

# Research on customer relational bonds, affective commitment and payment intention for online education platform of traditional culture Based on the moderation of cultural identity

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**Abstract.** This study focuses on the online education platform of traditional culture, a new product of the Internet era. At present, the traditional culture online education platform is facing many difficulties and challenges. Its poor market performance and poor retention of the industry's overall users are difficult to solve, which has aroused the common concern of the industry and academia. The existing research on online education platform is mainly based on Technology Acceptance Model and motivation theory to explore the influence of platform attribute and platform content on consumer perception. It explores the use behavior of online education users from the perspective of "technology use", but ignores the "virtual community" attribute of online education platform. Therefore, based on social exchange theory, combined with the "virtual community" attribute of traditional culture online education platform, this paper uses the theoretical framework of relationship bond affective commitment payment willingness to explore the influencing factors of users' payment intention for traditional culture online education platform. According to the characteristics of traditional culture online education platform user groups, this study also introduces cultural identity as a potential moderator, trying to improve the theoretical framework more systematically. All the above variables were measured by the maturity scale developed by previous scholars. The research model established in this paper can provide a new perspective for the traditional culture online education platform industry to promote users' payment intention, and also provide a basic framework for future research in the field of traditional cultural online education. In order to verify the hypotheses, this study will use the judgment sampling method to collect 655 questionnaires from the existing individual user groups of relevant online platforms, and use SPSS and Amos statistical software for empirical analysis.

**Key words:** Relational bonds; affective commitment; payment intention; cultural identity; traditional culture online education platform.

## 1. Introduction

With the rapid development of the Internet in the new century, Chinese people have gradually integrated into the multi-cultural pattern of the world, and the consequent concept changes have impacted and penetrated into all levels and corners of society. However, excellent traditional culture is the foundation of a country and a nation to inherit and develop. Therefore, it is very important to enhance cultural consciousness and self-confidence in national cultural construction. Popularizing and deepening the education of Chinese excellent traditional culture is a strong spiritual support for the realization of cultural power. At the same time, with the advent of the digital revolution, more and more online education platforms emerge as the times require. This kind of online education platform, with its convenience, diversity, personalization and other characteristics, helps

to realize the fine and mobile management of education resources, and makes it convenient for the efficient storage and dissemination of educational resources. Online education platform can also break the limitation of time and space, fully meet the needs of learners to learn at any time and anywhere, as well as the needs of modern social education and lifelong education. It is an important part of promoting the development of traditional cultural industry. However, online education platform is facing many difficulties and challenges. It is difficult to solve the problems such as poor market performance and poor retention of users in the industry. Therefore, how to break through the dilemma of industrial development and construct effective strategies to promote the willingness of users to pay is a common concern of the industry and academia.

The existing research on online education platform is mainly based on Technology Acceptance Model (TAM)

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Motivation theory, to explore the platform attributes, The impact of platform content on consumer perception, From the perspective of "technology use", this paper explores the use behavior of online education users. However, previous studies have ignored the "virtual community" attribute of online education platform. In virtual community, member cohesion is an important factor for platform and participants. The core of the formation and maintenance of platform cohesion lies in the relationship among members and between members and platforms. This kind of relationship determines the way users view the platform and their commitment to the platform. In the e-commerce industry, relational bonds have a positive impact on consumers' behavior by influencing customers' affective commitment. More specifically, relational bonds directly and positively affect consumers' online purchase intention through the mediating role of customer commitment. Therefore, the relationship link seems to be an important factor that affects the psychology and behavior of customers in online education platform of traditional culture.

To sum up, this paper focuses on the traditional culture online education platform industry based on the relationship mechanism among relational bonds, affective commitment and user payment intention, and explores its impact. Among them, affective commitment is explored as an intermediary variable between relational bonds and payment intention. According to the characteristics of the audience group of traditional culture education, this paper introduces the customer's cultural identity as a moderating variable, and tries to explore the moderating role of cultural identity between relational bonds and affective commitment. Through the exploration of this field, we hope to deepen the understanding of the relationship between relational bonds and customers' payment intention in theory, and hope to provide corresponding basis and inspiration for the practice of relationship marketing of related enterprises.

