Factors Influencing College Students' Online Shopping Intention under the Development Trend of E-Commerce Live Broadcast

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Abstract: Live e-commerce is popular among college Students　because of its interactive and interesting nature, but there are also consumption problems such as overspending or loan rewarding by college students. This study takes college students as the research population, and constructs a research model that influences college students' online shopping intention in the context of live e-commerce becoming a development trend according to the technology acceptance model and the theory of planned behavior. The relationship between perceived risk, perceived usefulness and online shopping intention is empirically analyzed, and suggestions are proposed for college students' e-commerce live-streaming consumption problems based on the research findings.

Keywords: Live E-Commerce; College Students; Perceived Usefulness; Perceived Risk; Online Shopping Intention

1. Introduction

The rapid development and iterations of the Internet and social media have seen the rapid development of live e-commerce in China, which has strongly contributed to the rapid growth in the volume of online shopping business. The 51st Statistical Report on the Development of the Internet in China released by the China Internet Network Information Centre shows that in 2022, online retail sales reached 13.79 trillion yuan, up 4.0% year-on-year, and the size of China's online shopping users reached 845 million, up 3.19 million from December 2021, accounting for 79.2% of Internet users overall, including about 49.3 of online consumers in the university student population.

As a new generation growing up under the development of e-commerce, college students are the most sensitive to the Internet，accepting online shopping behavior quickly and being the potential users in the future shopping market. However, there are still many uncertainties and online shopping risks for consumers. In the 2022 China E-commerce User Experience and Complaint Monitoring Report, complaint cases showed positive growth in 2022, with a year-on-year increase of 35.3%.

The e-commerce industry is also undergoing significant changes in the face of rapidly growing online transactions and positive growth in complaints[1]. The use of live video is becoming one of the ways e-retailers are increasingly using to provide more realistic information to consumers and increasing their online shopping intentions. According to data released by the China Business Industry Research Institute (CBIR), the size of China's live webcast users reached 751 million in 2022 with a cumulative total of over 1.1 trillion views, of which college students have become "repeat customers" of the live webcast, driving the development of live webcast shopping. According to[2] live video is beneficial to e-retailers, being able to communicate and interact with consumers in real time, and is positively correlated with online purchase intentions.

However, the rapid development of live e-commerce has also brought about consumer problems such as loans and bounties for college students. At present, academic research on live e-commerce has mostly focused on the impact of live webcasting or live e-commerce on consumers. In the context of live e-commerce becoming a development trend, the potential mechanisms of perceived risk and usefulness of online shopping for college students to increase online shopping intention are unclear. Therefore, the purpose of this study is to understand the impact of perceived risk and perceived usefulness of online shopping intention among college students

in the context of live e-commerce becoming a development trend, and to propose recommendations on the issue of live e-commerce consumption among college students based on the findings of the study.

2. Literature Review and hypothesis

2.1 Theoretical Foundation

This study uses the Theory of Planned Behaviour (TPB) and the Technology Acceptance Model (TAM) to examine the determinants of online shopping intention under the influence of live video trends.

TPB (Ajzen, 1985, 1991) ss'tastates that individuals' behavioural intentions are influenced by attitudes, subjective norms, and perceived behavioural control. Behavioural intention is the most direct factor influencing behaviour, with 62% of behavioural intention explaining behaviour and 38% of other variables also influencing consumer behaviour, therefore, it is necessary to identify other variables that will increase behavioural intention and ultimately influence behaviour[3]. According to LaMorte(2016), TPB ignores many predictors that may influence a person's behavioural intentions and behaviour, such as fear and threat. We examined perceived risk to enhance our understanding of college students' behavioral intentions to shop online.

Since the rapid growth of online shopping, researchers have sought to understand and predict the factors that influence consumers' intentions to make online shopping and explain certain behaviours [4]. Online shopping has made shopping faster and more convenient with the help of Internet technology, and TAM (Davis, 1989) explains the factors that influence technology acceptance by examining a model of how external information influences individual behaviour. External information determines an individual's perceived usefulness, perceived usefulness influences an individual's want-to-use attitude, and want-to-use attitude and perceived usefulness together influence an individual's behavioural intentions. The use of live video allows students who are more receptive to new things to better perceive the usefulness of online shopping.

Therefore, this study looks at factors such as perceived usefulness and perceived risk, which are believed to predict college students' behaviour towards technology [5].

2.2 Perceived risk

The perceived risk is an important factor influencing online shopping intention of college students who are exposed to different levels of risk as consumers in the live streaming environment.Liang(2021) Perceived risk is the psychological cognitive process of consumers' uncertainty about the process and outcome of use during online shopping and the possible adverse consequences of this.

Bauer (1960) proposed that perceived risk is the whole behavior of consumers because consumers cannot accurately foresee the consequences of their behaviors, and some consequences may be risky and make consumers unhappy. This at a glance mainly refers to the subjective perception of risk. Cox (1967) on the basis of Bauer research, pointed out that when consumers in every time when buying subjectively, not sure what kind of consumer is best can meet the target will generate perceived risk, or after buying the result cannot achieve consumer goals, also can produce perceived risk in the definition of college students' online shopping risk perception and clear and unified.

