

Key Factors Shaping Undergraduate Attitudes and Purchase Intentions for Live-Stream Shopping: A Study in Mianyang, China

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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 questionnaires both online and offline. 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 significant impact on purchase intention. **Conclusions:** These findings have significant implications for the field of marketing and e-commerce. Therefore, we suggest that in order to create a better and more stable shopping environment for undergraduate students, and to stabilize consumption within this group, livestreaming platforms should consider implementing specific strategies.

Keywords: Customer Engagement, Professionalism, Interaction, Price Discount, Cognitive Trust

JEL Classification Code: E44, F31, F37, G15

1. Introduction

The China Internet Network Information Center (CNNIC) released the 53rd “Statistical Report on China’s Internet Development” (from now on referred to as the “Report”). According to the Report, as of December 2023, the number of internet users in China reached 1.092 billion, an increase of 24.8 million users compared to December 2022, with an internet penetration rate of 77.5%. The rural internet user base reached 326 million, an increase of 17.88 million users compared to December 2022. Online consumption applications such as online shopping and e-commerce live streaming continued their growth momentum, with user

numbers increasing by over 60 million compared to 2022. The annual online retail sales reached 15.4 trillion yuan, marking an 11% year-on-year increase and securing the top global position for the 11th consecutive year.

Live-streaming improved consumers’ shopping experiences and their trust in the sellers’ products increasing product sales and consumers’ engagement (Wongkitrungrueng & Assarut, 2020). Social interaction within viewing groups fosters community, enhancing consumer participation (Shang et al., 2023). The atmosphere within the live streaming room also significantly impacts viewer retention and activity levels, with a positive and engaging environment leading to higher viewer engagement

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(Chen et al., 2023).

Viewers compared themselves with streamers, considering their broadcasting performance, presentation skills, and overall professionalism, thus contributing to positive prosocial attitudes (Lyu, 2024). The characteristics of streamers, especially their professionalism and attractiveness, are essential factors influencing users to purchase products and continue watching live streaming (Fei et al., 2021). If streamers appropriately provide the information buyers are looking for, it will reduce information asymmetry, potentially leading to informal interpersonal relationships with such buyers that will lubricate online transactions (Chen et al., 2022).

Perceived responsiveness is important to consumers to get timely information on social media (Foltean et al., 2019). Importantly, responsiveness is rooted in the interaction elements and indicates the perceptions of interaction (Reis & Gable, 2015). To enhance interactivity, live industry platforms could incorporate features involving real-time polling, and customizable avatars (Wang, 2024).

Online and offline, consumers frequently encounter various sales promotions and pricing strategies, with price discounts often leading to stronger purchase intention than other promotional methods (Lim & Ok, 2022; Wood et al., 2021). At the same time, given the intense competition in digital commerce in China (Chi & Chen, 2020), digital retailers have paid much attention to promotion strategies to attract customers, for example, by providing price discounts (Liu et al., 2021; Wan et al., 2017).

In such settings, customers rely heavily on their trust in the reliability, security, and integrity of the online platform they interact with, shaping their perceptions and decisions throughout the online shopping process (Kasilingam, 2020). This trust is particularly important due to the uncertainties inherent in online shopping, which can arise from factors like online vendor reputation or security concerns (Kasilingam, 2020). Customers trust products and retailers more when they obtain recommendations from a tight social circle than from weak social relationships (Huang, 2016).

In consumer subjective perception, there is a close relationship between risk factors and the trust consumers feel during online shopping. Consumers interpret perceived risk and trust when comparing quality during shopping (Yuniar, 2024). For example, robust evidence shows a significant positive effect of Internet use on trust in the government of netizens in China (Amosun et al., 2022; Lu et al., 2020). On the other hand, trust is often considered an antecedent of risk perception (Krasnova et al., 2010).

