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FACTORS INFLUENCING USER BEHAVIOR ON AN ONLINE EDUCATION PLATFORM BASED ON B2B2C MODE: FROM THE PERSPECTIVE OF ART EDUCATION

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ABSTRACT

This research analyzes whether the course design and follow-up services have an impact on customer satisfaction when an arts education institution applies the business to business to customer (B2B2C) platform for online education. The guidance on customer behavior of the B2B2C online education platform proposed in the previous literature is adopted to adapt the model framework, and provide guidance for arts education institutions when using this type of platform for online education. Questionnaires are distributed offline. In this research, 399 valid questionnaires are used for quantitative analysis, and the proposed hypotheses are verified through correlation and multiple regression analyses. The results show that excellent course arrangement and active after-school assistance behaviors have a significant positive impact on customer satisfaction. The course content of the product owner mainly plays a role in assisting decision-making during the trial phase. In the use phase, the product side can establish a community based on the analysis results, conduct follow-up one-to-one coaching, and carry out regular assessments, all of which can effectively improve customer satisfaction and expectation confirmation after class. For the invalid hypotheses, it is significant for arts education institutions to circumvent them reasonably when practicing education.

Keywords: *B2B2C platform, Course Design, After Services, E-learning, Art Education, Influencing Factor*

1. INTRODUCTION

With the rapid development of the information, the Internet can be used to spread information and Internet education has also gradually emerged. According to the data monitoring report [1,2], the transaction scale of China's Internet education market in the second quarter of 2019 was increased by 13.1% from the previous month to RMB117.35 billion with a year-on-year growth rate of 39.2%. With the steady growth of the industry and the application of new technologies, more new scenarios and models have gradually emerged in Internet education. Art education also plays an important role among them. According to the China Music Industry Development Report [2], the transaction scale of China's Internet music education market in 2019 was approximately RMB14.5 billion, with an online penetration rate of over 15% [1,2].

All physical enterprises are facing major risks because of the outbreak of COVID-19 in early 2020. The halt of work and production in two months and nearly no income have made many small and medium-sized enterprises in bad management, and the arts education institutions, which focus on face-to-face education, have also suffered negative impact. When the pandemic situation gets better, Chinese Musical Instrument Association has made an investigation towards 240 key member enterprises [3] and in accordance with the data of the statistical report: 40.40% of the enterprises pointed out that they were in bad management because of the heavy impact of the pandemic. 20.40% of them stated that they had some difficulties in their operations and struggled to make ends meet. Only 17.90% of them believed that the impact was relatively less, and the overall situation remained stable. A questionnaire shows that arts education institutions and training institutions with a certain amount of online teaching reserves believe that although the pandemic has caused great difficulties in sales and operations, it will also bring new opportunities for enterprises [3].

Online education plays an important role in solving the difficulties of offline teaching. However, when online education is carried in the music industry, problems such as poor user experience, low loyalty, and mismatch between the demands and courses have gradually appeared [4]. This is because art education shall be conducted by personal example and verbal instruction. On the basis of research literature, it is found that most of the guidance models for online education still remain at the stage of theoretical guidance, and no online education model for arts education institutions has been proposed. Therefore, based on the current popular business to business to customer (B2B2C) mode, 8 hypotheses that may affect the customer satisfaction of arts education institutions were proposed and proved in this study. This research has an aim to determine the influencing factors needed to be considered when an art education institution as a product owner conducts online education.

There are seven sections in this paper. The first section is the introduction, and in the second section, the relevant literature on this research is discussed. The research model and hypothesis are put forward in the third section. The next section is mainly about the methodology. The results are put forward in the fifth section. Discussion and implication are made in the sixth section. Finally, this study concludes with some findings and limitations.

