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Factors Affecting Graduate Students' Cognitive Attitude and Purchase Intentions Toward Live-Stream Shopping: A Study in Mianyang, China

Hu Jiemei*

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Abstract

Purpose: This paper aims to study the factors influencing the Live-stream Shopping Cognitive attitudes and purchase intentions of undergraduate students in Mianyang. The conceptual framework demonstrates the causal relationships between customer engagement, professionalism, interaction, price discount, cognitive trust, perceived risk, perceived satisfaction, and purchase intention. **Research design, data, and methodology:** The researchers employed quantitative techniques (n=500) to distribute questionnaires to undergraduate students from four majors—Biological Engineering, Architectural Engineering, Information Engineering, and Environmental Engineering—at Southwest University of Science and Technology in Mianyang Sichuan Province, China. Non-probability sampling methods were used, including judgment sampling to select the four majors, quota sampling to determine the sample size, and convenience sampling to collect data and distribute online and offline questionnaires. The researchers used Structural Equation Modeling (SEM) and Confirmatory Factor Analysis (CFA) for data analysis, which included model fit, reliability, and construct validity. **Results:** The results indicate that customer engagement, professionalism, interaction, and price discounts significantly affect purchase intention. Cognitive trust and perceived risk significantly influence perceived satisfaction, which has a substantial impact on purchase intention. **Conclusions:** The study recommends that more employment opportunities be provided to on-campus graduate students to improve their shopping environment and stabilize their consumption. Live streaming platforms can also take special measures to address this issue.

Keywords: Customer Engagement, Cognitive Trust, Perceived Risk, Perceived Satisfaction, Purchase Intention

JEL Classification Code: E44, F31, F37, G15

1. Introduction

The "2022 China Live E-commerce Market Data Report" was released: According to the "Dianshubao" e-commerce large database of the Internet Economic Society, the transaction scale will reach 3.5 trillion yuan in 2022, a year-on-year increase of 48.21%. From 2017 to 2021, the transaction scale of China's domestic live e-commerce market is 19.64 billion yuan, 135.41 billion yuan, 443.75 billion yuan, 1.285 billion yuan, and 2,361.51 billion yuan. In 2022, the number of live e-commerce users will reach 473 million, a year-on-year increase of 10%, and the growth rate will decline. From 2018 to 2021, the user scale of live broadcast e-commerce is 220 million, 250 million, 372 million, and 430 million, respectively. In 2020, the user scale growth rate will peak at 48.8%.

Santos et al. (2022) highlight storytelling's influence on wine tourism, enhancing customer engagement online, simplifying the sharing of story information, and eliciting positive emotions (Anaza et al., 2020; Kemp et al., 2021; Van Laer et al., 2019). In the empirical studies by Feng (2018) and Yueh and Zheng (2019), these authors underline storytelling's power to evoke emotions, influence brand attitudes, and boost purchase intentions through engaging narratives.

Thus, it suggests that when social media influencers use their expertise and share information, consumers will be more inclined to purchase; social media influencers with expertise possess the professionalism necessary to influence purchase intention. Abdullah et al. (2020) support this claim by stating that businesses are perceived as more credible than paid sponsorships when influencers use their expertise. In the live e-commerce market, celebrities are linked to specific market resources through their "persona" and catalyze their temperament match with the merchandise they carry to achieve a more attractive marketing effect (Chen & Ren,

1*Hu Jiemei, Ph.D. Candidate in Technology, Education and Management, Graduate School of Business and Advanced Technology Management, Assumption University, Bangkok, Thailand. Email: 619053633@qq.com

2022), which can directly induce fans' purchase intention (Teng et al., 2020).

Previous studies have shown that incorporating dialogical strategies into messages encourages user participation and contributes to increasing overall brand engagement (Cheung et al., 2020) and purchase intention (Tajvidi et al., 2020). Likewise, orienting messages towards sustainability with specific and tangible information is crucial for generating overall engagement (Crapa et al., 2024; Ngai & Singh, 2021) and influencing how consumers perceive and respond to sustainability communication. Accordingly, social media engagement will mediate the relationship between sustainability messages, brand engagement, and purchase intention when the messages are dialogical.