## 2. Literature Review

### 2.1 Research on the Payment Intention of Online Education Users

Willingness-To-Pay; WTP) reflects the subjective tendency of consumers to buy specific products, that is, it mainly refers to the possibility that consumers want to buy goods or services. Previously, some domestic scholars have carried out relevant research on payment intention. Han Rui and Tian Zhilong believe that payment intention refers to the possibility of consumers to buy the product; Zhou yingheng and Peng Xiaojia took food safety as an example to explain consumers' payment intention for food safety, that is, the funds consumers are willing to pay for the improvement of food safety. It reflects the value evaluation of consumers for food safety, and reflects the affordability and tolerance of customers for price from the perspective of price. In recent years, with the advent of the information age and the development of we media platform, the concept of user payment has also ushered in a new connotation. Online platform users' payment

intention will also directly reflect the vitality and popularity of a platform. However, at present, online education platform is facing many difficulties and challenges, such as its poor market performance, the industry's overall user retention is difficult to solve. Wang Xiaobin, a scholar, believes that in the context of the development of the Internet in China, "free" has become the potential awareness of Internet users. However, for online education platform enterprises, whether the business model of online education can succeed or not is the key to the development of the industry. Only by paying attention to the training of paying users can online education platform seek the success of business model. Therefore, how to break through the dilemma of industrial development and build effective strategies to promote users' payment intention is a problem concerned by relevant enterprises.

However, the research on online education users' payment intention is still in its infancy. The research of domestic scholars Song Yu and Wang Chunmei shows that with the increasing number of online education platforms, the quality of online education platforms should also be paid more attention to, and high-quality online education products should be developed according to the needs of users in order to improve the payment rate of users. Hu hang and others pointed out that the online education platform should pay attention to the collection of educational big data and the development of intelligent learning system. For example, the brain computer interface embedded in the online English education platform can effectively sense and moderate the attention of learners, improve the learning performance of users and attract users to pay. Ouyang Yingquan, based on the theory of perceived value, integrates the relevant achievements of TAM, tra and IDT, and constructs a model of influencing factors of adoption intention of paid online learning. It is found that perceived value is the main factor affecting users' payment intention for online learning. The perceived entertainment and perceived usefulness of learning content positively affect user perceived value. Previous studies mostly regard the online education platform as a tool market platform, from the perspective of consumers' choice to buy specific products, while ignoring the "virtual community" attribute of most online education platforms. As a kind of virtual community, online education platform of traditional culture gathers many groups interested in traditional culture when it outputs traditional culture as the core content to users. On the platform, like-minded peers, instant response between the course and students, and emotional interaction can provide users with additional social benefits. This interactive process and relationship has the characteristics of bilateral, interactive and reciprocal. Based on the theory of social exchange, an individual is involved in and maintains an exchange relationship with the other party in anticipation of return. Therefore, the establishment of the relationship between users and platforms of online education platform seems to affect users' payment intention online, but the research from this perspective is still not perfect. Based on this, this paper will continue to explore the influence mechanism of the relationship between users and platforms and the

relationship between users and other members on online education platform payment willingness.

## **2.2 The Connotation of relational bonds and Related Research**

The concept of relational bonds (RB) originates from the dynamic evolution of relationship marketing research. Berry defined relational marketing as the establishment, development and maintenance of successful trading relationship with customers for the first time, and further pointed out that enterprise marketing activities should focus on the development, maintenance and maintenance of long-term relationship with profitable customers, rather than attracting short-term trading customers. Since then, relationship marketing has been widely concerned by academic and industrial circles. It can be said that relationship marketing is regarded as a new paradigm of marketing theory and practice.

Different scholars at home and abroad have different interpretations of the definition of relational bonds. Homans, a foreign scholar, believes that the relational bonds are developed through a series of successful interactions. These successful and unsuccessful interactions become a cloth woven by many relationship lines, and the close ties form the relationships among members and drive their activities. Bleeker and Ernst believe that the relationship bond is a strategic partnership. With the continuous expansion of the research scope of relational bonds, it has been widely concerned by domestic scholars. Scholars Hu Dengfeng and Chen Yun believe that relational bonds refer to the strength of the relationship between customers and enterprises. Customers will maintain long-term relationship with enterprises for psychological, emotional, economic and other reasons, thus showing high attitude loyalty and behavior loyalty. Liu Guohua and Su Yong believe that the tie of relationship is a kind of economic, psychological, emotional or physiological attachment produced by making and interacting. Sun Dongqi believes that relational bonds can enable enterprises to cultivate and develop relationships with customers through various activities, thus reducing customer loss, cultivating loyalty, expanding market share and gaining sustainable competitive advantage.

