

Multivariate Linear Regression Method Based on SPSS Analysis of Influencing Factors of OTA Platform Live Broadcasting on Tourists' Tourism Intention

Jiaqing Yu¹
756310977@qq.com¹

College of Tourism and Landscape Architecture, Guilin University of Technology¹

Abstract. This paper combines theoretical analysis with empirical research to study the behavioral willingness of tourism consumers to purchase tourism products by choosing OTA platform live broadcast. Based on the theory of planned behavior, the research variables were extracted, and the model was established using multiple linear regression method to observe the multiple linear regression relationship. The results show that the behavior attitude, subjective norm and perceived behavior control of consumers living on OTA platform are important factors affecting consumers' travel intentions. That is, the consumer's behavior attitude, subjective norms and perceived behavior control of watching the live broadcast of tourism positively affect the consumer's travel intention.

Keywords: Multiple Linear Regression, live broadcast, planned behavior theory, consumers

1 Introduction

In 2020, under the influence of the COVID-19, the tourism industry, as one of the industries most affected by the epidemic, began to enter people's vision in order to reduce the impact of the "tourism+live broadcast" model. From March 2021, online travel platforms such as Ctrip, Flying Pig (hereinafter referred to as OTA) have launched "live broadcast of tourism" channels, and the tourism industry started the first year of live broadcast. With the help of OTA mobile live broadcast platform, the scenery show can be more intuitive, vivid and accurate to show to all potential tourism users. The emergence of "live broadcast+tourism" has opened up a new experience of "cloud tourism". The form of "people come before people, scenery comes first" has saved the audience a lot of time in selecting.

Therefore, based on the theory of planned behavior, this paper builds a research model for the impact of OTA platform live broadcast on consumer purchase decisions. It is hoped that through this research, we can find out the relevant factors that affect tourism consumers' purchase decisions in tourism live broadcast, provide effective suggestions for their development, promote the purchase intention of tourism consumers in OTA platform live broadcast, improve the marketing effect, and drive the development of tourism economy

2 Literature review and research hypothesis

2.1 The Essence and Development of Planned Behavior Theory

In terms of live broadcast of tourism, Yin Zhi believes that tourism and video interaction will develop rapidly in the future, and tourism will be a major breakthrough in the field of live broadcast [1]. Wang Guanghui and others believed that the live broadcast of tourist attractions should not only follow the trend, but also find new and unique points in terms of the characteristics of the scenic spot or methods to be competitive in the market. At the same time, it should also ensure the smooth flow of signals in the scenic spot [2]. Jiang Dan and others built a LUSA model of rural tourism live network marketing with the theme of developing rural tourism [3].

Fishbein and Ajzen put forward the Theory of Reasoned Action (TRA) in 1975 on the basis of the expansion of the theory of multi-attribute attitudes, mainly studying the impact of behavioral attitudes and subjective norms on behavioral intentions [4]. However, TRA believes that the assumption that people's behavior is controlled by will ignores the influence of non volitional factors. Therefore, Ajzen expanded TRA to address this problem in 1985 and proposed the theory of planned behavior, in which perceptual behavior control variables were added to the model [5]. Li Zhifei et al. (2019) believed that perceived (perceived) behavior control had a positive impact on rural tourists' environmental responsibility behavior intention [6]. Qiu Hongliang (2017) demonstrated that subjective norms have a positive impact on outbound tourists' civilized behavior attitude [7]. In the prediction of medical tourism behavior intention, Reddy et al. (2010) found that tourists' attitude towards medical tourism is an important predictor of behavior intention based on the theory of planned behavior [8].