In examining the relationship between sales promotion and variety-seeking, Kahn and Raju (1991) advanced a stochastic model and examined how price discount changes influence behavior. Both cashback and price discounts are thus better than any transaction without promotion; we observed a similar increase in purchase intentions (Kumari, 2024).

In the era of digital business environment, consumers' brand

Trust is a critical challenge for many businesses (Duong et al., 2024; Kaabachi et al., 2019). Trust is an important variable in the business relationship between organizations and customers and is considered a relevant and useful variable in understanding consumer behavior (Yu et al., 2021) and influencing customers toward transactions within social media and digital platforms (Ebrahimi et al., 2023).

Topics regarding the decision to revisit (revisit intentions) are also often associated with perceived risk by many researchers. When tourists make decisions, especially for high-risk products, they use

search and information processing strategies for risk reduction (Fuchs & Reichel, 2011; Jun et al., 2010). Several studies suggest that previous travel experience moderates the effect of perceived risk or brand credibility on purchase intention (Huang et al., 2014; Lehto et al., 2004).

Perceived value is accepted as a basis for marketing activities (Roig et al., 2009) and is one of the most fundamental premises of loyalty (Jiang et al., 2016; Zanon et al., 2020). The value affects satisfaction and loyalty as it results from the customer's experience with the quality of a good product or service (Heung & Ngai, 2008).

In recent years, the scale of China's live-streaming e-commerce industry has developed rapidly, with a continuous surge in user numbers bringing more business opportunities to companies (Jiang & Fan, 2024). In this study, we considered customer engagement (CE), professionalism (PF), interaction (IT), price discount (PD), cognitive trust (CT), perceived risk (PR), and perceived satisfaction (PS) as factors influencing purchase intention (PI).

A professional report released by the China Internet Network Information Center (CNNIC) indicates that as of June 2022, China's internet penetration rate has reached a high level of 74.4%, with internet users reaching 1.051 billion. The average weekly internet usage per person is 29.5 hours. Most users access the internet through mobile devices, accounting for 99.6%. The number of live-streaming users has grown by 12.9 million compared to the previous year, representing 68.1%. As the new generation who grew up under the trend of the internet and e-commerce, college students are more accepting of online shopping than the general population. Most account for over 60% of online shopping, or even higher.

Therefore, the researchers believe it is important to study the factors influencing undergraduates' Cognitive Attitudes and Purchase Intentions. They will also further study college students' online shopping-related mentality and give rationalized opinions and suggestions.

2. Literature Review

2.1 Customer Engagement

More and more businesses are turning to storytelling, leveraging narratives tied to their brand or product to evoke positive emotions, foster emotional connections, and enhance customer engagement (Crespo et al., 2023). Instagram promotes customer engagement with apparel brands and shopping platforms by enabling the brands to showcase their products using images and videos of fashion models, hence providing consumers with actual details of the merchandise, such as color, fit, and prices (Lavoye & Tarkiainen, 2021).

Huang et al. (2017) verified the mediating effect of customer engagement on the relationship between satisfaction and purchase intention in mobile social network games. Similarly, Ji et al. (2022) found that in social media advertising, the relationship between customer perception of features and behavioral intent is mediated by customer engagement. Hsu (2023) verifies the mediating role of customer engagement between mobile app gamification and repurchase intention. In addition, Time magazine argues that context-driven input can mediate the relationship between psychologically relevant factors and outcomes (Sundar et al., 2015). Several studies examined the contingent relationship between Consumers' engagement and purchase intention. It developed the hypothesis that customer engagement significantly affects purchase intention, manifested in the following hypotheses.

H1: Customer engagement has a significant impact on purchase intention.