However, different types of bonds may have different effects on the interactive relationship, and different students have different opinions on the dimensions and composition of the bonds. This paper sorts out the classification of the dimensions of bonds between different students at home and abroad.

For the division of the dimension of relational bonds, foreign scholars Liljander and Strandviks think that bonds are exit barriers to maintain the relationship between customers and service providers. These barriers may be legal, temporal, economic, technical, geographical, professional knowledge, social, cultural, self-awareness and psychological bonds. Peltier and Westfall point out that there are three hierarchical bonds between service providers and related parties: financial bonds, social bonds and structural bonds.

However, the views of domestic scholars are relatively unified, and they are in agreement with Peltier and Westfall. The proposed financial, social and structural divisions are similar. According to the relationship marketing theory, Sun Dong believes that enterprises can develop three types of relational bonds with customers, namely, financial bonds, social bonds and structural bonds. Peng Yuhong et al. In a study on e-commerce live broadcasting, they divided the relational bonds into financial bonds, social bonds and structural bonds, and pointed out that the relational bonds can enhance consumers' online purchase willingness under the intermediary role of customer commitment.

It can be seen that different types of bonds may have different degrees of impact on the interactive relationship and consumer behavior. Previous studies have confirmed this. As Lin and Lu's research shows, structural bonds and financial bonds have a positive impact on trust, and thus positively affect customers' purchase intention, but the impact of structural bonds is more important than that of financial bonds. Moreover, this phenomenon is more obvious when we focus on the research of e-commerce live broadcasting industry. Peng Yuhong et al. In a study on e-commerce live broadcasting, financial bonds and structural bonds promote consumers' online purchase intention through computational commitment, while social bonds promote consumers' online purchase intention through emotional bonds. However, Hu and Chaudhry pointed out in another study on e-commerce live broadcasting that both social bonds and structural bonds can directly or indirectly affect consumers' behavior through affective commitment, while financial bonds only indirectly affect consumers' behavior through affective commitment. Therefore, it is not clear to what extent the bonds can affect the willingness of users to pay for online education platform of traditional culture, and what kind of internal mechanism they use to produce such influence is not clear. In order to solve this research problem, this paper will introduce affective commitment as an explanation mechanism based on the division of relational bonds adopted by more scholars to explore the impact of relational bonds on the payment willingness of users of traditional cultural online education platform.

### **Research on Affective Commitment**

Affective commitment (AC) is the core component of commitment, which mainly refers to the strong emotional connection between individuals due to the relationship between recognition, enjoyment and organization. Or an attitude of emotional attachment. As for the influence of affective commitment on enterprises, at first, the academic circles mainly focused on the research of organizational behavior. Then, scholars Morgan and Hunt introduced affective commitment into the field of marketing, pointing out that affective commitment is a desire for enterprises and customers to maintain relations with each other. With the domestic and foreign scholars' research scope of affective commitment in the field of marketing expanding, Wu Qiangjun pointed out that affective commitment is the customer's persistent willingness to maintain the relationship because both parties share the same goals, values and emotional closeness. Subsequently, the research done by Pan Wen

'an and others shows that affective commitment can also be interpreted as the efforts made by members to maintain mutual relations out of common values and emotional dependence. Therefore, affective commitment is an important factor that influences the relationship between customers and platforms, and between customers and members.

Based on the review of the definitions of affective commitment in the previous literature and the characteristics of relational bonds, this paper defines the affective commitment in the traditional cultural online education platform as a persistent intention of users to maintain the relationship with the current platform because of the relational bonds between users and the platform and its members.

In addition, affective commitment has a good effect on individual behavior prediction. Previous studies have shown that financial bonds, social bonds and structural bonds can all influence consumers' behavior by influencing their affective commitment. Moreover, social bonds can promote consumers' willingness to buy online by enhancing their affective commitment.

Therefore, affective commitment seems to be an important internal mechanism in the process of relational bonds influencing customer behavior, or more specifically, customers' payment intention online. Incorporating affective commitment into the research of customer's payment intention online can more clearly explore the different types of relational bonds and the ways through which they influence customers' payment intention online. In addition, in view of the unique characteristics of traditional culture online education platform, that is, most users are interested in traditional culture, this paper introduces the cultural identity of customers to explore the boundary conditions of these influencing mechanisms.