2. LITERATURE REVIEW

2.1 Behavioral Research towards Users Engaged in Online Education

Technology acceptance model (TAM), proved to be effective for behavioral research by many literatures, is a theoretical model proposed by Davis [5]. This model's aim is to study the acceptance of information systems by users, also referred to as the TAM model. There are two main determinants: 1. Perceived usefulness 2. Perceived ease of use [5]. The model is widely applied to the behavioral theoretical research of information systems benefited from its advantages of strong explanatory power and simple structure. Adwan et al. [6] analyzed the attitudes of students in Jordan University on e-learning, as well as the influential factors with TAM for the first time. They arrived at a conclusion that the TAM model could make a great explanation on the grade of maturity of the platform and the hypothetical influencing factors [6]. Lee et al. [7] proposed that the quality of education and characteristics of teachers had an important influence on the perceived usefulness and the perceived ease of use, which would be changed positively according to the quality of teaching as

presented in exploring the willingness of Korean students for online education [7]. Hueros et al. [8] introduced two external variables, i.e. "technical support" and "computer self-efficacy" into the TAM model to explore the acceptance behaviors of students from University of Huelva towards the learning management system – WebCT. Again, the research results show that the TAM model is effective for behavioral research, and at the same time, the external technical variables will have a positive effect on the user's perceived usefulness. In other words, a mature B2B2C platform can change user habits in a positive manner. He [9] studied the factors influencing users' willingness towards the sustained use of the B2B2C education platform with a comprehensive model integrated the TAM, the Expectation Confirmation Model (ECM), and the American Customer Satisfaction Index (ACSI) [9].

2.2 Selection of Online Education Platform

An analysis on the current situation of China's online education industry is carried out with the PEST analysis model from the aspects of politics, economy, society, and technology [10]. It pointed out that the development of educational scenes and the improvement of service satisfaction have not been well perfected because most enterprises put their emphasis on technology research and development [10]. Although there are platforms owned by Internet giants of BAT, such as Tencent's Crazy Teacher and Baidu's Zuoyebang, the content-oriented business to business (B2C) platform and communication-oriented online to offline (O2O) platform are more popular compared with the Q&A platform for K12. The guidance literature on art education also pays more attention to online platforms after the outbreak of the pandemic [11]. According to the latest report in 2020, it is more difficult for the category of quality education to achieve comprehensive online education than K12 and online English. On account of the limitation of technology, development, time and capital costs, it is impossible for the majority of arts education institutions to develop online systems independently. Therefore, they seek more professional online platforms for help.

The models of online education platforms in China can be categorized according to the market area involved in the platform, the service type provided by it, as well as its business operation model. The market areas are composed of preschool education, K12 education, higher education, vocational education, foreign language education, examination service, and interest education [12]. Service types consist of content, tool, platform, and comprehensive service [13]. Business models are made of business to business (B2B), B2C, customer to customer (C2C), customer to business (C2B), B2B2C and other modes [13]. B2B, B2C, and B2B2C, built on enterprises, are more suitable for content-based and platform-based businesses because the enterprises are taken as the starting point of the service process, and it is convenient and efficient for the iteration of platform content and the management of system information. For example, NetEase Online Open Courses, XDF. CN, and Hujiang Online Class are all content-based education platforms under the B2C mode. All services and courses of C2C, C2B and other customer-based business models are provided on the basis of user demands. In other words, in this kind of business model, the education platform provides services for learners according to their requirements for learning products. The vitality of the C2B mode lies in "providing the most appropriate services" and exploring the real needs of users [14]. This type of model is more applicable to tool-based and comprehensive platforms, such as exueda.com, xue.taobao.com and so forth. Comparing the business and profit models of 16 education platforms, Yang and Zhou [14] arrived at a

conclusion that the B2C model accounted for the highest proportion of current online education platforms, followed by the B2B2C and C2C modes, and the C2B and O2O modes made up a relatively small proportion [14]. Generally, the education platforms under the B2B2C mode are more suitable for online education of arts education institutions.