In a dynamic marketplace where businesses compete fiercely for customers, customer satisfaction is deemed one of the key differentiators and has increasingly become a critical element of business strategy (Gitman & McDaniel, 2007). Consumers online repurchase intention depends on e-

consumer satisfaction (Kazancoglu & Demir, 2021). Website interactivity and convenience are the crucial factors influencing customer e-shopping satisfaction and loyalty (Pandey & Chawla, 2018).

Consumers' online purchase and repurchase intentions depend on e-consumer satisfaction (Kazancoglu & Demir, 2021). Since live streaming allows customers to observe sellers' appearance and personality and assess how much sellers identify with them and how sympathetic they are to their needs, it is possible to predict that customer's perceived symbolic value can increase trust in sellers and sellers' products (Wongkitrungrueng & Assarut, 2020). Trust is a crucial factor influencing consumers' purchase intention (Wang et al., 2022).

With the increasing popularity of short videos and live-streaming platforms, people's attitudes toward shopping via live-streaming e-commerce have changed (Ma, 2021). In this study, we considered customer engagement, professionalism, interaction, price discount, cognitive trust, perceived risk, and perceived satisfaction as factors influencing purchase intention.

In 2022, the total number of college students in China will reach 10.76 million. According to data from iiMedia Research, 58% of the users who choose to shop through online live-streaming channels are men, and 42% are women. Among them, users aged 21-30 reached 23%. This study studies the influence of different aspects and factors on the purchase intention of college students who shop through the live webcast channel, how these related influencing factors are further transformed into actual factors that affect the purchase intention of college students, and how to stimulate college students' consumers further.

Therefore, the researchers believe that studying the factors influencing undergraduates' cognitive attitudes and purchase intention is important further to study the online shopping-related mentality of college students and give rationalized opinions and suggestions.

2. Literature Review

2.1 Customer Engagement

Consumer engagement refers to the extent of connection and participation in the purchase process (Hu & Chaudhry, 2020). On the other hand, consumer engagement is a behavior that goes beyond the need to purchase something and involves an emotional or motivational state linked with participation with the firm (Verma, 2021). A strong emotional connection can also signify high consumer involvement, encouraging customers to build and maintain intention with the product or service (Zainol et al., 2015).

Live streaming e-commerce, as a novel influencer marketing model, is characterized by its dynamism, entertainment, and authenticity (Zhang et al., 2024). Live streaming e-commerce allows viewers and anchors to interact in real time, helping consumers better understand goods and improving their shopping experience (Liu & Wang, 2023). Existing research on buying behavior in live-streaming e-commerce contexts has identified several key factors influencing consumer engagement and purchase intentions.

Customer engagement affects the intention to buy, i.e., the mediating role of consumer brand engagement in terms of telepresence and social presence (Risitano et al., 2017). Most commonly, extant research has examined purchase intentions as a focal outcome. For example, livestreaming and customer engagement have been shown to affect purchase intention (Huang & Chung, 2023; Liao et al., 2023; Zhang et al., 2023). 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

Therefore, when individuals displaying professionalism and expertise endorse a product, customers are more inclined to place their trust in that specific brand, establishing brand trust (Stoica & Hickman, 2022). When consumers trust a brand, they are more likely to hold positive attitudes toward it and perceive it as a reliable and credible source. This trust in the brand fosters a sense of security and reduces the perceived risks associated with the purchase decision (Dam, 2020; Pelaez et al., 2019; Sambath & Jyh-Fu Jeng, 2014). As a result, they are more inclined to purchase the brand they trust.

Cognitive trust is a customer's belief in or willingness to depend on the other party's expertise and performance. In the live-streaming context, previous researchers highlighted professionalism as the critical factor affecting streamers' rational perception (He & Jin, 2022; Lo et al., 2022). For example, Lo et al. (2022) found that streamers' vicarious experience can drive consumers' cognitive reactions, which induce impulsive buying. Previous studies on leadership have noted that CEOs' self-presentation and interaction with followers in social media networks can enhance consumers' positive perception of entrepreneurs as friendly and responsible, enhancing consumers' perceived trust (Tsai & Men, 2017). Therefore, we propose that the professionalism of CEOs will increase consumers' cognitive trust and further promote consumers' purchase intention. 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, a vital element of successful communication, refers to the communication that provides individuals with active control and mutual synchronous exchange of information (Liu, 2003). It can be divided into three key components: personalization, responsiveness, and entertainment (Xue et al., 2020). Live interaction is autonomous, two-way, and synchronous (Zhang et al., 2022).