### 2.3 Research on Cultural Identity

Cultural identity is the consensus and recognition of people's tendency to culture, and it is the recognition of core basic values that tend to live and regionalize in the long-term development process. Oetting and Beauvais pointed out that cultural identity refers to the degree to which individuals consciously participate in and belong to a certain cultural group in the field of anthropology, emphasizing consciousness and attribution. Jiang Yihua pointed out that cultural identity refers to a group of people who share common historical traditions, customs and norms, and countless collective memories, thus forming a sense of belonging to a community, and usually developing by attaching to a piece of land with a fixed scope. This kind of consciousness or sense of belonging often exists in different strengths among individuals, that is to say, there are high and low levels of individual cultural identity.

The level of cultural identity results in the differences among individuals, which can also lead to behavioral differences. Previous studies have shown that college students' involvement in language learning is largely due to the differences of individual cultural identity. More specifically, in the buying situation related to traditional

culture, cultural identity also plays a moderation role in consumers' purchasing decisions and purchasing intentions.

The online education platform of traditional culture, which this paper focuses on, mostly gathers users based on their interest in traditional culture or their learning needs. However, there are differences in cultural identity among individuals, which may affect the way different users build relationships with the platform, and thus affect their affective commitment to the platform. However, at present, there is little research on the online education platform of traditional culture, and the influence of cultural identity on customers' behavior is still unclear. Therefore, this paper takes users' cultural identity as a potential moderating variable to explore whether the heterogeneity of users' cultural identity will affect the relationship between relational bonds, affective commitment and online payment willingness.

### 3. Second, the Model Construction

From the point of view of social exchange theory, this paper holds that the relational bonds and emotional bonds between the customers of traditional cultural online education platform and other customers in the process of using it are the important influencing factors on their behavior. Based on the different effects of relational bonds on consumers' affective commitment, this paper explores the different degrees of influence on consumers' payment intention. In addition, cultural identity is introduced as a potential moderating variable, and the moderating effect of verifying cultural identity and its relationship with various variables are discussed. To sum up, based on the social exchange theory, this study aims to discuss the influence of relational bonds, affective commitment, payment intention and cultural identity. Finally, the research framework of users' payment intention for online education platform of traditional culture is established, guilt and regret from the post-purchase emotion of impulsive purchase. According to the above related theories, this paper puts forward the following assumptions:

H1: Relational bonds has a positive impact on User's payment intention.

H2: Emotional commitment plays an intermediary role between relational bonds and User's payment intention.

H3: Cultural identity plays an moderation role between relational bonds and emotional commitment

Based on the above analysis, this study outlines the specific research framework as shown in Figure 1.

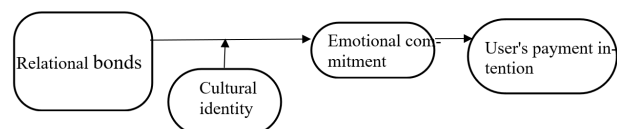


Figure 1: Research architecture diagram

## 4. Research Hypothesis

### 4.1 relational bonds and Users' Payment Intention

relational bonds, as an important variable to measure the marketing relationship between the two parties, help to strengthen consumers' attention to information resources, stimulate consumers' positive attitude towards products and sellers, and play an important role in improving customers' trust and purchase intention. In the traditional cultural online education platform, the relationship between the platform and the users is an important driving factor to promote the payment intention. The platform issuing coupons, trial courses, free course content and other promotional and preferential means will significantly enhance the users' perceived economic benefits, thus realizing the payment behavior. Stimulating users' perceived psychological benefits through interaction can enhance consumers' trust in organizations and platforms, thus positively affecting their payment intention. Customized service and personalized recommendation algorithm help to save consumers' cognitive resources, reduce consumers' overload of commodity information, and then promote their payment intention. Therefore, this study puts forward the following assumptions:

H1: relational bonds are positively influencing users' payment intention for online education platform of traditional culture.

