

Users' Continuance Intention of Smart Learning Platform based on Expectation Confirmation Model

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Abstract

Based on the Expectation Confirmation model from the perspective of user expectation, considering the external environmental factors, this study includes the perceived reputation variable to build the influencing factor model of user's continuance intention of the learning platform. It is found that the degree of expectation confirmation has a significant positive impact on user's continuance intention, and perceived usefulness and perceived reputation have some mediating effects in the relationship between expectation confirmation and user's continuance intention.

The conclusion shows that improving the degree of expectation confirmation is conducive to consolidate users' perceived reputation of the platform and maintain user's continuance intention.

Keywords: Smart Learning Platform, Expectation Confirmation Model, Perceived reputation, User's continuance intention.

Introduction

The collision of internet and education has formed new formats such as digital education. Digital education developed rapidly in foreign countries at first, and then it was widely promoted and used in developed educational areas such as Beijing, Shanghai, and Guangzhou in China. It has the continuity and systematization of traditional teaching methods, and reduces the need for users to invest too much money at one time. It also has the characteristics of high efficiency and convenience similar to the use of payment platforms, social platforms and other platforms⁰ in line with the important theme and requirements of the times advocated by the state and society of "information technology empowers high-quality development of higher education", reflecting its significant value.

At this stage, various digital teaching platform companies are focusing on attracting more user groups to increase their market share but ignoring the attention to old customers. The continuous exploration of intention has resulted in the development of digital teaching platforms failing to make essential breakthroughs. In fact, if the differentiated needs of users are exactly met, it will promote the formation of user expectations, which may determine whether users are willing to continue to use the product.

Therefore, in order to better stabilize the user market, in addition to developing new user groups, platform companies should also pay attention to how to retain old user groups. Among them, earnestly fulfilling the promises made to consumers is undoubtedly a clever marketing method. With the help of this, enhance users' perceived reputation of the enterprise and promote the stability and development of the digital education industry. Consolidating user's continuance intention has become the key for enterprises to stabilize and expand the market. Enterprises should fully absorb the development experience of other similar products⁰. Research has shown that perceived value has a positive and significant impact on the intention; perceived cost and perceived risk have a negative and significant impact on perceived value; perceived usefulness, perceived ease of use, and perceived interest have a positive significant on perceived value⁰.

The purpose of this study is to explore the applicability of the expectation confirmation model in the study of user's continuance intention of smart learning platform so that scholars can explore the influencing factors of user's continuance intention based on this model in future research, and provide theoretical support for enterprises to achieve long-term benefits. Our result will enlighten the digital teaching platform enterprises to actively pay attention to the personalized and rational needs of users and will attach importance to the accumulation of their own word-of-mouth and reputation and will actively develop user groups.

Theoretical Basis and Research Assumptions

(1) Expectation Confirmation Model (ECM): Bhattacharjee et al¹ developed the Expectation Confirmation Model (ECM) based on Oliver's expectation confirmation theory⁰, and applied ECM to the research of continuous use of information systems. The model believes that the initial expectation confirmation will affect the repetition of users intention, which is manifested in the fact that the user will compare the product with the expectation before use after using the product. If the use result is in line with the expectation or even exceeds the expected effect, the user perceives the product to be more useful which directly or indirectly forms the user's continuance intention.

Subsequently, some scholars conducted research on the continued use of mobile social media users such as library WeChat public accounts and online health communities based on the expectation confirmation model^{9,21,27}. For this reason, the smart learning platform is very intelligent including the use of information systems, involving resource search and dissemination, online communication and

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discussion and other procedures as a product of the development of the Internet era, so the practicability of the platform will affect user's continuance intention. Once the user confirms that the product is useful, it will also promote the formation of the company's reputation, thereby enhancing the user's continuance intention.

Based on the Expectation Confirmation Model (ECM), we plan to analyze the relationship between the degree of user expectation confirmation and their continued use intention, to emphasize the importance of user expectation confirmation to the sustainable development of enterprises, and to find out the most significant factors and path that affect user's continuance intention. The research results will help enterprises to take measures to enhance the overall reputation, and provide a certain reference for the sustainable development of the digital education industry.

(2) Research hypothesis:

(a) Expectation Confirmation Level: The expectation confirmation model has always emphasized the influence of the degree of expectation confirmation on user's continuance intention. Chang et al⁴ believe that after paying attention to the wechat official account of Jilin University Library, users will perceive the handling of information and business in all aspects, and finally form expectation confirmation and expectation unconfirmed. Zhao and Wang et al³⁰ found that when Wechat users have a good experience, it will affect their expectation confirmation, that is, after using the applet, users achieve or even exceed the expected effect, and users will choose to continue to use it.

