumers' purchase intentions. In TikTok live streams, enhanced social presence through consumer interaction increases immersive experience, strengthening their perception of the live scene's realism, reducing perceived risk, and weakening distrust of the live environment. Simultaneously, constructing social relationships in the live stream promotes positive emotional experiences, generating immersive experiences. When consumers are in a pleasant and immersive state, combined with satisfaction with the live environment, purchase intentions arise. This aligns with the findings of Duan (2023), who noted that immersive experiences could lead to higher engagement and purchasing behaviours. Additionally, consumers fully immersed in the live stream focus on watching and enjoying the process, enhancing purchase intentions. Therefore, the interactions within social presence make consumers more focused on watching the live stream, generating immersive experiences, reducing time perception, and stimulating purchase intentions, consistent with the views of Huang et al. (2023).

The demographic analysis provides additional layers of understanding regarding how different consumer groups interact with social presence and immersive experiences. Gender differences revealed that females tend to have higher purchase intentions than males, which may be attributed to their higher engagement and responsiveness to social interactions in live streams. Age also plays a role, with younger consumers (19-29 years) showing higher levels of immersive experience and purchase intention. This indicates that younger demographics are likelier to be influenced by live streams' interactive and immersive nature. Education level further differentiates consumer behaviour, with higher-educated individuals exhibiting more excellent purchase intentions. This could be due to their ability to process and appreciate the

detailed product information and social interactions in live streams. These demographic insights are consistent with the literature and underscore the need for targeted marketing strategies considering these variables (Zhao & Bacao, 2021), so marketers tailor their strategies by emphasising interactive and immersive elements designed to resonate with female consumers and younger audiences. Additionally, providing in-depth, informative content could be particularly effective for engaging higher-educated viewers who may value more substantive interactions in live streams.

## Conclusion and suggestions

### Conclusion

This study used the Delphi method and empirical research to investigate the relationship between social presence, immersive experience, and consumer purchase intention in TikTok live streams in China. The findings demonstrate that social presence significantly positively affects consumer purchase intention and that immersive experience partially mediates this relationship. The research confirmed that social presence, characterised by the real-time interactive nature of TikTok live streams, enhances consumers' trust and emotional engagement, increasing their purchase intention. The immersive experience, where users are deeply engaged and lose self-awareness, also positively influences purchase intention by making consumers more focused and reducing perceived risks. The demographic analysis revealed significant differences in social presence, immersive experience, and purchase intention across gender, age, education level, and occupation. Females, younger age groups, and individuals with higher education levels exhibited higher purchase intentions, emphasising the need for targeted marketing strategies. The Delphi method ensured a high level of expert consensus on the importance and impact of social presence and immersive experience on consumer purchase intention, validating the robustness of the study's findings. In summary, this research contributes to understanding how social presence and immersive experience in e-commerce live streaming environments like TikTok can influence consumer behaviour. These insights can guide e-commerce platforms and marketers in designing strategies to enhance consumer engagement and drive purchase intentions.

### Suggestion

At the e-commerce livestream platform level, immersive experience significantly impacts consumers' purchase intentions. Therefore, creating an environment conducive to immersive experiences on these platforms is crucial. Non-social platforms should establish effective feedback mechanisms to respond to consumers promptly, support interpersonal interactions, and enhance consumer ownership, fostering an immersive experience. Platforms can offer material incentives to stimulate an immersive experience. As key figures in the livestream rooms, Steamers should actively interact with consumers, pay attention to comments and bullet screens, and respond quickly and accurately to consumer inquiries to achieve effective social interaction. Meeting consumers' reasonable demands and creating a positive interactive atmosphere can encourage a virtuous interaction cycle. E-commerce livestreams provide abundant product information, aiding consumers in making more need-fulfilling purchase decisions. Throughout this process, consumers' perceived social presence, generated through interaction, induces pleasant emotions. To maintain interests and enhance emotional states, consumers should actively participate in livestream interactions and listen to others' opinions. This interaction strengthens social presence, brings enjoyable experiences, and stimulates positive emotional responses.

Due to objective constraints, the small sample size may affect the accuracy and generalizability of the results. The quality of the questionnaires is challenging to ensure, as some respondents may not fill them out seriously, reducing their quality and effectiveness. Moreover, the sample predominantly consists of young people, affecting the results' breadth and persuasiveness. Future research should collect samples through multiple channels to enhance representativeness and comprehensiveness. E-commerce livestreaming is an emerging marketing research direction involving various product types. This study did not detail different product types, and the applicability of the conclusions requires further validation. Future research could include different product types to analyse how social presence deeply affects consumers' purchase intentions.

### **New knowledge and the effects on society and communities**

The research on the relationship between social presence, immersive experience, and consumer purchase intention in TikTok live streams introduces significant new knowledge with profound implications for society and communities. The study underscores the pivotal role of social presence in enhancing consumer engagement and purchase intentions within live-streaming environments, fostering a sense of community and trust among users that mimics face-to-face interactions. The concept of immersive experience as a mediating factor offers new insights into consumer psychology by enhancing purchase intentions through positive emotional states and reducing perceived risks. These findings highlight the transformative potential of digital platforms in shaping consumer behaviours and driving e-commerce growth, with significant societal impacts. Businesses can develop more effective marketing strategies, driving economic growth and customer loyalty, while communities benefit from increased social connection and engagement in virtual settings. The demographic analysis within the study further informs inclusive and targeted marketing approaches, promoting equity and inclusivity in digital commerce. Overall, this research advances our understanding of consumer behaviour in digital environments, offering practical implications for enhancing consumer engagement and driving economic and social benefits, fostering a more connected and dynamic digital society.

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