According to the research of scholars Peliter and Westfall, Sun Dongqi and Peng Yuhong, relational bonds can be divided into financial bonds, social bonds and structural bonds. Among them, financial bonds refer to special price concessions or other economic incentives perceived by consumers in online education platforms, such as discounts, prize promotions, course concessions, etc. As utilitarianism is one of the important motivations for users to use the online education platform, the platform issuing coupons, trial courses, free course content and other promotional and preferential measures will significantly enhance users' perceived economic benefits. Furthermore, when users feel that their economic needs have been realized, they often show more positive emotions and are more willing to take the initiative to participate in courses, thus realizing the generation of payment behavior. Therefore, this study puts forward the following assumptions:

### 4.2 The Intermediary Role of Affective Commitment

Commitment is a persistent intention of users to maintain their relationship with the current platform because of the sense of identity and attachment brought by their relationship with the platform and members. When the relational bonds are stronger, the intention to maintain this long-term and lasting relationship will also increase. In addition, commitment, as a positive attitude, can encourage consumers to purchase or even repeat the

purchase. With the enhancement of consumers' affective commitment, consumers' perceived value of platform and platform content is higher, which leads to reciprocal behaviors such as recommendation, feedback and purchase. Therefore, higher affective commitment makes users' payment intention more intense.

In the traditional cultural online education platform, the relationship between the platform and the users will enhance the users' persistent intention to maintain the current relationship, thus promoting the users' payment intention on the platform. Therefore, this study attempts to discuss affective commitment as an intermediary variable, and holds that the influence of relational bonds on users' payment intention for online education platform of traditional culture is indirectly produced through the intermediary effect of affective commitment. Therefore, this study puts forward the following assumptions:

H2: affective commitment has an intermediary effect between relational bonds and users' payment intention.

### 4.3 The moderation Role of Cultural Identity

Cultural identity, as a measure of the degree to which individuals consciously invest and belong to a certain cultural group, often has different strengths among individuals. The higher the degree of cultural identity, the higher the consistency of psychological attributes and attitudes, and the more obvious the positive behavior of individuals when engaging in group relations; Similarly, the lower the degree of cultural identity, the lower the attitude consistency, and the less positive behavior individuals have when they are involved in group relations.

Moreover, in the online education platform of traditional culture, the establishment and maintenance of different relationships and relational bonds require consumers to invest different levels of resources. Therefore, consumers with different levels of cultural identity will have different behaviors when they are involved in the relationship with the online education platform of traditional culture, which will lead to different levels of affective commitment to the platform, which may lead to different effects of different relational bonds.

Huang et al.'s research shows that economic stimulus belongs to the low-level stage of committed development, and its action process does not need to consume more energy and cognitive resources of consumers, and the subject involvement is higher. Therefore, in the online education platform of traditional culture, if users have a low recognition of traditional culture and are only at the beginning or understanding stage, they will be more likely to pay attention to positive and superficial information such as product promotions and offers, and rely more on intuition and experience to make simple and quick decisions. Users with low cultural identity are more likely to have the intention of maintaining a long-term relationship with the platform because of economic benefits. At the same time, compared with users with high cultural identity, users with low cultural identity have stronger interaction motivation, because they are more eager to meet like-minded friends by relying on the social

opportunities provided by the platform, so as to meet individual social needs. Therefore, this study puts forward the following assumptions:

H3: Compared with users with high cultural identity, for users with low cultural identity, relational bonds have a stronger impact on affective commitment.

## 5. Research Design

### 5.1 Measurement of Variables

According to the theoretical model proposed above, the arguments in this study are relational ties, and the scale developed by Hsieh et al. is adopted. The dependent variable is payment intention, and the measurement is based on the payment intention scale designed by Dodds et al. Mediator is affective commitment, and its measurement is based on Gustafsson et al.'s design-based "affective commitment" scale. The moderating variable is cultural identity, which is measured by the scale of "cultural identity" designed by Cleveland and Bartikowski. All the items in the questionnaire are measured by Likert scale, 1 is totally inconsistent, 2 is totally consistent, 3 is uncertain, 4 is consistent and 5 is totally inconsistent. In addition, for the measurement of other controlled variables, Batt and Valcour scales are mainly used, and gender, age, income and education level are included in the measurement range.

### 5.2 Sampling Design

In this study, the sample objects are the users of the representative online education platform of traditional culture in China, and 5-6 other individual users of different types of online education platforms of traditional culture in China are selected.