Some scholars applied this theory to the research field of shared bicycle users' intention. Liu et al¹⁸ combined TAM-ECM and built a structural equation model to study the influencing factors of shared bicycle user's continuance intention. The results show that the confirmation degree of users' expectation will positively affect user's continuance intention. This conclusion provides a possible experimental path for enterprises to maintain and continue to expand user groups. Based on the above literature, we attempt to explore the applicability of Expectation Confirmation Model in studying the user's continuance intention of smart learning platform.

At the same time, the relationship between perceived usefulness and expectation confirmation has received extensive attention from some scholars. Existing literature have proved that there is a correlation between the degree of expectation confirmation and perceived usefulness.

Wang et al³⁰ combined the expectation confirmation model to conduct a detailed analysis of Sina Weibo users' continuance intention, and the results show that users' perceived usefulness of Weibo influenced by the degree of expected confirmation. Hew et al¹¹ combined the expectation confirmation model to analyze the influencing factors of consumer loyalty in mobile social commerce, and

showed that the degree of expectation confirmation has a positive impact on users' perceived usefulness.

Koufaris et al¹⁴ defined perceived reputation as the degree of customer trust in the company, and a good perceived reputation will form the basic trust in the company. It is believed that businesses will not pursue short-term gains, seek opportunism, and waste the accumulated good reputation⁰. In order to pursue long-term benefits and hope to have more development markets in the future, merchants will show a higher degree of concern for the confirmation of users' expectations. Therefore, we take the perceived reputation as a reliable variable to study the user's continued intention to use the smart learning platform.

We define the degree of expectation confirmation as the degree of consistency between the user's feelings after using the smart learning platform and their expectations before use, and then decide whether to continue to use the smart learning platform. This variable mainly measures the user's satisfaction with a certain product or service. Use this as a reference for the user to decide whether to continue using it. We believe that in the digital teaching platform market, users will compare their expectations before using the platform with the effects after using the platform, forming expectations confirmation and expectation non-confirmation. Based on this, we proposes the following assumptions:

H1: The degree of expected confirmation positively affects the user's continuance intention;

H2: The degree of expected confirmation positively affects the user's perceived usefulness;

H3: The degree of expected confirmation positively affects perceived reputation.

(b) Perceived usefulness: Existing research points out that users' perceived usefulness affects users' attitudes and usage intentions: Ren and Li²⁴ and Yan et al³³ empirical analysis shows that people's attitude towards digital platform has a positive impact on their purchase intention, and consumers' perceived usefulness and perceived ease of use of the platform will directly affect residents' use attitude based on the theory of planned behavior and technology acceptance model.

Chang et al⁴ used the Expectation Confirmation Model and the Media System Dependency Theory to conduct a more in-depth and systematic study on the influencing factors of the library's Wechat official account users' intention to continue using, and the results show that perceived usefulness has a positive impact on the official account's continuance intention.

Chi et al⁶ explored the influence mechanism of landlords on the intention of continuous participation in the shared accommodation platform from the perspective of landlords of the shared accommodation platform, The conclusion

shows that the perceived usefulness of landlords to the platform has a significant positive impact on the intention to continue to participate⁰.

Combined with the characteristics of digital teaching platform, we mainly define the variable through convenience, efficiency and timeliness, which make the variable easy to quantify. We hold that the user perceived usefulness refers to that in the process of using the smart learning platform, the user has obtained great convenience, improved the efficiency of learning or communication, and perceived that he has effectively participated in the cause of digital education in the whole process of use, which improves the income of education.

H4: Perceived usefulness will positively affect user's continuance intention.

(c) Perceived reputation: In China, digital education is still a relatively novel way of education and teaching, which has the characteristics of large capacity and strong interaction compared with traditional methods. At the same time, users may know the popularity of enterprises and brands of digital teaching platform in advance before using it. Therefore, Yang et al³⁴ studied whether consumers adopt the emerging office mode of mobile commerce, Assuming that perceived reputation will positively affect consumers' initial trust in mobile commerce, it is finally pointed out that having a good reputation is a pre-requisite for companies to win consumers' trust. If the service provider has a good reputation, consumers will give a higher degree of trust. At this time, both functional risk and emotional risk will be weakened⁰.