2.2 Professionalism

Studies have revealed that the characteristics of knowledge contributors, such as credibility (Shi et al., 2020), reputation (Zhao et al., 2018) and professionalism (Zhou et al., 2022); platforms, such as information quality and service quality (Jin & Xu, 2021); knowledge products, such as price (Zhang et al., 2019) and popularity (Cai et al., 2020); and consumers, such as perceived risk (Xu et al., 2021) and perceived value (Huo & Li, 2022), are critical predictors for consumers' purchase intention. Previous studies have also examined the effects of streamers' professionalism, attractiveness, trustworthiness, and popularity on consumer behaviors (Gao et al., 2021; Zhou & Huang, 2023).

The stronger the professionalism of the streamer, the more useful and accurate information customers will receive, and they will be able to understand the experience of using the product before using it. This will meet customers' information needs and improve their perceived information quality. Previous studies have shown that member professionalism positively affects perceived information quality (Fu et al., 2020). Over-endorsement, wherein celebrities endorse numerous products, diminishes their credibility and professionalism (Tripp et al., 1994). Based on the above literature, the following research hypotheses emerged from this paper.

H2: Professionalism has a significant impact on purchase intention.

2.3 Interaction

Interaction is a crucial aspect of live-streaming commerce (Kang et al., 2021), and it significantly influences consumers' purchasing decisions during live-streaming events. Recent relevant studies, such as Dong et al. (2022) and Yu and Zhang (2022), have shown that live interaction can positively affect consumers' purchasing decisions for agricultural products.

Dialogical communication is an interaction type that seeks to develop mutual respect, understanding, and benefits between organizations and the public (Wirtz & Zimbres, 2018). These interactions not only explain social media engagement but also foster the development of meaningful consumer relationships (Saikia & Bhattacharjee, 2024). Additionally, social media engagement is a determinant factor favoring purchase intention (Tajvidi et al., 2020).

Consumer interaction with influencer content reveals their interest and readiness to connect—consumers' attitudes toward influencers and their informative content impact purchase intention (Zhang et al., 2023). Value co-creation improves customer satisfaction and boosts purchase intention (Kennedy & Guzman, 2017; Payne et al., 2008). Studies have displayed that interaction and consumer engagement increase brand equity and purchase intention likelihood (Bianchi & Andrews, 2018; Labrecque et al., 2020; Moran et al., 2014; Unnava & Aravindakshan, 2021). Based on the above literature, the following research hypotheses emerged from this paper.

H3: Interaction has a significant impact on purchase intention.

2.4 Price Discount

Heath et al. (1995) suggests that how price discounts are presented can impact how consumers perceive the price. Unlike price discounts that offer actual savings, price strategies that lead to perceived savings can also be demonstrated and purchase intentions (Choi et al., 2014; Wu et al., 2021). For example, studies by Mishra and Mishra (2011) and Kivetz and Zheng (2017) both show that price-based promotions (such as discounts) are more effective than volume-based promotions (such as discounts). Offer bonus packages to increase purchase intentions, such as direct price discounts to eliminate currency concerns.

In essence, how promotional price discounts are presented can influence consumers' perception of the price. Price discounts are a popular marketing strategy that attracts consumers by offering additional discounts or incentives, encouraging them to purchase promotional products immediately (Ji et al., 2023). When watching live streams, consumers pay more attention to product promotion activities. They will focus more on the price discounts of the live room and welfare information, such as additional gifts and coupons (Ji et al., 2023). The negative relationship between perceived price and purchase intention has been well documented. Based on the above literature, the following research hypotheses emerged from this paper.

H4: Price discount has a significant impact on purchase intention.

2.5 Cognitive Trust

Satisfaction, trust, and perceived value are customers' psychological responses after consuming a service or product (Oliver, 1997). Trust is the willingness to make oneself vulnerable to actions taken by a trusted party based on a feeling of confidence or assurance (Gefen, 2002). Customers start the rational evaluation process, and two kinds of trust are generated in the interaction process: cognitive trust and emotional trust. Cognitive trust means individuals determine whether an object is trustworthy through rational analysis and generate emotions such as satisfaction (Chai et al., 2015).