As for the sample size, it is generally believed that the ratio of scale items to respondents should be 1:5 to 1:10. There are 31 questions in this research questionnaire, so the number of samples in this research should reach 155 to 310. Considering the influence of sample heterogeneity or invalid samples on the results, it is expected that 670 questionnaires will be collected in this paper to achieve random and uniform distribution of samples. The questionnaire collection will be combined with online and offline distribution, and online distribution will be carried out through the Questionnaire platform.

Secondly, in order to reduce the sampling error, the research will adopt the method of judging sampling. Judgment sampling refers to the sampling and selection of survey objects by researchers based on their long-term work experience, subjective professional judgment and statistical sampling techniques. The author has been engaged in online education of traditional culture for a long time, and is responsible for the operation of a large-scale online education platform of traditional culture. She has good professional knowledge and sampling training on the characteristics and distribution of users using online education platform of traditional culture. Therefore, the judgment sampling method in this paper can achieve accurate judgment and get twice the result with half the effort. Specifically, according to the statistical distribution

results of users in the online education platform of traditional culture and the author's practical experience, the research will conduct purposeful and focused sampling with reference to the gender, age, income and other indicators of users in the online education platform of traditional culture, so as to make the sample distribution conform to the overall distribution.

### 5.3 Data Analysis

According to the research purpose, this study will use SPSS statistical software to conduct descriptive statistical analysis, correlation analysis (Pearson correlation coefficient) and moderation path analysis (multi-level moderation). In order to further verify the results, this study will also use AMOS statistical software to analyze the data by structural equation model (SEM).

## 6. Empirical Research

A total of 670 questionnaires were collected in this study. The questionnaire was checked and 15 invalid questionnaires were eliminated. The final valid questionnaires of this short video content marketing research on impulse purchase intention totaled 655, with an effective rate of 97.761%.

### 6.1 Reliability and Validity Analysis

#### 6.1.1 Reliability Analysis

According to the results of literature survey, the research criteria of reliability evaluation in this paper are: if Cronbach's reliability coefficient (Cronbach  $\alpha$  coefficient value) is above 0.9, it indicates that the reliability of the scale data is good; The reliability coefficient of 0.8-0.9 indicates that it is acceptable; If it is 0.7-0.8, it means that some items of the scale need to be revised, but their value is still not lost; If it is lower than 0.6, the scale needs to be redesigned.

In this paper, SPSS software is used for reliability analysis. The overall reliability coefficient of the questionnaire is 0.908, which is greater than 0.900. The reliability of the overall data is in an ideal state. On the basis of the overall reliability, the reliability of four setting variables, such as relationship bond, cultural identity, payment intention and affective commitment, is analyzed. The Cronbach  $\alpha$  coefficient values of relationship bond, cultural identity, payment intention and affective commitment are all greater than 0.850. This can show that the reliability analysis effect of the questionnaire variable is ideal and can meet the requirements of academic research. Specific research data are shown in Table 1 below:

Table 1: Reliability analysis of each variable

variable	Cronbach $\alpha$ coefficient value
<b>relational bonds</b>	0.88
<b>cultural identity</b>	0.869
<b>payment intention</b>	0.894
<b>affective commitment</b>	0.883

Note: N=655

### 6.1.2 Validity Analysis

Validity analysis is the degree to which the conclusions about the relationship between variables are correct or reasonable based on data. According to the results of literature survey, the research criteria of validity evaluation of this paper are as follows: if KMO value is above 0.6 and Significance Sig. is less than 0.001, it indicates that this group of data can be subjected to factor analysis; if KMO value is less than 0.5 and significance sig. is greater than 0.001, it needs to be considered for abandonment; If the explanation degree of the common factor to the independent variable is greater than 50%, it shows that the common factor has a good explanation ability for all items of the independent variable.

In this paper, SPSS software is used for validity analysis. The KMO value of the whole 25 items studied is  $0.843 > 0.600$ . The corresponding relationship between these 25 items and dimensions is good, which is consistent with professional expectations. And it can be seen from the following table 4-4: Through bartlett test, the approximate chi-square value is 1761.853, the degree of freedom is 6, and the Significance sig. is less than 0.001, which indicates that most of the item information can be extracted from these dimensions and factor analysis can be done.