Lin et al¹⁷ took the online shopping platform as an example. The research shows that buyers' perceived credibility of reputation information has a positive impact on their use of reputation information and their online shopping amount, but the use of reputation information has a negative impact on buyers' online shopping amount. Therefore, enterprises need to improve the credibility of reputation information and improve the convenience of using reputation information. This also shows that consumers' trust in the platform is affected by the reputation of the platform or the reputation of the service provider, and whether consumers choose to trust the service provider depending on the reputation of the other party.

In the era of big data, network marketing has become one of the ways for businesses to accumulate word-of-mouth. In the process of the continuous expansion of the scale of the digital education market, reputation accumulation is an important way for businesses to expand user groups and improve brand awareness. Therefore, smart learning platform enterprises should pay attention to the maintenance of their good reputation. We believe that the variable of perceived reputation may directly affect user's continuance intention.

H5: perceived reputation will positively affect user's continuance intention.

(d) Perceived risk: Perceived risk is considered by scholars as a factor that can affect user behavior. Based on planned behavior theory and psychological theory, Huijts et al¹³ studied the impact of behavior norms, attitudes and subjective behavior control on the Acceptance Intention of sustainable energy technology. Among them, attitude can be measured by perceived price, perceived risk and perceived benefit, And the final results show that perceived risk will significantly affect users' acceptance attitude towards sustainable energy technology, and users' attitude will affect their acceptance intention.

Tan et al²⁷ and Zhao et al³⁶ analyzed the influencing factors of users' online group purchase intention and believed that perceived risk can significantly affect group purchase intention.

At the same time, Yang et al³⁵ believed that perceived risk is the antecedent variable that affects consumers' trust in internet financial products, and consumer trust is the key factor that determines their behavior choice. Consumers' trust in internet financial products is affected by the dimension of perceived risk.

Liu et al²⁰ discussed the impact of platform governance mechanism and consumer perceived risk on consumers' intention to participate in collaborative consumption from the perspective of shared platform enterprises. The research results show that the effective governance mechanism of platform enterprises can effectively reduce consumers' perceived risk and increase consumers' intention to participate in collaborative consumption. Consumers' perceived income will weaken the negative relationship between consumers' perceived risk and intention to participate in collaborative consumption⁰. Based on the research of the above scholars, we believe that in the new business form of digital teaching, the user perceived risk also plays the same role.

We define perceived risk as the user's subjective perception and psychological feeling of objective risks when accepting and using the smart learning platform. If the user's perceived risk level is too high, his intention to accept this thing will be weakened. Liu et al¹⁹ believe that perceived risk is the risk loss felt by users in the process of using the digital platform, mainly including the following four aspects: financial risk, physical risk, time risk and privacy risk. If the above risks appear in varying degrees in the process of use, the user's expectation of risk will be reduced, and then the perceived risk will increase⁰. We believe that in the smart learning platform, the network security risk and financial risk belong to the risks that users can perceive. Once users perceive it, their expectation confirmation will be reduced, and their perceived reputation will also be reduced.

H6: User perceived risk plays a negative regulatory role in the relationship between expected confirmation and perceived usefulness;

H7: User perceived risk plays a negative regulatory role in the relationship between expectation confirmation and perceived reputation.

To sum up, this study constructs a research model of users' intention to continue using the smart learning platform, as shown in figure 1. There are five variables in this model and each variable is defined by referring to relevant literature.

Research Design

(1) Variable design: This study will sort out the measurement of the variables of perceived risk and Expectation Confirmation at home and abroad and will appropriately adjust the measurement items of each variable according to the characteristics of the smart learning platform and the user's use situation. This study involves five scales: perceived usefulness (PU), perceived risk (PR), degree of Expectation Confirmation (EC), perceived reputation (BR) and continuance intention (CI).

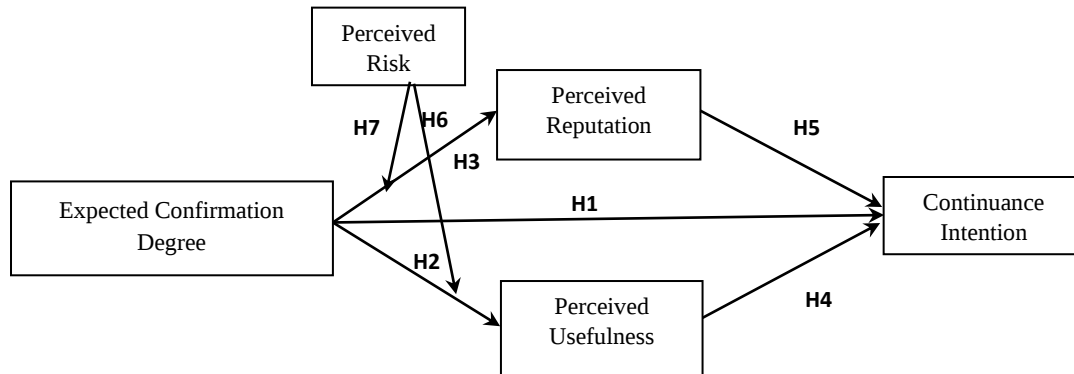


Figure 1: Research Model of Users' Continuance Intention of Smart Learning Platform