As a critical characteristic of live-streaming commerce (Kang et al., 2021), interaction has been proven to play a vital role in consumer purchases (e.g., Dong et al., 2022). Interaction is a vital element of successful communication. It refers to the communication that provides individuals with active control and mutual synchronous exchange of information (Liu, 2003), which can be divided into personalization, responsiveness, and entertainment (Xue et al., 2020). Live interaction is autonomous, two-way, and synchronous (Zhang et al., 2022). 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

Scholars have also argued that discounts could increase customers' mental budgets (Ha et al., 2006). Therefore, discounts can encourage customers to spend and purchase more (Izadi et al., 2021; McNeill, 2013). Customers perceive channels differently and use them differently in their purchase journey. Sheehan et al. (2019) find that online price discounts have distinct impacts on purchase intention across purchase stages, whereas we argue that customers respond differently to discounts across digital channels.

Online and offline, consumers frequently encounter various sales promotions and pricing strategies, with price discounts often leading to stronger purchase intention (PI) than other promotional methods (Lim & Ok, 2022; Wood et al., 2021). Consumers do not rely on objective prices to make purchase decisions but on subjective prices (Xue et al., 2020). How does price labeling strategy affect consumers' purchase intention? The role of perceived price difference in price assessment. 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

The effective use of social media marketing activities builds trust (Taecharungroj, 2017), improves customer commitment, and enhances customer satisfaction (Chen & Lin, 2019). Trust is paramount for building and maintaining strong business-customer relationships (Huang et al., 2013; Kim & Gupta., 2009). The impact of trust on customer satisfaction confirmed that e-trust in an online platform positively influences their satisfaction with the online experience (Juwaini et al., 2021; Kundu & Datta, 2015; Tran & Vu, 2019).

Scholars argue that the adoption of self-service technology is a game-changer, as it streamlines routine tasks, significantly reducing their time-consuming and burdensome nature, as evidenced by Kim et al. (2010) and Roy et al. (2018). This technological advancement is a crucial determinant of customer satisfaction, as demonstrated by Kuo et al. (2012) and Seiders et al. (2005), and has long been established as closely related to relational variables such as trust, commitment, and involvement, as also shown by Fullerton (2011) and Sanchez-Franco (2009). Based on this literature, the following research hypotheses emerged from this paper.

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

2.6 Perceived Risk

Satisfaction, as the result of a complex psychological evaluation process (Churchill & Surprenant, 1982), is widely thought to be positively linked with trust. However, the causal order of this relationship is not altogether so clear (Valenzuela et al., 2009). Lynch et al. (2009) find that trust is the most important determinant of satisfaction with the relationship in both collaborative and transactional relationships. Other researchers have proposed quite the opposite: satisfaction is the antecedent of trust (Shao et al., 2021).

Maintaining customer trust is crucial for online banking providers because trust correlates with customer satisfaction and loyalty to the brand (Kaur & Arora, 2021; Ofori et al., 2017). Research indicates that high levels of security, perceived usability, and trust in bank websites contribute significantly to customer satisfaction (Banu & Mohamed, 2019). Conversely, compromised trust due to online fraud can lead to customer dissatisfaction and reduced loyalty to the online banking brand. Thus, preserving trust in online banking systems is essential to sustain customer satisfaction and loyalty in the face of increasing cyber threats. 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

When examining customer behaviors, it is essential to distinguish between easy-to-perform and difficult-to-perform behavior. Easy-to-perform behaviors require the least effort or resources, while difficult-to-perform behaviors require considerable customer efforts in terms of time or money (Cronin & Taylor, 1992). This distinction is important because the impact of customer satisfaction and emotional attachment on customer behaviors may vary depending on the level of performance difficulty (Park et al., 2006; Thomson et al., 2005).