Table 2:KMO and Bartlett tests

Bartlett spherical test	KMO value	Bartlett value		
		Approximate chi-square	df	Sig.
	0.843	1761.853	6	0.000

In this paper, the principal component analysis method is adopted to obtain the rotating component matrix table, which is shown in Table 3. Four common factors were extracted from 25 scale questions. The explanation degree of the public factor to the independent variable reaches 100%, which is more than 50%, indicating that the public factor has a good explanation ability for 25 items.

Table 3: Explain the total variance

ingre dient	Initial eigenvalue	Cumulative%	Ext ract the sum of loa d squ ares		Cumulative%
			am ount to	Varia nce perce ntage	
1	3.153	78.82	3.153	78.82	78.82
2	0.344	87.413			
3	0.291	94.686			
4	0.213	100			

Extraction method: principal component analysis.

### 6.2 Correlation Analysis

Correlation analysis mainly studies the relationship between variables. Generally speaking, Pearson correlation coefficient is used as a statistic to describe this linear relationship and direction. The greater the significance of Pearson correlation coefficient, the greater the close correlation between variables. Positive value represents positive correlation and negative value represents negative correlation.

By observing Pearson's correlation coefficient, it is found that there is an intrinsic significant correlation among all variables. Specifically, there is a significant correlation between relational bonds and affective commitment ( $r=0.722, p<0.01$ ); There is a significant correlation between relational bonds and cultural identity ( $r=0.775, p<0.01$ ); There is a significant correlation between relational bonds and payment intention ( $r=0.530, p<0.01$ ); There is a significant correlation between commitment and payment intention ( $r=0.689, p<0.01$ ); There is a significant correlation between commitment and payment intention ( $r=0.664, p<0.01$ ); There is a significant correlation between commitment and cultural identity ( $r=0.727, p<0.01$ ). There is a significant correlation between cultural identity and payment intention ( $r=0.726, p<0.01$ ); Therefore, there is a correlation between payment intention and relational bonds, and there is a significant correlation between payment intention, cultural identity and relational bonds and affective commitment.

Table 4: Correlation Analysis

serial number	variable	1	2	3	4	5	6	7	8	9
1	gender	1								
2	age	.39*	1							
3	industry	-.34*	-.37*	1						
4	Monthly income	-.44*	-.44*	.69*	1					
5	level of education	-.21*	-.24*	.31*	.55*	1				
6	relational bonds	-.07	-.07	0.04	0.06	0.02	1			
7	affective commitment	-.06	-.09	0.06	0.07	0.05	.72*	1		
8	cultural identity	-.09	-.16	.12*	.15*	.07	.75*	.72*	1	
9	payment intention	-.10	-.24	.19*	.23*	.11	.66*	.68*	.76*	1

Note: \*\* means  $p < 0.01$ , and \* means  $P < 0.05$ .

### 6.3 Moderation Analysis of Intermediary Effect

In order to study whether consumers' relational bonds will affect their payment intention through affective commitment, this paper analyzes the hypothesis test with affective commitment as the intermediary effect by model,

and uses hierarchical moderation analysis to test it. Table 5 is a specific hypothesis test analysis. The results show that relational bonds have a significant relationship with affective commitment, and affective commitment has an intermediary effect between relational bonds and payment intention.

In Table 7, model 1 takes into account the background variables of consumers such as gender, age, industry, income, education, etc. as the control variables of the research model, and relational bonds have a positive and significant impact on their payment intention, while Model4 shows that relational bonds have a positive impact on their payment intention due to affective commitment. Specifically, the relational bonds in Model 2 ( $\beta=0.652, P<0.001$ ) have a positive and significant impact on the payment intention, and the relational bonds in Model 3 ( $\beta=0.0.721, P<0.001$ ) also have a significant impact on the affective commitment. After the intermediary variables are included in Model4, the affective commitment ( $\beta = 0.422, P <$  Furthermore, the relationship between independent variables ( $\beta=0.348, P<0.001$ ) is obviously weakened ( $\beta=0.348<0.652, P<0.001$ ). At the same time, the fitting degree R of the model is ideal, and Durbin-Watson is between 1.25 and 2.5, which indicates that the residual distribution is ideal. Therefore, affective commitment has a significant mediating effect between relational bonds and payment intention, and affective commitment plays a significant transmission effect in the model.