Table 1
Item Description and Source

Variable	Number of questions	Items
Perceived risk ²⁵	3	1. I think using the smart learning platform may lead to security problems, such as system errors, operation errors, etc 2. I am worried that the functions, supporting facilities and services of the smart learning platform are not perfect, which will bring me trouble 3. I'm worried that using the smart learning platform will bring loss to my personal privacy and property
Perceived Usefulness ⁸	4	1. Using the smart learning platform can make my learning more convenient 2. Using smart learning platform can improve my learning efficiency 3. Using smart learning platform can improve my learning quality 4. smart learning platform is very useful in learning
Expected Confirmation Degree ^{3,29}	3	1. My experience in using the smart learning platform is better than expected 2. I feel that using the smart learning platform has gained more than expected 3. All my expectations in the process of using the smart learning platform have been realized
Perceived Reputation ^{14,31}	4	1. I feel that the superstar company to which the smart learning platform belongs is very famous 2. I feel that the superstar company to which the smart learning platform belongs has a good reputation 3. The smart learning platform with high reputation is honest and credible 4. The reputable smart learning platform pays great attention to the interests of users
User's Continuance Intention ^{2,10,26}	3	1. In the future, I will continue to choose the smart learning platform 2. The smart learning platform is worthy of my continued use 3. I intend to recommend the smart learning platform to the people around me

(2) Empirical research:

Data collection: Questionnaire survey is the method used for data collection in this study. The questionnaire is divided into two parts. The first part is the personal information of the respondents such as gender, major and grade. The second part is the measurement item of the research variables. The measurement of the variables involved in this study is based on or adapted from the maturity scale. This part adopts Likert five level scale, from "very disagree" to "very agree". The purpose is to obtain the respondents' experience evaluation of the smart learning platform.

We mainly adopt the offline way to issue questionnaires and collect relevant data. The research mainly adopts the convenient sampling technology of snowball method, and mainly invites students to fill in at random from the undergraduates of entrepreneurship foundation undertaken by their course group and completed by the smart learning platform. A total of 374 questionnaires were collected in this survey. Combined with the specific situation of this study,

the contents were screened out including the questionnaires that had used the smart learning platform, and then the questionnaires with obvious contradictions randomly filled in and the investigated information items were eliminated. Finally, 231 valid questionnaires remained. Among them, 47.62% were men and 52.38% were women.

Results and Discussion

(i) Reliability and validity of the scale:

We use SPSS software to analyze 231 questionnaires. The reliability of the questionnaire adopts the internal consistency reliability coefficient Cronbach α Coefficient value. In this study, the reliability of 17 measurement items of 5 potential variables is tested. As shown in table 2, each index scale is greater than the acceptable reliability standard (0.7), and the KMO value is 0.880 indicating that the reliability of the scale is very good and meets the premise requirements of factor analysis.

Table 2
Reliability and Validity Analysis

Index	Items	Cronbach α	Composite Reliability CR Value	Mean Variance Extract Ave Value	KMO
Perceived Usefulness	4	0.85	0.847	0.582	
Perceived risk	3	0.745	0.760	0.526	
Perceived Reputation	3	0.756	0.756	0.508	0.880
Expected Confirmation Degree	4	0.844	0.844	0.575	
User's Continuance Intention	3	0.865	0.868	0.689	

Table 3
Load Factor After Rotation

	Factor load coefficient				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
PU1	0.77	0.018	0.227	0.248	-0.017
PU2	0.795	0.108	0.106	0.241	0.029
PU3	0.706	0.41	0.196	0.024	-0.011
PU4	0.796	0.268	0.233	0.099	0.127
PR1	0.024	0.084	0.027	0.062	0.807
PR2	0.074	-0.068	0.045	0.268	0.837
PR3	-0.006	0.145	-0.035	-0.07	0.771
BR1	0.22	0.21	0.236	0.702	0.039
BR2	0.098	0.375	0.115	0.723	0.014
BR3	0.229	0.075	0.069	0.799	0.194
EC1	0.24	0.79	0.113	0.178	0.03
EC2	0.132	0.678	0.3	0.28	0.15
EC3	0.146	0.689	0.386	0.194	0.057
EC4	0.189	0.648	0.426	0.125	0.101
CI1	0.258	0.264	0.78	0.149	-0.095
CI2	0.191	0.27	0.856	0.084	0.014
CI3	0.285	0.328	0.706	0.233	0.115