2.3 B2B2C Platform

In a broad sense, B2B2C is an electronic business model attached to the Internet, and a marketing method in which the product owner and the platform owner assist each other to serve the buyers [15]. The first B represents the product owners, which mainly play roles of product offering, goods inventory, production and transportation in the mode. The second B represents the platform owners, which are mainly responsible for resource integration, technical support, information feedback, and mutual protection in the mode. C indicates the buyers, the types of which are not limited to enterprises or collectives. Individual buyers can also obtain the products and services they need in this mode [15]. With the rapid development of the Internet and the widespread popularity of mobile terminals, the B2B2C mode, no longer just a commodity trade in the traditional sense, covers the following industries roughly: retail and wholesale, online education, online auction, Internet finance and other [16]. Among them, e-learning, also known as MOOC (massive open online courses), formally launched after the establishment of online education platforms of several top universities in the United States successively in 2012. Currently, there is relatively less research on the education platforms under the B2B2C mode, and most of the research literature focus on the exploration of MOOC education platforms [17]. The MOOC mode is a great reference for the education platforms in the B2B2C mode. The main difference between them is that MOOC mainly provides remote teaching methods for well-known institutions [17]. B2B2C is a model with an intermediate platform being a medium to connect free learners with educators [15]. In consideration of its diversified service targets, it is more suitable for small-sized educational institutions. The product owners can determine the teaching content, charging mode and others at their sole discretion [9].

3. RESERCH MODEL AND HYPOTHESIS

3.1 Theoretical Model

The user behavior of the online education platform [9] is taken into account by the theoretical model of this research, which is usually divided into three decision-making processes. The users will make the first decision based on the cognition towards the platform, and another two decisions are made of the trial and use phase. Therefore, the purpose of this research is to explore the specific influencing factors that affect the last two decisions when the arts education institutions adopt the B2B2C platform for online education. Several contextual external variables are added to the model when studying the sustained use intentions of online education users [18]. The research results verify the influences of learning processes and course design on user satisfaction and loyalty to the platform. The idea that art education shall be more inclined to practical teaching is proposed in the study of satisfaction with art education [19]. Three variables, namely perceived openness, perceived reputation, and perceived interest are introduced into the expectancy conformity model (ECM)-information system (IS) model, and the integrated model is applied to the study of the sustained using behavior of MOOC users [17]. The empirical results show that "perceived openness" and "perceived reputation" are also two core factors that affect the sustained using behavioral intention of users. In accordance with the guiding theory of the TAM model in [5], "perceived

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usefulness" and "perceived ease of use" are two indicators that affect the sustained using behaviors of users. Therefore, two main hypotheses for course design and after services of art education and eight sub-hypotheses focusing on the above indicators will be put forward. The empirical research is mainly conducted from two perspectives of the course. The independent variables of the course design are the diversity, difficulty level, professionalism, and usefulness of the courses, while those of the after services are one-to-one tutoring, community discussion, AI partner, and regular assessment. The dependent variable is the customer satisfaction. The research model is shown in Figure 1.

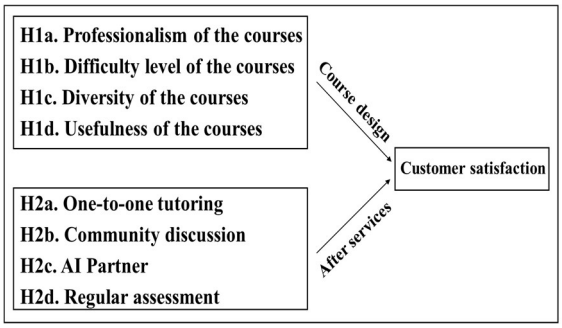

Figure 1: Research Model

3.2 Research Hypothesis

3.2.1 Course design

The course content of online education platforms was an important factor in enhancing customer perception in the results of [9] and [18]. When the arts education institution is the product owner, the output of high-quality course content shall be considered from many aspects on the basis of the particularity of art education. It is believed that the professionalism of public art education shall pay more attention to the training of practical abilities [20]. The so-called 'professionalism' in the art refers to the specialized knowledge or technical ability, which can only be mastered through systematic training. The main difference between MOOC and B2B2C is that the former mainly serve well-known institutions, and the main reason for its acceptance by the market is its outstanding professionalism. The arts education institution with a higher level of professionalism can gain more social recognition. Social recognition will also affect the user's choice of online courses [21]. Therefore, the hypothesis is set as follows:

H1a: The course professional has a significant relationship to customer satisfaction expectations.