As a new consumer behavior mode, consumers choose tourism products through live broadcast on OTA platform. Assume that the planned behavior theory can well explain its influencing factors. Based on this, we propose the following assumptions:

H1: The consumer's behavior and attitude in OTA live broadcast positively affect the consumer's purchase intention

H2: Consumers' subjective norms in OTA live broadcast positively affect consumers' purchase intentions

H3: Intuitive behavior control of consumers in OTA live broadcast positively affects consumers' purchase intention

To sum up, the theoretical model of this study has been constructed, as shown in **Figure 1**:

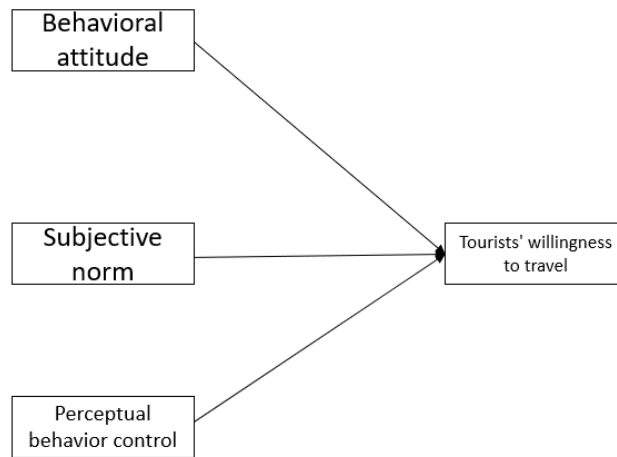


Figure 1. Research Model.

3 Research Design

The research objects of this paper are tourists who have watched OTA live broadcast and potential virtual tourism experiencers who know about OTA live broadcast. The survey questionnaire consists of three parts: respondents' basic understanding of live tourism, measurement items of research variables, and respondents' basic personal information. Set the screening item "Do you have experience of watching live broadcast on OTA platform" to screen out those who have not watched live broadcast on OTA platform, so as to ensure that the respondents who formally answer the questionnaire are users who are familiar with live broadcast of tourism, so as to ensure the quality of their answers to the questionnaire. The data collection time of the formal questionnaire is from December 24, 2021 to December 27, 2021. A total of 180 valid questionnaires were collected. The invalid questionnaires were eliminated through whether there was live viewing experience on the OTA platform. Finally, 160 valid questionnaires were retained, with an effective rate of 88.9%. Among the respondents, male accounted for 51.55% and female 48.45%; The respondents are mainly those aged over 18 who have the ability to buy, accounting for 85.71%; 63.35% of them have bachelor degree or above; 72.05% of people travel at least once a year.

4 Empirical analysis

4.1 Reliability and validity test

Buy using the SPSS statistical software, test the reliability of the questionnaire, and Cronbach's α The coefficient values are all greater than 0.7, indicating that the reliability of the questionnaire is good. This formal survey passed the reliability test.

In this study, exploratory factor analysis was used. The KMO index value is 0.981, and the significance level of Bartlett's sphere test result is $0 < 0.05$, which indicates that the questionnaire data is suitable for factor analysis.

Therefore, SPSS software is used for factor analysis, and each variable is analyzed separately in turn. The analysis results show that there is only one factor, and their respective explanatory variances are higher than 70%. The factor loads of the 22 questions were all above 0.7, indicating that the convergence validity was high. Therefore, the measurement scale passed the validity test.

4.2 Correlation analysis

Pearson's method was used to study the correlation between variables. The correlation analysis between the three factors influencing behavioral intention, behavioral attitude, subjective norm and perceived behavioral control, and the dependent variable behavioral intention was conducted. **Table 1** was obtained through SPSS analysis. At the significant level of 0.01, the correlation coefficients were 0.829, 0.819, and 0.799, respectively, with strong positive correlation. H1, H2 and H3 were verified.

Table 1. Pearson correlation

		Tourists' Tourism Intention
Behavior Attitude	pearson correlation	.829**
Subjective Norm	pearson correlation	.819**
Perception Behavior Control	pearson correlation	.799**

4.3 Multiple regression analysis

First, the multicollinearity of the models is analyzed to investigate the collinearity between models, so as to ensure the accuracy of the results. SPSS data analysis software was used to analyze each model and investigate its multicollinearity. **Table 2** is obtained through SPSS colinearity test. The results show that the VIF values of the variables selected in this paper are all less than 10, indicating that there is no colinearity between the variables, so the model is suitable for the next step of analysis.