The data passes Bartlett Sphericity test (P value < 0.05), and the data is suitable for factor analysis. Five factors were extracted in this factor analysis. The variance interpretation rates of the five factors after rotation were 16.419%, 15.910%, 14.740%, 12.420% and 12.128% respectively, and the total interpretation rate of the cumulative variance after rotation was 71.617%. The factor load matrix was calculated according to the factor analysis method.

At the same time, the maximum variance rotation method was used to find out the corresponding relationship between the item and the factor as shown in table 3. The minimum value of the factor load coefficient after rotation was 0.648. The values of the commonality corresponding to the research items are higher than 0.4, indicating that there is a strong correlation between the item and the factor, and the factor can effectively extract the information.

Confirmatory factor analysis mainly measures the convergent validity and differential validity of the scale. First, the standardized path coefficient, combined reliability (CR) and mean variance extraction (AVE) were measured to judge its convergent validity. The average values of all factors in table 2 are greater than 0.5 indicating that the scale

has good convergent validity. Combined reliability indicates the consistency of a group of measurement items and the CR values of all factors in the table are greater than 0.7, indicating that the measurement model has good convergent validity and high consistency among measurement variables.

Discriminant validity refers to the low correlation or significant difference between the potential traits represented by variables and those represented by other variables. In this study, the discriminant validity is determined by comparing the square of mean variance extraction (AVE) with the size of correlation coefficient. When the square of average value is higher than the correlation coefficient value on the same column, the differential validity of the scale is good.

It can be seen from table 4 that the minimum square root value of average corresponding to the five factors is 0.713, which is greater than the maximum value of correlation coefficient between factors by 0.689. The square root of average value between variables is higher than the correlation coefficient value on the same column which means that the data of this study has good discriminant validity.

Table 4
Discriminant Validity Test

	PU	PR	BR	EC	CI
PU	0.763				
PR	0.112	0.725			
BR	0.481	0.232	0.713		
EC	0.53	0.191	0.537	0.758	
CI	0.559	0.081	0.458	0.689	0.83

Note: diagonal is the square root of ave value in the core concept

Table 5
Descriptive Statistics and Pearson Correlation Coefficient

Variable	Average Value	Standard Deviation	1	2	3	6	7	8	9	10
1.Gender	1.52	0.50								
2.Major	2.32	0.62	-0.22**							
3.Grade	2.39	0.61	-0.05	0.10						
4.Expected Confirmation Degree	3.34	0.50	0.09	-0.01	-0.10					
5.Perceived Risk	3.58	0.56	-0.01	-0.01	0.06	0.19**				
6.Perceived Usefulness	3.55	0.63	0.13	-0.08	0.05	0.53**	0.11			
7.Perceived Reputation	3.58	0.54	0.10	0.00	0.03	0.54**	0.23**	0.48**		
8.User's Continuance Intention	3.34	0.61	0.09	-0.03	-0.06	0.69**	0.08	0.56**	0.46**	1.00

* $p < 0.05$ ** $p < 0.01$

(ii) Descriptive statistics and correlation analysis: Table 5 provides the descriptive statistical results of each variable in this study and the correlation coefficient between variables. The results show that the degree of expectation confirmation is significantly positively correlated with perceived usefulness ($r=0.53$, $P < 0.01$), perceived reputation ($r=0.54$, $P < 0.01$), user's continuance intention ($r=0.69$, $P < 0.01$), perceived risk and perceived reputation ($r=0.23$, $P < 0.01$), perceived usefulness and perceived reputation ($r=0.48$, $P < 0.01$), user's continuance intention ($r=0.56$, $P < 0.01$), Perceived reputation was significantly positively correlated with user's continuance intention ($r=0.46$, $P < 0.01$). The above results provide preliminary evidence for the subsequent verification of the model by hierarchical regression method.

(iii) Model test: The hypothesis is tested by regression analysis. The variable data in the regression are processed centrally. The specific indicators and results are shown in table 6. In model 2, variables such as gender, major and grade are treated as control variables. The regression equation model is significant ($F=34.893$; $P=0.000$), and the R^2 of the model is 0.48, which means that the expected confirmation degree can explain 48% of the reasons for the change, and there is a significant positive correlation between the expected confirmation degree and user's continuance intention ($\beta=0.83$, $P < 0.01$), H1 is true.