Zhu and Cui (2016) suggest that consumers' expectation confirmation and information quality will affect their satisfaction. Liang et al. (2018) proposed that consumer trust

negatively correlates with satisfaction. It has an impact on their consumption intention. Commitment refers to consumers' desire to continue long-term relationships (Keh & Xie, 2009). In e-commerce, consumer commitment may help them develop positive attitudes and loyalty (Jang et al., 2008). There is a clear positive influence between climate and performance. Based on the above literature, the following research hypotheses emerged from this paper.

H5: Cognitive trust has a significant impact on perceived satisfaction.

2.6 Perceived Risk

Although e-commerce platforms offer a variety of advantages to sellers and buyers, there are still many Risks and challenges to overcome, such as service quality, trust, and assurance (Oliveira et al., 2023). Some past studies have found that economic, psychological, technical, and privacy risks can reduce consumers' satisfaction with technology-driven services and cause company loss (Zhang & Prybutok, 2005). A study that explored the relationship between the use of artificial intelligence-driven chatbots and customer experiences demonstrated that perceived privacy risks reduced customer satisfaction with AI-driven chatbot use (Cheng & Jiang, 2020).

Guests measure whether the risk of disclosing information is significant, which may directly affect guests' perception of risk and satisfaction (Tzavlopoulos et al., 2019). Risks that originate from trustworthiness have a greater effect on buyers (Gao et al., 2022; Zhang et al., 2021). Another significant study by Tran (2020) highlighted that security, privacy, and financial and product-related risks negatively impacted the behavioral intentions of online shoppers. Moreover, service quality risks, such as long delays and insecure delivery, no feedback on complaints, and worsened product return process, are a perceived preoccupation on the part of customers to shop online (Aref & Okasha, 2020; Choi & Bum, 2020; Galati et al., 2021). Based on the above literature, the following research hypotheses emerged from this paper.

H6: Perceived risk has a significant impact on perceived satisfaction.

2.7 Perceived Satisfaction

Previous studies have taken personal reactions as responses triggered by users' emotional states, such as satisfaction or joy, as in-app purchase intention (Hsu & Lin, 2016) and loyalty (Kamboj et al., 2018). Satisfaction, loyalty, and purchase intention are vital outcomes of customer engagement in terms of the customer's perspective (Ng et al., 2020).

By fully adopting and satisfying consumer preferences, companies and platforms can increase user satisfaction and loyalty, enhance their willingness to buy, and gain an edge in a highly competitive market (Hustic & Gregurec, 2015; Lin et al., 2018).

Confirmation theory combined with the technology acceptance model holds that satisfaction, expectation verification, and perceived validity work with consumer expectations to reveal how consumer satisfaction is interrelated with expectations, experience, and perception of products or services (Venkatesh et al., 2012). Thus, the role of expectations in influencing satisfaction and purchase intention and consumers' perceptions affecting satisfaction and effectiveness (Bhattacherjee, 2001; Rana et al., 2016) is evident. The information system success model shows that system and information quality positively affect system usage and user satisfaction, which further affects organizational performance (DeLone & McLean, 1992). Based on the above literature, the following research hypotheses emerged from this paper.

H7: Perceived satisfaction has a significant impact on purchase intention.

2.7 Purchase Intention

Fishbein and Ajzen (1975) define 'purchase intention' within their theoretical framework, the Theory of Reasoned Action (TRA), as an individual's intention or inclination to purchase a particular product or engage in a specific behavior; this concept is further expanded by Dodds et al. (1991), who describes it as the intention that emerges when consumers attempt to purchase any service or goods, and by Shah et al. (2012), who propose that purchase intention manifests when consumers make deliberate decisions to buy specific products or brands.

