Research on Factors Affecting User Experience of Tmall International Platform

Na Tang, Shao Li*, Lei Mei
Geely University of China, Sichuan 641423, Chengdu, China
DOI: 10.32629/memf.v4i3.1368

Abstract: This research takes the influencing factors of cross-border e-commerce Tmall International user experience as the research object, adopting the Technology Acceptance Model (TAM) as the theoretical model, and conducting quantitative research through methods such as literature method, questionnaire survey, and data analysis. The research results show that there is a significant positive correlation between user experience and service experience, product experience and platform experience. Among them, service experience makes the greatest contribution to user experience, followed by product experience and platform experience. These findings are of great significance for cross-border e-commerce platforms such as Tmall International to conduct international marketing and improve user experience and competitiveness. They also provide useful reference for further research on factors affecting cross-border e-commerce user experience.
***Keywords*:** influencing factors, user experience, Tmall International platform

1. Introduction

With the rapid development of global e-commerce, cross-border e-commerce has become an important force in promoting the growth of international trade. Among them, Tmall International, as one of Alibaba's important B2C channels in the international market, helps international brand merchants promote and sell in the Chinese market through international marketing strategies and methods, attracting many domestic consumers and overseas brands. However, in an increasingly competitive market environment, how to improve user experience has become an urgent problem for cross-border e-commerce platforms. This study is based on the Technology Acceptance Model (TAM) as a theoretical basis, aiming to explore the key factors that affect the user experience of cross-border e-commerce platforms, and provide theoretical basis and practical guidance for the optimization of user experience on cross-border e-commerce platforms.

The research question of this article is: What are the influencing factors of cross-border e-commerce Tmall International user experience? How do these factors influence users' behavioral intentions and actual usage behavior through the technology acceptance model? Based on the problem, the following research objectives are derived: (1) To explore the key influencing factors of Tmall International user experience. (2) To analyze how these influencing factors affect users' behavioral intentions and actual usage behavior through the technology acceptance model. (3) To propose strategic suggestions for optimizing Tmall International user experience and improve user experience.

2. Literate Review

The technology acceptance model was proposed by Davis in 1989[1], which believes that perceived usefulness and perceived ease of use are the two main factors affecting user acceptance. Perceived usefulness refers to the degree to which users believe that a certain technology or system can improve their work or life efficiency, while perceived ease of use refers to the user's perception of how easy it is to use a certain technology or system (Figure 1).

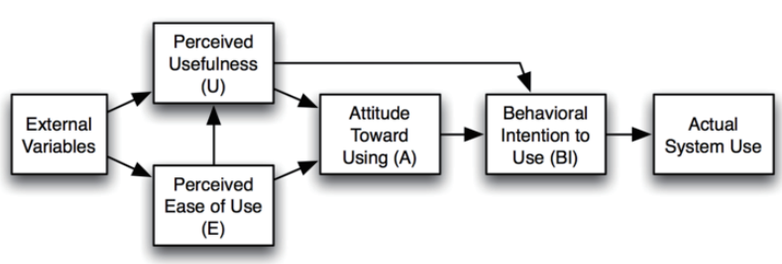

Figure 1. Theoretical Framework

However, there are some unique characteristics in the cross-border e-commerce scenario, such as language barriers, currency conversion, logistics issues, etc. These factors have an impact on consumers' acceptance behavior. Therefore, some literature reviews also explore extensions of the TAM model. For example, Smith and Suh (2002) pointed out[2] that in the context of cross-border e-commerce, consumers' trust in the platform is one of the important factors affecting their acceptance behavior. Based on the TAM model, the author introduced trust as an additional explanatory variable and explored its impact on consumer acceptance behavior; Park and Kim (2015) believed that[3] when consumers shop on cross-border e-commerce platforms , will pursue both hedonic experiences (such as shopping fun, exploring novel products, etc.) and utilitarian experiences (such as price comparisons, convenience, etc.). Therefore, this research incorporates these more factors into the TAM model and constructs a richer model of factors influencing cross-border e-commerce user experience. The research framework and hypotheses of the paper are as follows (Figure 2).