In model 3, the regression analysis results show that after adding the variable of perceived reputation on the basis of

model 2, the regression equation model is significant ($F = 31.140$; $P = 0.000$), and R^2 is 0.49 which means that perceived reputation has 1% explanatory power on user's continuance intention. Among them, the relationship between the degree of expected confirmation and user's continuance intention is still significant ($\beta=0.75$, $P < 0.01$), and there was a significant positive correlation between perceived reputation and user's continuance intention ($\beta=0.14$, $P < 0.05$). H5 is true.

Similarly, model 4 adds perceived usefulness to model 2. The regression equation is significant ($F= 36.617$; $P=0.000$) and R^2 is 0.54 which means that perceived usefulness has a 6% explanatory power on user's continuance intention. Among them, the relationship between the degree of expected confirmation and user's continuance intention is still significant ($\beta=0.65$, $P < 0.01$). At this time, there was a significant positive correlation between perceived usefulness and user's continuance intention ($\beta=0.26$, $P < 0.01$). H4 is true.

In model 6 and model 9 in table 6, after taking gender, specialty and other factors as control variables, there is a significant positive correlation between the degree of Expectation Confirmation and perceived reputation ($\beta=0.58$, $P < 0.01$). H3 is true. At the same time, there is a significant positive correlation between the degree of Expectation Confirmation and perceived usefulness ($\beta=0.67$, $P < 0.01$). H2 is true.

Table 6
Results of Hierarchical Regression

Variable	User's Continuance Intention					Perceived Reputation			Perceived Usefulness		
	Model1	Model2	Model3	Model4	Model5	Model6	Model7	Model8	Model9	Model10	Model11
Gender	0.10	0.02	0.01	0.00	0.00	0.07	0.07	0.07	0.08	0.08	0.08
Major	0.04	0.02	0.02	0.03	0.03	-0.02	-0.01	-0.02	-0.06	-0.06	-0.05
Grade	-0.02	-0.01	-0.01	-0.03	-0.02	-0.04	-0.04	-0.04	0.04	0.04	0.04
Expected Confirmation Degree		0.831**	0.748**	0.654**	0.628**	0.581**	0.552**	0.566**	0.672**	0.672**	0.655**
Perceived Reputation			0.144*		0.06						
Perceived Usefulness				0.263**	0.248**						
Perceived Risk							0.126*	0.124*		0.00	0.00
Expected Confirmation Degree×Perceived Risk								-0.07			0.09
R^2	0.02	0.48	0.49	0.54	0.54	0.31	0.32	0.33	0.31	0.31	0.31
Adjust R^2	0.00	0.47	0.48	0.52	0.52	0.29	0.30	0.30	0.29	0.29	0.29
ΔR^2	0.02	0.46	0.01	0.05	0.52	0.29	0.31	0.00	0.28	0.28	0.00
F-value	0.97	34.893**	31.140**	36.617**	32.153**	16.572**	15.279**	13.399**	16.728**	14.274**	12.521**

Note: the regression coefficient is the standardized regression coefficient

(iv) The mediating effect test of perceived reputation: We uses Boot-Strap combined with the mediating effect test procedure proposed by Wen et al³² to analyze the mediating effect of perceived reputation. In the first step, take the degree of expectation confirmation as the independent variable and the user's continuance intention as the dependent variable for regression, and then test whether the impact effect is significant ($Y = cX + e_1$), the degree of expectation confirmation has a significant positive impact on the continuance intention ($t=14.233$, $p<0.001$). In the second step, take the expected confirmation degree as the independent variable, and the perceived reputation as the dependent variable to perform regression, and test whether the influence effect is significant ($M = aX + e_2$), the expected confirmation degree significantly affects the users' perceived reputation of the platform enterprise ($t=9.490$, $p<0.001$).

The third step is to use the expected confirmation degree and perceived reputation as independent variables, and the user's continuance intention as the dependent variable to perform regression, and test whether the impact of perceived reputation on user's continuance intention is significant ($Y = c'X + bM + e_3$). The effect on user's continuance intention is still significant ($t=10.983$, $p<0.001$) indicating that the mediating effect of this variable exists. And because

c' is not 0 and is significant, perceived reputation plays a partial mediating role. The test results are shown in table 7.