Table 2. Results of multicollinearity analysis

Coefficient ^a			
Model		Collinearity statistics	
		tolerance	VIF
1	Behavior Attitude	.259	3.864
	Subjective Norm	.247	4.047
	Perception Behavior Control	.270	3.708

a. Dependent variable: purchase intention

Secondly, SPSS was used for multiple regression analysis. Taking purchase intention as the dependent variable, and behavioral attitude, subjective norms and perceived behavioral control as the independent variables of regression analysis, regression tests were conducted to obtain **Table 3 and Table 4.**

Table 3. Model summary of factors affecting purchase intention

Model Summary^b					
Model	R	R ²	Adjusted R ²	Errors in standard estimates	Debbie Watson
1	.892 ^a	.796	.792	.50493	1.742

a. Predictors: perceived behavior control, behavior attitude, subjective norm
b. Dependent variable: purchase intention

Table 4. Coefficient of factors influencing purchase intention

Coefficient^a						
Model		Non standardized coefficient		Standardization coefficient	t	Significance
		B	Standard error	Beta		
1	Constant	.033	.161		.205	.838
	Behavior Attitude	.416	.064	.389	6.458	.000
	Subjective Norm	.332	.059	.343	5.625	.000
	Perception	.251	.065	.241	3.883	.000
	Behavior Control					

a. Dependent variable: purchase intention

According to the results in Table 4-7 and Table 4-8, the R square is 0.796, which indicates that behavior attitude, subjective norm and perceived behavior control can explain 79.6% of the change in purchase intention. The regression coefficients of behavior attitude, subjective norm, perceived behavior control and purchase intention were 0.416, 0.332 and 0.251, respectively. The significance of each coefficient was $0 < 0.05$, indicating that the regression coefficient was significant. Among them, behavioral attitude has the greatest impact on purchase intention. H1, H2 and H3 established

5 Conclusion

To sum up, based on the TPB theoretical analysis, this paper incorporates the new variable of local attachment, collects sample data through questionnaire survey, and conducts empirical research on the collected data using SPSS software. It finds that the hypothesis H1, H2, and

H3 are validated, indicating that consumer's behavior attitude, subjective norms, and perceived behavior control are positive to consumer's travel intention in OTA direct broadcast, and behavior attitude is the most influential factor. Tourism enterprise managers should pay attention to consumers' behavior attitude, subjective norms and perceived behavior control when watching OTA live broadcast, especially their behavior attitude, so as to maximize consumers' travel willingness.

References

- [1] Yin Zhi. Research on live broadcast marketing of tourism destinations in the context of "Internet plus" [J]. Economic and Trade Practice, 2017 (17): 129
- [2] Wang Guanghui, Chen Jianyu, Wu Hongyan. Analysis on the Optimization of the Publicity Mode of Online Live Broadcasting of Tourist Attractions [J]. Economic Research Guide, 2019, (20): 75-77
- [3] Jiang Dan, Wang Hongdou, Chen Huiwen LUSA Model of Rural Tourism Live Online Marketing [J]. China Business Review, 2018 (25): 61-64
- [4] Zhang Hui, Bai Changhong, Li Chufeng: Analysis of Consumers' Online Shopping Intention -- Comparison between Rational Behavior Theory and Planned Behavior Theory, Soft Science, 2011, Issue 9.
- [5] M.D.C. Aguilar-Luzon, J. M. A. Carcia-Martinez, and A. Calvo-Salguero, et al, .“Comparative Study between the Theory of Planned Behavior and the Value-belief-norm Model Regarding the Environment, on Spanish Housewives Recycling Behavior, ”Journal of Applied Social Psychology, Vol. 42, No. 11, 2012, pp. 2797 - 2833.
- [6] Qiu Hongliang, 2017. Research on the impact mechanism of outbound tourists' civilized tourism behavior intention based on TPB expansion model [J]. Tourism Journal (6): 75-85
- [7] Li Zhifei, Li Tianjiao, 2019. Research on Driving Factors of Rural Tourists' Environmental Responsibility Behavior Based on the Theory of Planned Behavior [J]. Journal of Chongqing Industrial and Commercial University (Social Science Edition) (3): 1-12
- [8] REDDY SG, YORKVK, BRANNON LA,2010. Travel for Treatment : Students'Perspective on Medical Tourism[J]. In-ternational Journal of Tourism Research, 12(5):510-522.