For instance, first-time visitors are more concerned with human-caused risks, psychological risks, food safety, and weather risks, while repetitive visitors are more concerned with financial risks, performance risks related to service quality, and physical risks. It's heartening to note that emotional experiences or perceived satisfaction have a positive effect on purchase intentions (Yang & He, 2011). This finding instills hope and optimism in the potential of customer satisfaction to drive purchase intentions. 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

Purchase intention has been extensively studied as a key determinant of consumer behavior. Fishbein and Ajzen's (1975) Theory of Reasoned Action (TRA) emphasizes that purchase intention is shaped by two critical factors: an individual's attitude toward the behavior and the subjective norms surrounding it. This means that an individual's inclination to make a purchase is influenced by both their personal evaluations of the behavior (positive or negative) and the perceived social pressure to engage in the behavior. Essentially, a stronger intention to purchase increases the likelihood of actually purchasing the product or service.

Building on TRA, Dodds et al. (1991) highlights that purchase intention is not merely a cognitive process but is influenced by perceptions of product value, quality, and price. Consumers evaluate these factors when making purchase decisions, suggesting that purchase intention is closely linked to the perceived benefits of the product relative to its cost.

3. Research Methods and Materials

3.1 Research Framework

The theoretical foundation for this study draws upon several key frameworks. These include Hogg (2001) Social Identity Theory of Leadership (SITL), which examines leadership dynamics through the lens of social identity; the Self-Determination Theory (SDT) developed by Deci and Ryan (1985), which explores the role of motivation in human behavior; and organizational commitment, as conceptualized by Allen and Meyer (1991), which focuses on the psychological attachment employees have to their organizations. Additionally, the study incorporates the Commitment-Trust Theory proposed by Morgan and Hunt (1994), which emphasizes the importance of trust and commitment in fostering successful relationships, and Bandura (1986) Social Cognitive Theory, which addresses the interplay between cognitive processes and social influences. Finally, it includes Nonaka and Takeuchi (1995) Organizational Knowledge Creation Theory (OKCT), which highlights the processes through which organizations create and manage knowledge. The researcher has integrated these foundational theories to develop a conceptual framework, as illustrated in Figure 1.

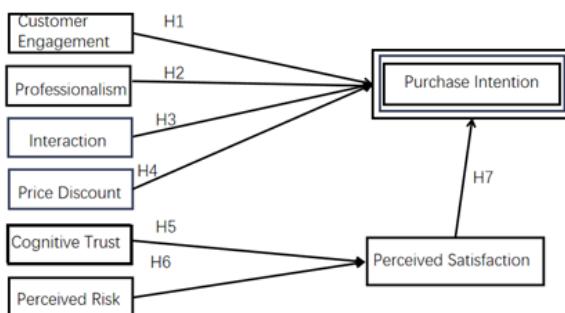


Figure 1: Conceptual Framework

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 approach, the researcher distributed questionnaires to the target population via an online survey platform (Van Dick et al., 2018). The study focused on teachers from four primary and secondary schools across four counties in the capital of Yunnan Province. The collected data was analyzed to identify factors influencing teacher performance and loyalty within the National Training Program (NTP). The questionnaire was divided into three parts: the first section contained screening questions, the second section employed a 5-point Likert scale to assess all variables, measuring the six hypotheses of the study, with responses ranging from (1) strongly disagree to (5) strongly agree. The final section gathered demographic information such as gender, age, and grade level of teaching. Prior to the full-scale survey, the questionnaire passed three experts' review using the Item-Objective Consistency Index (IOC) of over 0.6. In addition, a pilot test was conducted with 50 participants, with the results of all items passed at Cronbach's alpha value over 0.7.