(v) Mediating effect test of perceived usefulness: When analyzing the mediating effect of perceived usefulness, the first step is the same as that of perceived reputation. The second step is to regress with the degree of expectation confirmation as the independent variable and perceived usefulness as the dependent variable. At this time, the degree of expectation confirmation has a significant impact on perceived usefulness ($t=9.311$, $P < 0.001$). In the third step, when the perceived usefulness is put in, the degree of Expectation Confirmation also has a significant impact on user's continuance intention ($t=10.11$, $P < 0.001$). The mediating effect of perceived usefulness exists, and there are some mediating effects. The specific results are shown in table 8.

Based on the above results, perceived reputation and perceived usefulness play an intermediary role in the relationship between the degree of Expectation Confirmation and user's continuance intention. Users' perception of the convenience and high efficiency brought by the smart learning platform will promote its reuse. Once the user expectation is confirmed, it will promote the formation of enterprise platform reputation, and then will stimulate the user's continuance intention.

Table 7
Intermediary Effect Test of Perceived Reputation

	Perceived Reputation		Continuance Intention		Continuance Intention	
	t	p	t	p	t	p
Gender	0.8748	0.3826	0.4087	0.6832	0.2853	0.7757
Major	0.2476	0.8047	-0.3635	0.7166	-0.4021	0.688
Expected Confirmation Degree	9.4901	0	14.233	0	10.9827	0
Perceived Reputation					2.1744	0.0307
R ²	0.2911		0.4757		0.4865	
F-value	31.0697***		68.6552***		53.519*	

Table 8
Mediation Effect test of Perceived Usefulness

	Perceived Usefulness		Continuance Intention		Continuance Intention	
	t	p	t	p	t	p
Gender	1.129	0.2601	0.4087	0.6832	0.0566	0.9549
Major	-1.0515	0.2941	-0.3635	0.7166	-0.0347	0.9723
Expected Confirmation Degree	9.3108	0	14.233	0	10.11	0
Perceived Usefulness					4.9746	0
R ²	0.2899		0.4757		0.5275	
F-value	30.897***		68.655***		63.065***	

Table 9
Regulation Effect Test

	Perceived Usefulness				Perceived Reputation			
	Standardization coefficient	t	Standardization coefficient	t	Standardization coefficient	t	Standardization coefficient	t
Gender	0.065	1.133	0.068	1.170	0.055	0.960	0.048	0.845
Major	-0.060	-1.046	-0.057	-0.985	0.016	0.289	0.009	0.163
Expected Confirmation	0.521	9.075	0.512	8.409	0.506	8.946	0.527	8.792
Perceived Risk	0.013	0.221	0.014	0.252	0.136	2.409	0.131	2.325
Interactive Item			0.026	0.432			-0.062	-1.044
ΔR^2	0.271		0.001		0.299		0.003	
F-value	23.088***		18.441		25.246***		20.423	

(vi) Test of moderating effect: We add the interactive product term of perceived risk and expected confirmation degree to the hierarchical regression equation to test the regulatory effect of perceived risk. By analyzing the regulatory effect test results in Table 9, we can see that in the path relationship between expected confirmation degree and perceived usefulness, the change of model R^2 caused by adding perceived risk is 0.001 which is not significant; In the path relationship between expected confirmation degree and perceived reputation, the change of R^2 caused by adding perceived risk is 0.003 which is also not significant. Therefore, the regulatory effect of perceived risk is not significant.

Li⁰ built the theoretical model of influencing factors of user's continuance intention on the basis of integrating information system Expectation Confirmation model (ECM), Technology acceptance model (TAM) and Unified integration theory of acceptance and use (UTAUT): the assumption that perceived risk negatively affects the use intention of platform users is not tenable which may be due to the insufficient length and depth of the platform used by the research object, It reduces the negative impact of perceived risk on the platform, so the path of perceived risk is not true. The adjustment effect is not significant.

Based on the analysis of the proportion of the investigated population and questionnaire information, it is found that on the one hand, although the investigated population is college students who actually use the smart learning platform, the use of the smart learning platform is also a teaching link stipulated by the school and teachers. Although some students feel that a series of procedures on the platform are cumbersome and need to spend extra time and energy to try, It is easy for people to complain, but the practicability of the smart learning platform does meet their expectations.

In addition, young people are easy to accept new things. Problems such as operation and familiarity will not affect the confirmation of their expectations, let alone their intention be to use. On the other hand, although negative news events

about digital platforms have been reported from time to time in recent years, causing users to worry and fear about the platform, unlike common payment platforms live broadcasting platforms and game platforms, smart learning platforms do not involve too much personal privacy and economic and financial information⁰. At the same time, the smart learning platform itself is also introduced into the teaching process after screening and confirmation by schools and teachers. Therefore, various situations greatly reduce users' concerns about their own safety during use.