The second decision of customers is based on the perception during the trial phase. In the study of affective learning outcomes in MOOC, it is pointed out that the complexity may remain at the same level as the learning motivation of students in the overall course evaluation process [22]. However, too many difficulties in the learning process will affect users' willingness to continue through analysis of machine learning methods [23]. In order to study the impact of difficulty level on users' cognition in the process of art learning, the second hypothesis is set as follows:

H1b: The course difficulty has a significant relationship to customer satisfaction expectations.

The educational contents in the arts education institution are different from those of the general education. Different musical instruments or special skills provide learners with many choices. Learners will choose one of them to study for a relatively long period pursuant to their own learning goals. Is it necessary to guide students to learn other types of musical instruments at this time, or in other words, will providing more learning choices affect the learners' willingness to choose? It also mentions that MOOCs are free, but there is a lack of a review system and other teaching modes [24]. The third hypothesis is set as follows:

H1c: The course diversity has a significant relationship to customer satisfaction expectations.

Perceived usefulness is an important factor in the TAM model that affects the user's willingness to continue to use the information system [5]. However, the practicality of art education in life varies greatly according to the user's learning purpose. Is there a great difference in the satisfaction between learners who want to obtain professional learning and learners who learn for interest? The fourth hypothesis is set as follows:

H1d: The course usefulness has a significant relationship to customer satisfaction expectations.

3.2.2 After services

It can be said that the factors influencing users to continue using the platform during the trial phase are the first impression towards the platform and the expectation of the courses provided. After the formal use, users will evaluate the platform from a more objective perspective and make the third decision. At this stage, whether the needs of users are met and whether the platform services are more accessible will be important factors. After services are taken as the second part and the following hypotheses are put forward.

In [18], the variable of interaction is denied, and it is believed that the interaction between online education users and teachers and peers will not affect the loyalty to the platform. However, in [20], it is pointed out that art education shall attach more importance to practice, and learning in communication can be more efficient. Similarly, in [24], it also states that the development priority in the next stage for online education is the review system. Therefore, the interaction is taken into account, with the aim to verify whether it is important for online art education. The interaction is categorized into two types, namely the one-to-one tutoring actively conducted by the teachers of the product owners, and the active communication between students and the learning communities. The two hypotheses are set as follows actively:

H2a: The community discussions have a significant relationship to customer satisfaction expectations.

H2b: The one-to-one tutoring has a significant relationship to customer satisfaction expectations.

Online Music Education Industry Survey Report of China in 2019, it is shown that with the development of AI technology, the traditional music education is changed with emergence of online music partner training [1]. At present, many companies have paid attention to the investment in this aspect. In 2019, the financing of up to US$1.1 billion will have been invested in the field of online music education. The business model is becoming mature gradually and the operating income is increasing continuously. Under such a general trend, many B2B2C platforms have launched cooperation models for art education. On the basis of pure video courses, teachers can be allowed to call AI modules to correct students' errors in playing in time, and students can be assisted to complete the independent exercises after class. In the study of [25], it is indicated that only pleasure and ease of use have a significant impact on the behavioral intention towards the use of B2B2C, while the effects of perceived goals, contents, and equipment conditions on the behavioral intention have not been verified. With the hope that such emerging technology will be helpful to students' learning experiences, the hypothesis is as follows:

H2c: The AI partner has a significant relationship to customer satisfaction expectations.

The regular assessment (exam) is an effective method for all learners to inspect their learning outcomes. The traditional online education platforms can only complete the function of teaching, while the B2B2C platform can equip the

product owners with more possibilities. Regular and effective assessments can help students who take art exams for self-positioning. The effectiveness of this variable will also be verified by a hypothesis:

H2d: Regular assessment has a significant relationship to customer satisfaction expectations.