Table 5: Moderation Analysis Table of Intermediary Effect

predictor variable	Model 1	Model2	Model3	Model4
		Payment Intention	Affective Commitment	Payment Intention
gender	0.004	0.039	0.003	0.038
age	-0.146	0.124**	-0.098	-0.083
industry	0.014	0.029	0.02	0.02
income	0.122	0.095	-0.093	0.135*
education	-0.027	-0.014	0.043	-0.032
relational bonds		0.652**	0.721***	0.348**
affective commitment				0.422**
R <sup>2</sup>	0.064*	0.486**	0.527***	0.570**
ADJ-R <sup>2</sup>	0.056*	0.481**	0.523***	0.566**
F	8.821*	532.147***	706.5***	381.367***
Durbin-Watson	—	2.048	1.984	2.000

Note1: N = 655,  $P < 0.05^*$ ,  $P < 0.01^{**}$ ,  $P < 0.001^{***}$



### 6.4 Regulative Effect Moderation Analysis

Firstly, the data centralization of variables is studied, and the independent variables interact with the moderated variables. Secondly, model 1 also takes demographic variables such as gender, age, behavior, income and education into control variables, in order to obtain more objective statistical results; Repeatedly, model 2 verified the relationship between relationship bond and affective commitment ( $\beta=0.721, p<0.001$ ), and the fitting degree of moderation equation was 0.527, the same  $p<0.001$ ; 3 The model verifies the relationship among independent variables, moderators and dependent variables, among which the cultural identity of moderators and the affective commitment of dependent variables ( $\beta=0.418, p<0.001$ ), R square is 0.594,  $p<0.001$ ; However, after cross variables were included in model 4, it was found that cross variables were not significant ( $\beta=0.021, p>0.05$ ), so the data showed that the adjustment variables were not significant.

Table 6: Moderation Analysis Table of moderation Effect

predict or variable	Model 1	Model2	Model3	Model4
Affective Commitment				
gender	-0.035	0.003	-0.004	0.000
age	-0.122	-0.098	-0.057	-0.060
industry	0.003	0.02	0.011	0.011
income	-0.064	-0.093	-0.097	-0.099
education	0.028	0.043	0.04	0.04
relationship bonds		0.721***	0.399***	0.4000** *
cultural identity X culture			0.418***	0.422*** 0.021
R <sup>2</sup>	0.011**	0.527***	0.594***	0.570***
ADJ-R <sup>2</sup>	0.004**	0.523***	0.59***	0.566***
F	1.482**	120.327*	135.334*	381.367*
Durbin - Watson		1.984	1.978	2.000

Note1:N = 655; \*, $p<0.05$ ; \*\*, $p<0.01$ ; \*\*\*, $p<0.001$ ;  
 2: relationship x culture = relationship bond \* cultural identity

### 7. Summary

This study focuses on the online education platform of traditional culture, a new product based on the Internet age. The marketization performance of most of these platforms is not satisfactory, and the development of the industry encounters difficulties. Relevant enterprises are concerned about how to promote users' payment intention

to overcome this dilemma. However, at present, the research on online education platform mainly focuses on the level of technology use, exploring the influence of platform attributes and content on users' behavior. According to the "virtual community" attribute of traditional cultural online education platform which was neglected in previous studies, this study explores the users' payment intention at the level of emotional connection based on social exchange theory.

In this paper, the theoretical framework of relationship bond-affective commitment-user's payment intention is verified in the field of traditional cultural online education platform for the first time, and through the exploration of the interaction mechanism among variables of this theoretical framework, a new perspective is provided for the related research of traditional cultural online education platform. At the same time, this study combines the characteristics of users of traditional online education platform, introduces cultural identity as a potential adjustment variable, and improves the theoretical framework more systematically. The research model established in this paper can provide a basic framework for future research in the field of online education of traditional culture. From the perspective of practical significance, this paper also provides a new perspective for the strategy of promoting users' payment intention for traditional culture online education platform industry.

### 8. Research Limitations and Future Research Directions

There are limitations to this study. First, we measured Relationship bond, affective commitment, cultural identity, payment intention through self-reporting; thus, common method variance might have inflated the relationships between those variables. Second, our sample makes use of groups from a single industry company. Thus, the generalizability of our results needs to be tested by future replications in other service settings. We suggest that future researchers evaluate the results of this study by looking at different service settings. In addition, another direction for further research pertains to the mediating roles of psychological capital and cultural factor. Although we show that Relationship bond, affective commitment, cultural identity have significant impact on payment intention, other variable may exist on Pay behavior.

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