3.3 Population and Sample Size

The questionnaire used in this study was validated for reliability and accuracy using Cronbach's Alpha method (Den Hartog & Verburg, 2004). After distributing the questionnaire to the target respondents, the researcher received a satisfactory total of 500 responses. The collected data was analyzed using statistical tests in SPSS AMOS. Confirmatory factor analysis (CFA) was conducted to assess the convergence and validation of the data, confirming the suitability of the study's conceptual framework and ensuring both model reliability and validity. Following these steps, the researcher employed structural equation modeling (SEM) to examine the causal relationships between the variables.

3.4 Sampling Technique

The researchers employed non-probability sampling techniques, including judgmental and quota sampling, to select undergraduate students from four academic disciplines—Biological Engineering, Architectural Engineering, Information Engineering, and Environmental Engineering—at Southwest University of Science and Technology in Mianyang, Sichuan Province, China. The questionnaires were distributed through an online survey platform. Table 1 outlines the detailed sampling process used for this study.

Table 1: Sample Units and Sample Size

Student major	Population Size	Proportional Sample Size
Biological Engineering Students	647	169
Architectural Engineering Students	405	104
Information Engineering Students	467	120
Environmental Engineering Students	415	107
Total	1934	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 der 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 169, 104, 120 and 107, accounting for 33.8%, 20.8%, 24% and 21.4% respectively. Among the respondents, 233 were male and 267 were female, accounting for 46.6% and 53.4% respectively. Among them, 125 freshmen and seniors (25%) were selected. 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	169	33.8%
	Architectural Engineering	104	20.8%
	Information Engineering	120	24%
	Environmental Engineering	107	21.4%
Gender	Male	233	46.6%
	Female	267	53.4%
Undergraduate year level	Freshman	125	25%
	Sophomore	125	25%
	Junior	125	25%
	Senior	125	25%
Live-stream Shopping Experience (last 6 month)	Yes	125	25%

4.2 Confirmatory Factor Analysis (CFA)

This study employed confirmatory factor analysis (CFA) to assess the variables within the conceptual framework. The measurement results indicated that all scale items for each variable were significant. Additionally, the factor loading values were within acceptable ranges, confirming the good fit of the conceptual framework. Specifically, all factor loadings exceeded 0.30, all p-values were below 0.05, construct reliabilities were above 0.70, and the average variance extracted (AVE) values were greater than 0.50. These estimates were statistically significant. Table 3 presents these values in detail.

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	0.782	0.678-0.783	0.780	0.542
Professionalism (PF)	Chen et al. (2022)	4	0.836	0.694-0.790	0.839	0.556
Interaction (IT)	Qin et al. (2022)	4	0.821	0.690-0.749	0.820	0.532
Price Discount (PD)	Zheng et al. (2017)	4	0.833	0.719-0.779	0.834	0.557
Cognitive Trust (CT)	Chang et al. (2015)	4	0.849	0.730-0.804	0.851	0.588
Perceived Risk (PR)	Chang et al. (2015)	4	0.834	0.703-0.759	0.834	0.558
Perceived Satisfaction(PS)	Chang et al. (2015)	4	0.848	0.719-0.842	0.846	0.580
Purchase Intention (PI)	Zhang et al. (2022)	4	0.897	0.772-0.835	0.883	0.653

Table 4 displays the square roots of the level differences extracted, and these values indicate that the correlations of all the variables in this study are appropriate. This study used GFI, AGFI, NFI, CFI, TLI, and RMSEA as indicators of model fit in the CFA test.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	<3 (Hair et al., 2006)	523.029/406 or 1.288
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.939
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.925
NFI	≥ 0.80 (Wu & Wang, 2006)	0.928
CFI	>0.8 (Hair et al., 2006)	0.983

Fit Index	Acceptable Criteria	Statistical Values
TLI	≥ 0.90 (Hair et al., 2006)	0.980
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.045
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. shows the convergent validity and discriminant validity for this study. These two values were validated to be acceptable. All the measurements validated the validity of the structural model estimated in this study.