4. RESEARCH METHODOLOGY

The behavioral guidance on the product owners involved in the research model has a practical significance. Data are collected mainly through survey questionnaires. Correlation analysis and regression analysis are employed to analyze and interpret the data. The questionnaire is composed of two parts: Part A mainly consists of the basic situation of the customer groups (age distribution, use experience and so forth). Problems are set in Part B based on eight hypotheses proposed. We also hope that users can give their negative opinions on the learning mode, which will help the arts education institutions avoid simple mistakes. These negative opinions will be described in the Discussion and Implication section.

The subjects of the survey are students from 15 arts education institutions in Jinan, China, including two relatively large sized chain arts education institutions and other small and medium sized ones. The questionnaires are distributed offline, and a total of 432 ones have been collected. Data cleansing has been performed on the results, in which the questionnaires with exactly the same selection and too many blanks are excluded. In the end, 399 questionnaires are valid. The analysis software is SPSS 22 version. Likert scale is applied to questions in Part B, with 1 indicating total disagreement and 5 being full agreement.

In this research, the proportion of female respondents (61.3%) is higher than that of male (38.7%). 78.6% of users are under the age of 30, of which children under 10 account for 17.6%, and their questionnaires have been answered by their parents. 53.5% of the respondents had used the B2B2C platform for learning, and 41.2% of them had not, but they expressed expectations. There are still 5.3% of the respondents with no expectation for it.

5. RESULT

5.1 Data Analysis

Reliability is a parameter used to describe the stability and consistency of the results measured by an external test or scale tool to the questionnaire. In general, the higher the reliability of the scale, the smaller the standard error of measurement [26]. In academic research, the value of Cronbach's alpha coefficient is usually used to test the reliability of the attitude scale. Validity analysis is used to study the design rationality of quantitative data (especially attitude scale questions) [27]. Construct validity is evaluated with convergent validity and discriminant validity. Convergent validity is defined as the degree to which the measurement (observed) items are relevant to the construct (variable), and theoretically, they are predicted to be related [28]. Factor analysis is an approach searching a way of condensing the information containing several initial variables into a smaller set of factors (dimensions) with a minimum loss of information. Since each factor loading value on each construct is more than 0.5, the convergent validity for each scale is established [29].

Table 1 shows the data analysis results of the 13 core questions in the questionnaire. The Cronbach's Alpha coefficient of each item is around 0.8, which indicates that the data has a good reliability. It shows that all the items of the core questions in the questionnaire are reliable [26]. Table 1 shows that the factor loading of each construct is over 0.7. The combined reliability (CR) and average variance extracted (AVE) of the variables are also listed. It can be seen that the AVE

values are all greater than 0.5, and the CR values are all greater than 0.7, which can prove the high degree of data aggregation [29].

Table 1: The values of factor loading, Cronbach's alpha, CR, and AVE

Variables	Questions	Factor Loading	Cronbach α	CR	AVE
CD	CD1	0.762	0.787	0.851	0.589
	CD2	0.713			
	CD3	0.793			
	CD4	0.801			
AS	AS1	0.823	0.810	0.886	0.661
	AS2	0.799			
	AS3	0.840			
	AS4	0.789			
NE	NE1	0.815	0.803	0.892	0.623
	NE2	0.776			
	NE3	0.782			
	NE4	0.790			
	NE5	0.785			

The discriminative validity of the measurement model is to measure the existence of low correlation or significant difference between the characteristics of potential variables and other potential variables [26]. The discriminative validity is generally calculated by the degree of difference between the square root of the AVE of a variable in the measurement model and the correlation coefficient between that variable and other variables. Table 2 presents the correlations and each construct's AVE. The bold number is the square root of AVE, all above the relevant value. Therefore, all the items in this study meet the requirements of discriminant validity.

Table 2: Discriminant validity of constructs

	CD	AS	NE
CD	**0.767**		
AS	0.155	**0.813**	
NE	0.558	0.434	**0.789**

5.2 Correlation Analysis

In order to verify the hypotheses proposed on the basis of the model, the correlation between the dependent variable (satisfaction) and the independent variables (including negative sentiment) of the three modules will be judged through the Pearson correlation coefficients.