3. Research Methods and Materials

3.1 Research Framework

The foundational theories referenced in this study included the Social Identity Theory of Leadership (SITL), designed by Hogg (2001); Self-Determination Theory (SDT), designed by Trafimow and Turner (1979); organizational Commitment, designed by Monday et al. (1982), Commitment-Trust Theory designed by Cook and Emerson (1978), Social Cognitive Theory designed by Wolfe (1988) and organizational knowledge Creation Theory (OKCT) designed by Nonaka et al. (2006). The researcher has developed a conceptual framework for this study, described in Figure 1.

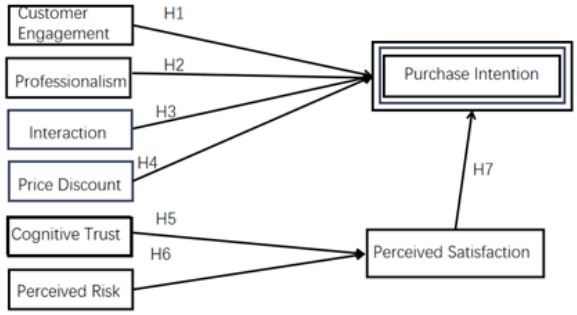

Figure 1: Conceptual Framework

H1: Customer engagement has a significant impact on purchase intention.
H2: Professionalism has a significant impact on purchase intention.
H3: Interaction has a significant impact on purchase intention.
H4: Price discount has a significant impact on purchase intention.
H5: Cognitive trust has a significant impact on perceived satisfaction.
H6: Perceived risk has a significant impact on perceived satisfaction.
H7: Perceived satisfaction has a significant impact on purchase intention.

3.2 Research Methodology

Using a quantitative non-probability sampling method, the researcher distributed questionnaires to the target population through an online questionnaire platform (Steffens et al., 2014). The target population for this study was teachers from four primary and secondary schools in four counties in the capital city of Yunnan Province. We analyzed the feedback data to explore the factors influencing teacher performance and loyalty in the National Training Program (NTP). The questionnaire for this study consisted of three sections. The first section consisted of screening questions. The second section was a 5-point Likert scale for all variables. The scale items measured the six hypotheses of this study. The measures ranged from (1) strongly disagree to (5) strongly agree. The third sections were demographic questions. These questions included gender, age, and grade level of teaching. Before conducting the large-scale questionnaire, the researcher administered a pilot test to 50 respondents. The questionnaire used for the pilot test passed the expert's Item-Objective Consistency Index (IOC) score.

3.3 Population and Sample Size

Using Cronbach's Alpha method, the questionnaire for this study passed validity and reliability tests (Hartog & Verburg, 2004). The researcher distributed the questionnaires to the target respondents and received acceptable feedback of 500 responses. Using statistical tests with SPSS AMOS, we analyzed this feedback data. We used confirmatory factor analysis (CFA) to test the convergence's accuracy and validation. These measures validated the fit of this study's conceptual framework and ensured the model's validity and reliability. Based on these efforts, the researcher examined the causal relationships between the variables using structural equation modeling (SEM).

3.4 Sampling Technique

Using non-probability sampling methods, including judgmental sampling and quota sampling, the researchers selected graduate students from four disciplines—Biological Engineering, Architectural Engineering, Information Engineering, and Environmental Engineering—at Southwest University of Science and Technology in Mianyang, Sichuan Province, China. They distributed questionnaires via an online platform from July 2023 to February 2024. Table 1 details the specific sampling procedure for this study. The data collection process ensured that the target population comprised appropriate postgraduate students from these four majors at Southwest University of Science and Technology. The study received support from relevant deans and faculty members, who encouraged students to participate in the online survey.