Conclusion

The results show that five original hypotheses have been verified and two original hypotheses have not been verified. It can be seen from table 6 that the main factor affecting user's continuance intention is the degree of Expectation Confirmation ($\beta=0.83$, $P < 0.05$) followed by perceived reputation and perceived usefulness which have a significant direct impact on user's continuance intention. The influence coefficient of Expectation Confirmation degree is the largest indicating that it is the most basic requirement for the smart learning platform to meet the expectations of users and this expectation involves many aspects including the practicability of the platform, the sense of experience in the use process etc. In the specific use situation, once the expectation is confirmed, users believe that they have achieved their purpose, and can also perceive the real usefulness of the smart learning platform.

At the same time, the formation of enterprise perceived reputation will also promote users to prefer a platform enterprise with high reputation when choosing the learning platform in the future. Therefore, a high degree of Expectation Confirmation and good business reputation will affect user's continuance intention. A high degree of expectation confirmation can make users feel the value for money or even value for money: their time and economic cost are rewarded, which will enhance user's continuance intention. Finally, users generally choose products based on their needs for products. Therefore, the practicability and usefulness of the smart learning platform are the basis for

maintaining user's continuance intention. Therefore, H1, H4 and H5 are true.

For hypothesis 3, the user's Expectation Confirmation degree will affect the perceived reputation, and a higher expectation confirmation degree will enhance the user's preference for the choice of smart learning platform and accumulate reputation for the smart learning platform. Similarly, when users choose to use the smart learning platform, they will be affected by the perceived reputation of the smart learning platform. In fact, this can also inspire superstar to take measures to improve services, conduct reasonable marketing and further expand its product popularity. H2 is true, that is the higher is the degree of expected confirmation, the higher is the user's perception of usefulness so as to increase the confirmation of the perceived usefulness of the smart learning platform.

Users' perception of smart learning platform is generally reflected in the use of smart learning platform improving the convenience and efficiency of users' learning and providing great convenience for users' daily preview and review, communication and discussion and other learning links and processes. In different situations, users' perceived usefulness of smart learning platform is different. Therefore, future research can classify and discuss different subjects and use different situations, so as to realize a deeper exploration of the influencing factors of user's continuance intention.

Recommendations

In order to further promote the sustainable development of smart learning platform, we put forward the following suggestions based on the hypothetical results:

First, optimize products and improve the confirmation degree of users' expectations. For the developers and maintainers of smart learning platform, they should continue to improve the platform software, solve the problem of "waiting anxiety" that may exist in users' use through rapid product iteration, design and develop platform function modules and extended services suitable for different groups, constantly create products and services that match users' needs, give users better use experience and perceived value, and improve the degree of confirmation of users' expectations.

Specifically, first, optimize the smart learning platform to make it easier to use, so that users with low grades and initial contact with the platform can experience the convenience of using the smart learning platform, so as to improve the perceived usefulness of users.

Second, launch various preferential activities appropriately to stimulate users' continuance intention, and actively fulfill the launched activities and commitments, so as to improve the degree of confirmation of users' expectations. Third, actively manage the smart learning platform, reduce various problems that new and old users may encounter when using,

reduce the degree of user concern, actively develop new user groups and expand the scope of application of the smart learning platform.

Secondly, strengthen publicity and accumulate reputation. At present, various learning platforms emerge endlessly in the market, and the competition between platforms is becoming increasingly fierce. Therefore, when the users of smart learning platform are more to continue to use, the market demand of the brand will be greater, and the corresponding platform enterprises can also stand out in the competition in the same industry, ensuring the sustainable development of the platform enterprises. At this stage, more and more platform enterprises are expanding their product popularity with the help of third-party social platforms such as Tiktok and Microblog. However, whether they rely on TV advertising, mobile internet or other media for communication, only by facing up to the current market, insight into user needs, continuous improvement of products and optimization of marketing schemes.

From the perspective of the Government, the Government can consider establishing and improving a set of governance mechanisms and schemes to strengthen the audit and supervision of the operation process and publicity contents of enterprises such as smart learning platforms, so as to realize the healthy development of the whole market including smart learning platforms. At the same time, the State should continue to encourage all sectors of society to use all kinds of digital teaching platforms and make corresponding public opinion guidance and policy support to enhance the public's awareness of digital education.

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