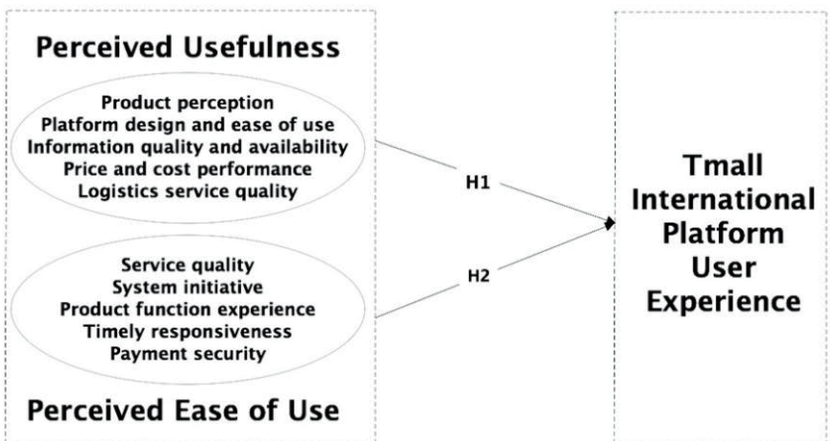

Figure 2. Framework of Research Hypotheses

3. Research Methods

This study adopts a quantitative research design and collects users' personal information and user experience information through questionnaires. A series of questions were designed based on the Technology Acceptance Model (TAM) to measure users' perceived usefulness and perceived ease of use of Tmall Global. This study takes users of cross-border e-commerce Tmall International as the research object, and distributes online questionnaires, obtaining a total of 87 valid samples. In the data analysis stage, SPSS software will be used to statistically analyze the collected data to draw relevant conclusions.

4. Research Results

Table 1. Reliability Statistical Analysis

Klonbach Alpha	Number of Terms
0.932	14

Table 2. KMO and Bartlett Tests

KMO Sample Appropriateness Measure	0.89	
Bartlett Sphericity Test	Approximate Chi-square	821.404
	Degree of Freedom	91
	Significance	0.000

This article evaluates the overall reliability and validity of the questionnaire and uses Cronbach's alpha coefficient to evaluate the internal consistency reliability. Cronbach's alpha coefficient is 0.932, indicating that the questions in the questionnaire are highly consistent. This shows that the questionnaire has high internal consistency reliability; in the structural validity test, the KMO value was 0.89, indicating that there is a strong correlation between the variables in the sample data set and is suitable for further factor analysis (Table 1 and Table 2).

Table 3. Factor Analysis Result

	Service Experience	Product Experience	Platform Experience
Payment Security	0.798		
Return and Exchange Service	0.758		
Product Function	0.69		
Logistics Service	0.676		
Service Attitude	0.567		0.562
Product Evaluation		0.715	
Product Quality		0.704	
Product Price		0.682	
Platform Design		0.651	
Product Information		0.619	
Discount Push			0.859
System Response			0.62
Product Push		0.6	0.61

In order to reduce the dimensions of independent variables before conducting regression analysis, this paper conducted factor analysis on 13 dimensions of variables. Among them, service attitude (0.567, 0.562) and product recommendation (0.6, 0.61) both have high loading on two factors (Table 3). This kind of Situations may make the analysis results difficult to interpret, and items are deleted. Finally, the three main components were extracted as service experience, product experience and platform experience. This is because payment security, return and exchange services, product functions and logistics services all reflect the overall experience of the services provided by the company, and the product evaluation, product quality, product price , platform design and product information are all aspects related to the user's overall experience of the product. The discount push and system response attribution are the experiences that the platform brings to users.

Table 4. Abstract of Regression Analysis Model

R	R-square	Adjusted R-square	Errors in Standard Estimates	Durbin Watson
0.707	0.5	0.481	1.14255	1.977

Table 5. Regression Analysis Results (Dependent Variable: User Experience)

	Unnormalized Coefficient		Standardization Coefficient Beta	t	Significance	Collinearity Statistics	
	B	Standard error				Allowance	VIF
(constant)	7.265	0.125		57.93	0.000		
Service Experience	0.676	0.126	0.426	5.359	0.000	1	1
Product Experience	0.674	0.126	0.425	5.34	0.000	1	1
Platform Experience	0.588	0.126	0.371	4.659	0.000	1	1