Table 1: Sample Units and Sample Size

Student major	Population Size	Proportional Sample Size
Biological Engineering Students	343	99
Architectural Engineering Students	208	59
Information Engineering Students	774	221
Environmental Engineering Students	425	121
Total	**1,750**	**500**

Source: Constructed by author

4. Results and Discussion

4.1 Demographic Information

Demographic information collected from participants included the gender of the students and the grade level they were teaching (Van Veen & Sleegers, 2009). We sent questionnaires to graduate students majoring in bioengineering, architectural engineering, information

engineering, and environmental engineering at Southwest University of Science and Technology in Mianyang City, Sichuan Province, China. The students of the four majors are 99, 59, 221, and 121, accounting for 19.8%, 11.8%, 44.2%, and 24.2%. Among the respondents, 205 were male and 295 were female, accounting for 41% and 59% respectively. Among them, 166 (33.2%) are first-year graduate students,166 (33.2%) are second-year graduate students, and 168 (33.6%) are third-year graduate students. All of them have experience in live shopping in the past six months. Table 2 shows the demographic information of this study.

Table 2: Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
Majors	Biological Engineering	99	19.8%
	Architectural Engineering	59	11.8%
	Information Engineering	221	44.2%
	Environmental Engineering	121	24.2%
Gender	Male	205	41%
	Female	295	59%
Undergraduate year level	Freshman	166	33.2%
	Sophomore	166	33.2%
	Junior	168	33.6%
Live-stream Shopping Experience (last 6 months)	Yes	500	100%

4.2 Confirmatory Factor Analysis (CFA)

This paper used confirmatory factor analysis (CFA) to measure each variable in the conceptual framework of this study. The measurement results showed that all scale items for each variable were significant. In addition, the factor loading values for each scale item were acceptable, indicating that the conceptual framework of this study was a good fit. All of the factor loading values for this study were greater than 0.30, all of the p-values were less than 0.05, all of the construct reliabilities were greater than 0.70, and all the mean extracted variances were greater than 0.50. These estimates were all significant. Table 3 shows all of these values.

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Customer Engagement (CE)	Yu et al. (2021)	3	0.862	0.774-0.768	0.863	0.677
Professionalism (PF)	Chen et al. (2021)	4	0.826	0.661-0.791	0.829	0.550
Interaction (IT)	Qin et al. (2022)	4	0.839	0.711-0.782	0.834	0.558
Price Discount (PD)	Zheng et al. (2017)	4	0.868	0.730-0.864	0.869	0.624
Cognitive Trust (CT)	Chang et al. (2015)	4	0.869	0.755-0.824	0.869	0.624
Perceived Risk (PR)	Chang et al. (2015)	4	0.849	0.703-0.759	0.834	0.558
Perceived Satisfaction((PS)	Chang et al. (2015)	4	0.864	0.742-0.834	0.862	0.611
Purchase Intention (PI)	Zheng et al. (2021)	4	0.904	0.779-0.814	0.878	0.643

Table 4 displays the square roots of the average variance extracted (AVE), showing that the correlations among all variables in this study are appropriate. The study assessed model fit using several indicators in the confirmatory factor analysis (CFA), including Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Normed Fit Index (NFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA).

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	<3 (Hair et al., 2006)	519.709/406 or 1.280
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.938
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.924
NFI	≥ 0.80 (Wu & Wang, 2006)	0.937
CFI	>0.8 (Arbuckle, 1995; Hair et al., 2006)	0.985
TLI	≥ 0.90 (Hair et al., 2006)	0.983
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.024
Model Summary		**Acceptable Model Fit**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, CFI = comparative fit index, TLI = Tucker Lewis index, and RMSEA = root mean square error of approximation

Table 5 illustrates the convergent and discriminant validity results in this study, with both values demonstrating acceptable levels. These findings confirm that the measurements used in the study support the validity of the structural model. Specifically, satisfactory convergent validity indicates that the items within each construct are strongly correlated, while satisfactory discriminant validity shows that the constructs are distinct. Collectively, these results validate the robustness and reliability of the structural model estimated in this research.

Table 5: Discriminant Validity

	CE	PF	IT	PD	CT	PR	PS	PI
CE	**0.823**							
PF	0.210	**0.742**						
IT	0.150	0.215	**0.745**					
PD	0.192	0.184	0.196	**0.746**				
CT	0.159	0.165	0.187	0.240	**0.746**			
PR	0.240	0.221	0.162	0.201	0.155	**0.765**		
PS	0.266	0.313	0.379	0.312	0.354	0.249	**0.782**	
PI	0.298	0.346	0.380	0.323	0.329	0.234	0.578	**0.802**

Note: The diagonally listed value is the AVE square roots of the variables
Source: Created by the author.