Table 3: Pearson's Correlation Analysis

	ES1	CD1	CD2	CD3	CD4	AS1	AS2	AS3	AS4	NE1	NE2	NE3	NE4	NE5
ES1	1													
CD1	0.392***	1												
CD2	0.393***	0.273***	1											
CD3	0.078	-0.019	0.088	1	`									
CD4	0.341***	0.249***	0.303***	0.132**	1									
AS1	0.254***	0.152**	0.188***	0.085	0.178***	1								
AS2	0.248***	0.127*	0.187***	0.021	0.167***	0.161**	1							
AS3	0.021	-0.104*	0.070	0.037	0.088	0.043	0.090	1						
AS4	0.191***	0.173***	0.096	0.069	0.131**	0.066	0.046	0.055	1					
NE1	0.251***	0.140**	0.236***	-0.024	0.165***	0.113*	0.159**	0.067	0.170***	1				
NE2	-0.069	0.034	0.086	0.018	0.145**	-0.058	0.029	0.068	0.011	0.012	1			
NE3	-0.170***	0.120*	0.133**	0.078	0.177***	0.068	0.018	0.081	0.139**	0.118*	0.061	1		
NE4	-0.008	-0.075	-0.033	0.100*	0.033	0.057	-0.051	0.177***	0.023	-0.029	-0.002	0.099*	1	
NE5	0.313***	0.130**	0.193***	0.094	0.193***	0.133**	0.225***	0.091	0.116*	0.185***	0.014	0.104*	0.062	1

** p<0.05 ** p<0.01 *** p<0.001*

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As shown in Table 3, the correlation coefficients between the four sub-independent variables and the dependent variable in the course content modules are all greater than 0, which means that the course design has a positive correlation with the customer satisfaction. Among them, the difficulty level, professionalism, and usefulness of the course are significant positive correlations. The correlation coefficients are 0.393, 0.392, 0.341 and it is significant at the level of 0.001 (two-tailed). However, there is no correlation regarding the diversity of the courses, with a correlation coefficient of 0.078.

The correlation coefficients between the four sub-independent variables and the dependent variable in the after services module are all greater than 0, which means that the after services are positively correlated with the customer satisfaction. Among them, one-to-one tutoring, community discussion, and regular assessment show a significant positive correlation [30]. The correlation coefficients are 0.254, 0.248, and 0.191. However, AI partners show there is no correlation, with a correlation coefficient of 0.021. Combining with the current environment, it can be judged that it is probably because the AI partner has just emerged in the current, and many customers do not have a detailed understanding about it, so that they do not have much expectation towards this post-class behavior. In the negative emotion module, there is a significant positive or negative correlation among three sub-independent variables, that is, no real-time communication, weak initiative, and un-realization of learning objectives. The correlation coefficients are 0.251, -0.170, 0.313 and it is significant at the level of 0.001 (two-tailed). Guarantee of the quality of teaching and high tuition fees are not correlated with customer satisfaction.

5.3 Regression Analysis

Regression analysis is applied to study the influence of X (independent variable) on Y (dependent variable), and the direction and degree of influence [31]. This stage mainly studies the regression model of the independent variables in the two modules of the course content and the after services to the customer satisfaction, so as to furtherly verify eight sub-hypotheses proposed. The variables are mainly analyzed based on three indicators: 1) Model summary: R^2 value, 2) ANOVA: p value, 3) Regression coefficients.

Table 4: Model Summary

R	*R²*	Adjusted R Square²	Std. Error of the Estimate	Durbin-Watson
0.563	0.317	0.303	0.395	1.676

In the test for the multi-collinearity of the model, it is pointed out that the variance inflation factor (VIF) values in the model are all less than 10, which means that there is no collinearity problem. D-W (Durbin-Watson) value is near the number 2, indicating that there is no autocorrelation in the model, and there is no correlation among the residuals of the sample data. Therefore, the model is accessible [31]. From Table 4, it can be concluded that the adjusted R^2 value is 0.303, indicating that there is a significant causal relationship ($p<0.001$) between the course content and after services (post-class behavior) arranged by the arts education institutions and the customer satisfaction. It can be seen from Table 5 that when the F test is performed on the model, the model construction is meaningful and significant ($F=22.597$, $p=0.000<0.001$) [31].