Lim (2003) stated that the perceived risks that can be predicted in the case of online shopping will have an impact on consumers. According to Nawi et al. (2019) perceived risks to consumers are aspects of online shopping regarding security and privacy issues, as well as not being able to wait long enough to receive the item, fear of paying extra for delivery, having previous bad experiences with the service, and lack of confidence or skills [7].

2.3 Perceived usefulness

Lai & Wang (2012) define perceived usefulness as the extent to which consumers perceive that an online website can add value and efficacy to them when making an online shopping.

Lei-da Chen, Justin Tan and Hung-Pinshih (2004) proposed in their research that consumers' perceived usefulness in online shopping has a positive impact on their online shopping intentions. Cheng Hua et al. (2003) and Song Ze (2005) used structural equation model to analyze and concluded that perceived usefulness of online shopping is an important variable for consumers to choose online shopping, and is the main factor that determines the impact of online shopping on consumers. Using Stepwise linear regression analysis, Zhong Xiaona (2005) concluded that the higher the sense of perceived usefulness, the stronger the purchase

intention of Zhu Lina (2006) proposed that the correlation coefficient between perceived usefulness of online shopping and attitude intention of online shopping was 0.399 and 0.480 respectively, reaching the significance level. According to the characteristics of college students' consumer groups, there are few literatures on the study of perceived usefulness.

2.5 Hypothesis

The existing literature on perceived risk suggests that there is a negative relationship between perceived risk and transaction intention. Increased perceived risk in online shopping can negatively affect consumers' purchase intentions[4]. However, according to Hu (2022) the e-commerce live shopping process brings visualization of shopping for college students and the e-commerce platform development tends to be mature with better security measures, there is no significant relationship between perceived risk and consumers' online shopping intention. The study by Jarvenpaa et al. concluded that consumers' high perception of risk and lack of security in the online transaction process is one of the main reasons why consumers give up in the middle of the process, and that perceived risk is a key factor contributing to consumers' lack of security, and therefore proposed the hypothesis that：

H1: Perceived risk of college students in live e-commerce has a significant negative effect on online shopping intention.

Ma (2016) suggests that online marketing through e-commerce live streaming can show consumers products more visually and intuitively, allowing them to more realistically perceive the value and usefulness of products online. There is a moderate relationship between perceived usefulness and online shopping intention among college students[6]. Perceived usefulness is positively correlated with college students' online shopping intentions, and the perceived usefulness of online platforms appears to be crucial in attracting college website users to become very frequent buyers, demonstrating a pattern of technology acceptance among college students[8]. Based on the context of live e-commerce trends，the following research hypotheses is proposed:

H2: There is a significant positive relationship between Perceived usefulness and online shopping intention of college students.

3. Research Methodology

The population of the current study is college consumers who watch live e-commerce. The study used a Simple Random Sampling method to collect primary data. The data were collected by using a structured questionnaire.

The questionnaire was adopted from related literature in this study.7 items scale of online shopping intention are adopted from David (1989), such as "I will strongly recommend others to use the online to purchase". Measures of Perceived usefulness came from Pedersen (2005) which included 5 items such as "I think using online shopping to make me save time." The 11 items measure for Perceived risk came from Gefen (2000) & Kim and Ferrin (2008), such as "I feel secure about the electronic payment system." All the items of the questionnaire in this study were measured at Likert 5-point scales ranging from strongly agree(1) to strongly disagree.

The questionnaire was designed using the sojump platform and distributed to the subjects through WeChat and QQ. A total of 30 valid questionnaires were distributed and returned.

4. Data Analysis Results

4.1 Reliability test

In this study, SPSS software was used to measure the consistency of the measurement indicators through the reliability coefficient Cronbach's Alpha. As shown in Table 1, Online shopping intention's reliability coefficient Cronbach's Alpha is 0.918, while Perceived usefulness is 0.774. The Cronbach's Alpha of Perceived Risk is 0.851. The overall reliability coefficient Cronbach's Alpha of the data collected in this questionnaire survey is 0.931. From the results of reliability test, Cronbach's Alpha values of all variables are greater than 0.7, indicating that questions of all variables in the questionnaire have good reliability. The overall reliability of the questionnaire is relatively good, and the questionnaire has a good consistency.

Table 1: Reliability Statistics for All Variables

Variables	Cronbach's Alpha	N of Items
Online shopping intention	.918	7
Perceived usefulness	.774	5
Perceived Risk	.851	11

The overall reliability coefficient	.931	23

4.2 Normality test

From the data in Table 2, the Kurtosis of the data is below 10 and the Skewness of the data is below 3. Therefore, it can be seen that the data obtained in this survey belong to normal distribution.