4.3 Structural Equation Model (SEM)

Hair et al. (2016) recommended that the Chi-square/degrees-of-freedom (CMIN/DF) ratio for model fit measures was less than 3.00, a criterion also supported by Al-Mamary and Shamsuddin (2015).

Sica and Ghisi (2007), Hair et al. (2006), and Arbuckle (1995) suggested AGFI and NFI were both greater than 0.80. Hair et al. (2006) and Arbuckle (1995) suggested that the CFI was greater than 0.80. Hair et al. (2006) suggested that the TLI was greater than 0.90. Pedroso et al. (2016) suggested that the RMSEA was less than 0.08. The researchers used SPSS AMOS version 26 for the SEM calculations and adjusted the model. The fit index results for this study presented a good fit. CMIN/DF = 1.955, GFI = 0.894, AGFI = 0.877, NFI = 0.899, CFI = 0.948, TLI = 0.943 and RMSEA = 0.044. Table 6 demonstrates these values.

Table 6: Goodness of Fit for Structural Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	<3 (Hair et al., 2006)	834.631/427 or 1.955
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.894
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.877
NFI	≥ 0.80 (Wu & Wang, 2006)	0.899
CFI	>0.8 ((Arbuckle, 1995; Hair et al., 2006)	0.948
TLI	≥ 0.90 (Hair et al., 2006)	0.943
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.044
Model Summary		**Acceptable Model Fit**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, CFI = comparative fit index, TLI = Tucker Lewis index, and RMSEA = root mean square error of approximation

4.4 Research Hypothesis Testing Result

Based on the regression weights and R2 variances for each variable, the researcher calculated the significance of the study model. Table 7 presents the results of the calculations. These results supported all the hypotheses of this study. Customer Engagement influenced Purchase Intention (β=0.365), Professionalism influenced Purchase Intention (β=0.236), Interaction influenced Purchase Intention (β=0.134), Price Discount influenced Purchase Intention (β=0.179), Cognitive Trust influenced Perceived Satisfaction (β=0.190), Perceived Risk influenced Perceived Satisfaction (β=0.130), and Perceived Satisfaction influenced Purchase Intention (β=0.523).

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-value	Result
H1: CE→PI	0.365	7.308*	Supported
H2: PF→PI	0.236	4.842*	Supported
H3: IT→PI	0.134	3.102*	Supported
H4: PD→PI	0.179	4.007*	Supported
H5: CT→PS	0.190	4.255*	Supported
H6: PR→PS	0.130	3.029*	Supported
H7: PS→PI	0.523	10.183*	Supported

Note: * p<0.05
Source: Created by the author

According to the results in Table 7., the researcher concluded that the establishment of H1 indicated that customer engagement was one of the key drivers of purchase intention with a criterion coefficient value of 0.365 in its structural path. The establishment of H2 indicated that professionalism was one of the key drivers of purchase intention, with a criterion coefficient value of 0.236 in its structural path. The establishment of H3 indicated that interaction was one of the key drivers of purchase intention, with a criterion coefficient value of 0.134 in its structural path. The establishment of H4 indicated that price discounts were one of the key drivers of purchase intention, with a criterion coefficient value of 0.179 in its structural path. The establishment of H5 indicated that cognitive trust was one of the key drivers of perceived risk, with a standard coefficient value of 0.190 in its structural path. The establishment of H6 indicated that perceived risk was one of the key drivers of perceived satisfaction, with a standard coefficient value of 0.130 in its structural path. The establishment of H7 indicated that perceived risk was one of the key drivers of purchase intention, with a standard coefficient value of 0.523 in its structural path.