Table 5: ANOVA Analysis

	Sum of Squares	*df*	Mean Square	*F*	*p* Value
Regression	28.187	8	3.523	22.597	0.000
Residual	60.810	390	0.156		
Total	88.997	398			

The regression coefficient analysis in Table 6 shows that the standardized coefficient value of course diversity is 0.023 (t=0.547, p=0.585>0.05), which means that course diversity will not affect the customer satisfaction. The standardized coefficient value of AI intelligent partner training is -0.006 (t=-0.131, p=0.896>0.05), which means that AI intelligent partner training will not affect the customer satisfaction [31]. H1c and H2c were not accepted. The p-values of regression coefficient values of course difficulty level, course professionalism, course usefulness, one-to-one teaching, community discussion, and regular assessment are 0.000, 0.000, 0.001, 0.006, 0.004 and 0.033 respectively, all less than 0.05. It shows that the causal relationship between them and the dependent variable is significant. Hypotheses H1a, H1b, H1d, H2a, H2b and H2d were accepted.

Table 6: Regression Coefficient Analysis

	Unstandardized Coefficients		Standardized Coefficients	*t*	*p*	95% CI	VIF
	B	Std. Error	*Beta*				
ES1	-0.277	0.198	-	-1.405	0.161	-0.665 ~ 0.110	-
CD1	0.097	0.018	0.243	5.326	0.000***	0.061 ~ 0.133	1.185
CD2	0.098	0.020	0.223	4.862	0.000***	0.058 ~ 0.137	1.197
CD3	0.012	0.021	0.023	0.547	0.585	-0.030 ~ 0.053	1.033
CD4	0.080	0.023	0.157	3.426	0.001***	0.034 ~ 0.126	1.192
AS1	0.060	0.022	0.119	2.738	0.006**	0.017 ~ 0.103	1.081
AS2	0.080	0.028	0.126	2.897	0.004**	0.026 ~ 0.134	1.075
AS3	-0.003	0.023	-0.006	-0.131	0.896	-0.049 ~ 0.043	1.042
AS4	0.052	0.024	0.092	2.141	0.033*	0.004 ~ 0.100	1.049

** p<0.05 ** p<0.01 *** p<0.001*

6. DISCUSSION AND IMPLICATION

This research studies the behavioral standards of B2B2C platform users, which can play an effective guiding role for art education institutions in their transformation. In the era of information freedom, Internet learning has been a trend. Especially in 2020, online learning has become the focus of discussion [32]. Many scholars have proposed online education models, but most of them are black box models based on a theory. In addition, because of the particularity of art education, requiring personal example and verbal instruction, it is difficult to apply existing online education models. The online education platforms of B2B2C mode give ordinary arts education institutions the opportunity to start online education. Therefore, several factors that may affect users during the online education of the arts education institutions have been studied to help the arts education institutions to reasonably avoid wrong behaviors when it is actually embarking on the transformation of online courses. In literature review, it is discovered that most of the research on the B2B2C mode is written by Chinese scholars.

Most online education platforms still adopt MOOC. It is looking forward to discovering and promoting this more independent tripartite model involving three parties.

The opinions on the user behavioral research of B2B2C [9, 18] are considered and external influencing factors such as AI partners are added based on the literature [25]. Although this hypothesis was not accepted, it is still a point worthy of attention in terms of current development trends. From a practical point of view, we believe that professionalism is more important than difficulty level and usefulness when designing art courses. Arts education institutions shall emphasize professionalism in their courses according to their own characteristics, for example, what awards have been won in a certain field. The education platforms of the B2B2C mode have the advantage of a clear division of labor [9]. The platform owners are responsible for meeting the needs of the other two parties to develop a platform with richer functions. Video software like ZOOM can be implanted into the platform to complete one-to-one tutoring, community communication, exams and other post-class activities.