Table 2: Normality Statistics for All Variables

Variables	Items	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
Online Shopping Intention（OSI）	OSI 1	-.373	.427	-.660	.833
	OSI 2	.662	.427	-.026	.833
	OSI 3	1.326	.427	3.306	.833
	OSI 4	.198	.427	-1.585	.833
	OSI 5	.242	.427	-1.261	.833
	OSI 6	.240	.427	-.831	.833
	OSI 7	.815	.427	.363	.833
Perceived Risk (PS)	PS 1	.415	.427	-.501	.833
	PS 2	.479	.427	-.751	.833
	PS 3	.801	.427	-.130	.833
	PS 4	.919	.427	1.790	.833
	PS 5	.776	.427	.768	.833
	PS 6	.262	.427	-.590	.833
	PS 7	.242	.427	-.634	.833
	PS 8	.214	.427	-1.019	.833
	PS 9	.058	.427	-1.233	.833
	PS 10	.762	.427	1.465	.833
	PS 11	1.401	.427	2.024	.833
Perceived usefulness (PU)	PU 1	1.831	.427	3.872	.833
	PU 2	.000	.427	-1.716	.833
	PU 3	.172	.427	-1.187	.833
	PU 4	.662	.427	.026	.833
	PU 5	.286	.427	-1.095	.833

4.3 Pearson correlation

According to the Table 3, the correlation coefficient between the perceived usefulness and the perceived risk is 0.610, showing a strong correlation. The correlation coefficient between the perceived usefulness and online shopping intention is 0.697, showing a strong correlation. The correlation coefficient between the perceived risk and online shopping intention is 0.716, which is also strongly correlated.

Table 3: Correlations

		online shopping intention	perceived usefulness	perceived risk
online shopping intention	Pearson Correlation	1	.697**	.716**

	Sig. (2-tailed)		.000	.000
	N	30	30	30
perceived usefulness	Pearson Correlation	.697**	1	.610**
	Sig. (2-tailed)	.000		.000
	N	30	30	30
perceived risk	Pearson Correlation	.716**	.610**	1
	Sig. (2-tailed)	.000	.000	
	N	30	30	30
**. Correlation is significant at the 0.01 level (2-tailed).				

4.4 Multiple linear regression

According to the Table 4, the fitting degree of the multiple linear regression model in this study is $R^2=0.621$, which means that 62.1% of the independent variable "online shopping intention" is affected by "perceived risk" and "perceived usefulness".

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.788[a]	.621	.593	.422

a. Predictors: (Constant), perceived risk, perceived usefulness

According to the Table 5, the calculation results of ANOVA table represent that neither "perceived risk" nor "perceived usefulness" can significantly affect the independent variable "online shopping intention", it means meaningless of the regression model . The result of this calculation is F=22.119, P < 0.05, that is independent variables can affect dependent variables.

Table 5: ANOVA[b]

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.873	2	3.936	22.119	.000[a]
	Residual	4.805	27	.178		
	Total	12.678	29			

a. Predictors: (Constant), perceived risk, perceived usefulness

b. Dependent Variable: online shopping intention

According to the Table 6, which indicates how each dependent variable affects "online shopping intention". The regression coefficient of perceived usefulness and online shopping intention is 0.010, less than 0.05; the regression coefficient of perceived risk and online shopping intention is 0.004, also less than 0.05. Therefore, both the two independent variables can significantly predict the dependent variables. It follows that both of the assumptions in this paper can be supported.

Table 6: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.057	.312		-.182	.857
	perceived usefulness	.480	.173	.414	2.769	.010
	perceived risk	.562	.181	.464	3.103	.004

a. Dependent Variable: online shopping intention

5. Conclusion and Suggestion

The results show that there is a strong positive relationship between perceived usefulness and online shopping intention, The hypothesis that "perceived usefulness has a positive correlation effect on college students' online shopping intention" is established.

The hypothesis that there is a negative correlation between the perceived risk of online shopping and online shopping intention of college students is not valid;

E-commerce enterprises can continuously improve the useful experience of online shopping from the perspective of college students. Build more professional web page design that can display pictures of commodities, so that consumers can understand commodities more intuitively. Enrich the variety of goods, provide consumers with interesting feeling of valuable information, goods or services, so that consumers feel the speed and reliability of online shopping, improve the sense of good online shopping experience.

At the same time, it can be seen from the conclusion of the study that the risk that college students feel when they consume on the internet is related to their shopping intentions. Therefore, it is necessary to strengthen the establishment of regulate live e-commerce platforms, strengthen monitoring and management, avoid live anchors misleading college students, avoid adulteration in interactive information, and set relevant regulations on the display of goods in live broadcast. To carry out good faith management, to make the goods authentic, so that college students to online shopping more positive attitude, and thus enhance the intention of college students online shopping.

Schools can strengthen the education and guidance of college students on the concept of online consumption, open up information channels, strengthen education on information discernment, and form good habits of consumption behaviour. College students should exercise self-discipline and guidance, strengthen their awareness of prevention and resolutely resist temptation.

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