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

This research aims to study Biological Engineering, Architectural Engineering, Information Engineering, and Environmental Engineering at Southwest University of Science and Technology in Sichuan Province, China. This paper comprehensively analyzes the cognitive attitude and purchase intention of the four engineering graduate students who use live-stream shopping. iiMedia Research data show that in 2021, the total scale of China's live-streaming e-commerce industry reached 1.12 billion yuan and is expected to reach 2.137.3 billion yuan by 2025. With the development of Internet technology, the KOL delivery mode represented by live broadcasting brings consumers a more intuitive and vivid shopping experience, with a high conversion rate and good marketing effect, and has become a new growth driver for e-commerce platforms and content platforms. China's live-streaming e-commerce can be traced back to 2016; after the development of 2016 so far, China has gone through the initial stage of live-streaming e-commerce, a rapid development period, and the future will continue to mature road development. According to the data of Media Research, among the users who shop through network broadcast channels, 58% are male, and 42% are female, of which the post-80s and post-90s are the main shopping force, accounting for more than 80%. At this stage, most of the postgraduates were born in the 1990s or before 2005, so conducting in-depth research on their Cognitive Attitude and Purchase Intention is necessary. This study proposes seven hypotheses to explore the relationship between these factors.

The target group of this study is the postgraduates of Southwest University of Science and Technology in Sichuan Province, China. A survey was carried out in Mianyang City, Sichuan Province, China. We are from Southwest University of Science and Technology Biological Engineering, Architectural Engineering, Information Engineering, Environmental 500 graduate students in four majors of Engineering, all of whom had recently used Live-stream Shopping experience, were surveyed by questionnaires, and the answer data of these questionnaires were analyzed. These data analyses support the conceptual framework of this paper. Previous literature provided the basis for this conceptual framework. SPSS and JAMOVI analyzed the 500-sample data in this study. The conceptual framework of this study passes the AMOS test and supports the project factor structure of this study. Confirmatory factor analysis (CFA) confirmed this study's factor structure and the validation model's applicability, and the relevant data had a reasonable fit (West, 2002).

Data collected from 500 questionnaires were measured by confirmatory factor Analysis (CFA). These results show that the conceptual model of this study is valid after passing the validity and reliability tests. The test results of convergence validity -- combination reliability, Cronbach's alpha reliability, factor load, and mean-variance extraction analysis, as well as the test results of discriminative validity -- prove that the concept of this study is valid (Steigenberger, 2015). The structural equation model (SEM) in this study was used to analyze the four major graduate students' cognitive attitudes and purchase intentions when they used live-stream shopping. These results show that the research hypothesis proposed in this paper is valid. They support all seven research hypotheses in this study.

The results show that, first of all, when graduate students use live-stream shopping, customer engagement, professionalism, interaction, and price discounts directly impact undergraduate purchase intention—and the effect is significant. Second, when graduate students use Live-stream Shopping, Cognitive trust and Perceived risk directly impact undergraduates 'perceived satisfaction. Finally, when graduate students use live-stream shopping, perceived satisfaction directly impacts undergraduate purchase intention.

5.2 Recommendation

Based on the research results of this paper, we propose the following suggestions. First of all, we recommend a college course or training. Let more graduate students know more about the live broadcasting industry, which can promote industry employment to a certain extent. At the same time, it guides rational consumption and students to look at the "network celebrity economy" rationally.

Secondly, we can provide some data references for relevant live broadcast software and platform live broadcast anchors and provide more appropriate discounts when making relevant live broadcast or live product choices for graduate students. Under the right premise, this can provide undergraduates with better live broadcasting and after-sales service, avoiding uneven product quality, after-sales service, return and exchange service not in place, and other problems.

5.3 Limitation and Further Study

A limitation of this study is that the variables have an individual dimension, and the data for these variables are from a concentrated period (Glick, 1985) that does not span too many years and all seasons. The students who provided this data were from some of the school's representative majors. In future studies, including variables similar to this study, using longitudinal or experimental design, and collecting data consistently at different time points will be helpful for further research development.

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