Table 5: Discriminant Validity

	CE	PF	IT	PD	CT	PR	PS	PI
CE	0.736							
PF	0.159	0.746						
IT	0.107	0.248	0.729					
PD	0.200	0.199	0.215	0.746				
CT	0.141	0.197	0.190	0.226	0.784			
PR	0.232	0.205	0.262	0.219	0.187	0.767		
PS	0.266	0.345	0.255	0.338	0.274	0.337	0.762	
PI	0.259	0.365	0.278	0.327	0.287	0.351	0.437	0.808

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 = 1.998, GFI = 0.893, AGFI = 0.867, NFI = 0.882, CFI = 0.893, TLI = 0.931 and RMSEA = 0.045. 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)	852.976/427 or 1.998
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.893
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.867
NFI	≥ 0.80 (Wu & Wang, 2006)	0.882

Fit Index	Acceptable Criteria	Statistical Values
CFI	> 0.8 (Hair et al., 2006)	0.893
TLI	≥ 0.90 (Hair et al., 2006)	0.931
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.045
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 ($\beta=0.211$), Professionalism influenced Purchase Intention ($\beta=0.306$), Interaction influenced Purchase Intention ($\beta=0.150$), Price Discount influenced Purchase Intention ($\beta=0.225$), Cognitive Trust influenced Perceived Satisfaction ($\beta=0.161$), Perceived Risk influenced Perceived Satisfaction ($\beta=0.183$), and Perceived Satisfaction influenced Purchase Intention ($\beta=0.371$).

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-value	Result
H1: CE \rightarrow PI	0.211	4.395*	Supported
H2: PF \rightarrow PI	0.306	6.090*	Supported
H3: IT \rightarrow PI	0.150	3.124*	Supported
H4: PD \rightarrow PI	0.225	4.865*	Supported
H5: CT \rightarrow PS	0.161	3.344*	Supported
H6: PR \rightarrow PS	0.183	3.916*	Supported
H7: PS \rightarrow PI	0.371	7.285*	Supported

Note: * $p < 0.05$

Source: Created by the author

Based on the findings presented in Table 7, the researcher concluded the following: The confirmation of H1 showed that customer engagement is a significant driver of purchase intention, with a criterion coefficient of 0.221 in its structural path. H2 indicated that professionalism also plays a key role in influencing purchase intention, with a coefficient of 0.306. H3 demonstrated that interaction is another important factor affecting purchase intention, with a coefficient of 0.150. H4 confirmed that price discount is a significant driver of purchase intention, with a criterion coefficient of 0.225. H5 revealed that cognitive trust is a key determinant of perceived risk, with a coefficient of 0.161. H6 showed that perceived risk is a significant driver of perceived satisfaction, with a coefficient of 0.183. Finally, H7 established that perceived risk is a major factor influencing purchase intention, with a coefficient of 0.371 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 findings of this study, we offer the following recommendations. First, universities should introduce relevant courses or training programs aimed at promoting rational consumption among students. This would help mitigate behaviors such as herd mentality or vanity-driven purchases, which can result in unnecessary waste or frequent returns. Moreover, students should be encouraged to critically assess the "internet celebrity economy" to make more informed decisions.

Second, we suggest that live-streaming platforms and hosts consider the study's data when designing content and selecting products targeted at undergraduate students. Offering more tailored discounts and promotions to this demographic could enhance engagement. Furthermore, improving the overall live-streaming experience and ensuring better after-sales services for students is essential. This would help address common issues such as inconsistent product quality, insufficient customer support, and difficulties with returns and exchanges.

5.3 Limitation and Further Study

A limitation of this study is that the variables examined are assessed from a single, concentrated time, rather than spanning multiple years and all seasons (Glick, 1985). This temporal constraint may limit the generalizability of the findings. Additionally, the data were collected from students enrolled in a few representative majors, which may not fully

capture the diversity of the student population.

For future research, it would be beneficial to employ longitudinal or experimental designs to track changes over time and across different contexts. Collecting data at various points throughout the academic year and across different years would provide a more comprehensive understanding of the variables' impact. Expanding the sample to include a broader range of majors and institutions could also enhance the generalizability of the findings. Such approaches would contribute to a more robust and nuanced understanding of the studied variables and their effects.

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