Some negative opinions of respondents on the platform are also collected. Most of the users who are worried about not being able to communicate in real time are those who have not used the B2B2C platform. The negative correlation between low initiative and inability to complete the learning objectives is within our expectation. When teaching, the arts education institution is recommended to set up a short-term study plan with the students. On the one hand, it can enhance the enthusiasm of the students, and at the same time, it will give the students a sense of accomplishment when the plan is completed. As it mentioned in [33], a proper sense of accomplishment is the source of motivation for long-term learning. The survey data shows that not many people care about the variable of high learning costs, and it was not significant.

7. CONCLUSION

Based on the guidance of the literature on the user's decision-making behavior of the B2B2C education platforms, this research puts forward the factors that may affect the user's decision-making when the arts education institution is the product owner. We conducted a questionnaire survey on the students from 15 arts education institutions in China, and obtained 399 samples. Correlation analysis and regression analysis were performed to verify eight sub-hypotheses.

It can be concluded that the course content of the product owner mainly plays a role in assisting decision-making during the trial phase. The difficulty level, professionalism, and usefulness of the courses are the key points that determine customers' perceptions. In actual application, the arts education institutions can produce content for these items. In the use phase, the product side can establish a community based on the analysis results, conduct follow-up one-to-one coaching, and carry out regular assessments, all of which can effectively improve customer satisfaction and expectation confirmation after class. However, what is surprising is that the AI partner mentioned in much literature could not produce a relevant significance in this research. The reason may be that the time for the AI partner to be on the market is relatively short, and it has not been popularized. Ordinary art learners don't think that an AI partner can play a very good auxiliary role.

We can positively understand that students are willing to pay appropriate money in order to acquire knowledge. From the perspective of the marketing strategy of the product owners, taking advantage of

the B2B2C platform, demo courses and fee-based courses are reasonably set up. In the meantime, the launch of membership services can also be a viable marketing program.

The focus of this research is to put forward a guiding theoretical basis for the arts education institutions. This study also has some limitations because the data represent the judgment made after the user has a simple understanding of the learning method. In addition, the data on the dependent variable of the customer satisfaction are more subjective. They could cause the correlation coefficient and R^2 value not to be ideal in the data analysis stage, although other values can prove that there is an obvious relationship or significance. An open question is asked, whether it is possible to use the recent development of machine learning to conduct data mining on the objective data collected by the platform. It can research the possibilities hidden in user behavioral data.

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Appendix: Questionnaire items

Part B (with 1 indicating total disagreement and 5 being full agreement)						
Course design(CD)	CD1: Do you think the professionalism of the course is important when studying art online?	1	2	3	4	5
	CD2: Do you think the difficulty of the course is important when studying art online?	1	2	3	4	5
	CD3: Do you think the diversity of the course is important when studying art learning online?	1	2	3	4	5
	CD4: Do you think the practicality of the course is important when studying art online?	1	2	3	4	5
After services(AS)	AS1: Do you think it is important to have one-on-one tutoring after class?	1	2	3	4	5
	AS2: Do you think it is important to have community discussion after class?	1	2	3	4	5
	AS3: Do you think it is important to have AI partners after class?	1	2	3	4	5
	AS4: Do you think it is very important to have a regular exam after class?	1	2	3	4	5
Negative emotion(NE)	NE1: When you study art online, you will worry that you can't communicate in time.	1	2	3	4	5
	NE2: When you study art online, you will worry that the quality of teaching cannot be guaranteed.	1	2	3	4	5
	NE3: When you study art online, you will worry about the lack of learning initiative.	1	2	3	4	5
	NE4: When you study art online, you will worry about the expensive tuition.	1	2	3	4	5
	NE5: When you study art online, you will worry about the failure to achieve learning goals.	1	2	3	4	5