This article uses a linear regression model to explore the effect of the independent variables service experience, product experience and platform experience on the dependent variable user experience. In terms of model fitting, the coefficient of determination R^2 is 0.707, the adjusted coefficient of determination R^2 adj is 0.5, and the mean square error indicates that the model fits the data well. The coefficient estimate of the independent variable service experience is 0.676 ($t=5.359$, $p<0.01$), which shows that service experience has a positive effect on user experience and is very significant, the coefficient estimate of the independent variable product experience is 0.674 ($t=5.34$, $p<0.01$), which shows that product experience has a positive effect on user experience, and is very significant; the coefficient estimate of the independent variable platform experience is 0.588 ($t=4.659$, $p<0.01$), which shows that platform experience has a positive impact on user experience. Experience has a positive impact and is very significant. From this, it can be concluded that user experience is 7.265+0.676, the service experience is 0.674, and the product experience and the platform experience is 0.588 (Table 4 and Table 5). The regression analysis is visualized as follows (Figure 3).

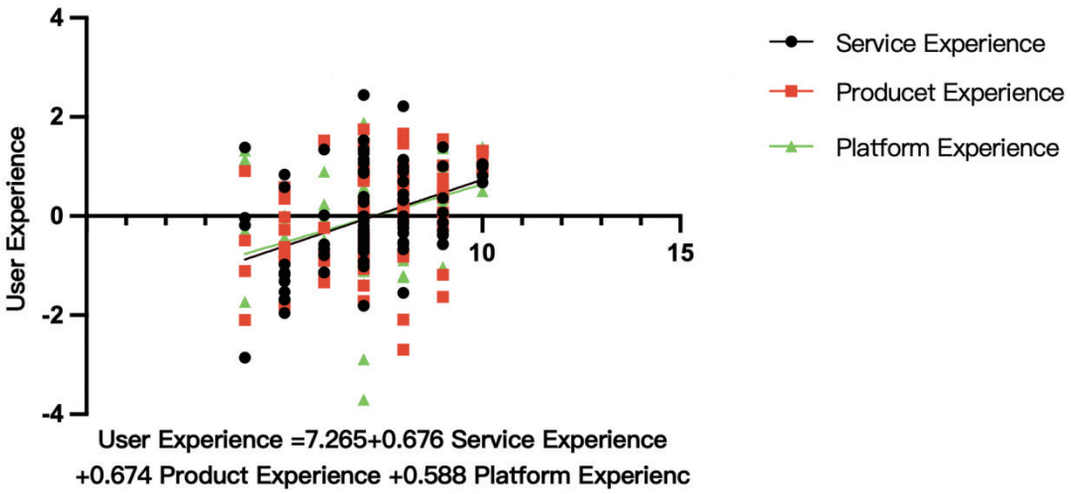

Figure 3. Visual Diagram of Research Results

5. Conclusion

The results of this article are consistent with existing research. Many studies have shown that service experience, product experience and platform experience are key factors affecting user experience. A good service experience can improve user satisfaction and loyalty (Smith et al., 2019)[4]. In terms of product experience, the function and quality of the product have an important impact on user experience (Johnson & Turner, 2018)[5]. In terms of platform experience, The ease of use and interactivity of a platform have a significant impact on user experience (Lopez & Davis, 2017)[6]. The rationality of this research result is that service experience, product experience and platform experience are factors that users directly feel when using products or services. They directly affect user needs and expectations, thereby affecting user satisfaction and loyalty. In addition, the results of this research are also consistent with the actual situation, because in a highly competitive market environment, companies need to continuously improve the quality of services, products, and platforms to attract and retain users.

References

[1] Davis, F. D. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly. 1989;13(3):319-340.
[2] Smith, T., Suh, T. The role of trust in cross-border e-commerce acceptance: A technology acceptance model extension. Information and Management.2002;39(4), 393-411.
[3] Park, J., Kim, H. The Mediating Role of Hedonic and Utilitarian Motivation in Cross-Border E-commerce Acceptance: An Extension of the Technology Acceptance Model. International Journal of Information Management. 2015; 35(3): 586-595.
[4] Smith, A., Rafiq, M., Jackson, J. The role of customer service in creating loyalty. In Tourism and Hospitality Research. Springer, Cham. 2019; 11(5): 211-227.
[5] Johnson, L., and Turner, S. Product design and development: process and best practices; 2018; 38(4): 128-132.
[6] Lopez, A., & Davis, K. Designing for user experience: applied research methods for enhancing product usage and satisfaction; 2017; 12(3): 258-262.