The Impact of Customer Experience on Online Game Purchase Intention

Zhiyang Luo

International Chinese College, Rangsit University, Pathum Thani, Thailand
Corresponding author, E-mail: robin6105641@gmail.com

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Abstract

The researcher first explored whether purchase intention can be affected by enhancing the customer experience. The purchase intention was divided into two dimensions: repeat purchase and word-of-mouth recommendation, and the influences of each dimension on the customer experience were studied. Then, we reviewed the relevant literature of online games and defined the concepts of online games. Also, summarized the customer experience, related theories and research literature, structured a relational model between customer experience and online game purchase intention, and raised the research suppositions of this paper. For the sake of demonstration of the set model and suppositions, a survey by questionnaire was conducted among online game users as the research object, and statistical software was used to statistically analyze the survey results. In addition to the related experience, customer experience's seven dimensions significantly influence purchasing intent in the same direction. According to the results of empirical analysis, the following suggestions are made on how a series of processes for online game companies to seize the main factors of customer experience and stimulate their customers' psychological needs for final purchase: (1) strengthen the visual and auditory design of online games to enhance the sensory experience of customers, (2) focus on customer relationship management and improve customer emotional experience, (3) optimize the game interface and operation to improve customer use experience.

Keywords: Online games, Customer experience, Purchasing intent
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1. Introduction

Alvin Toffler (1970) first proposed the economic term "experience" in his prestigious work "Future Shock", and divided the experience in different environments into the experience in the real environment and the experience in the virtual environment. Also, put forward the syllogism of economic development, manufacturing economy, service economy and experience economy. The book points out that after a long period of development, the world economy focusing on primary industry grew to the economy dealing with secondary industry. After that, emphasis of economy was moved from secondary industry to service sector, and then entered the era of super industrialization. The experience industry is an important part of super-industrialism, and finally evolves into a post-service economy and foresees that experience may become the economic foundation after service. It was not until the 1980s that Holbrook and Hirschman put forward the idea of "customer experience". Holbrook and Hirschman (1982) believe that consumption contains important experience factors. Consumer experience is something about consumers seeking for imagination, feeling and joy.

Zeithaml (1998) mentioned in his published research that the higher perceived value of the quality or quality of a brand's products or services, the higher purchase intention of the products.

Tang, Yan, and Zhang (2017) mentioned in their research that consumer experience of leisure sports includes five dimensions: sensory, emotional, relational, thinking and action, among which sensory and emotional experience are the most experienced. Consumption experience has a positive influence on behavioral intention on the whole, among which sensory, correlation and emotional experience play the most significant roles.

This research focuses on the online game market and explores whether it is possible to strengthen the purchasing intent by improving the customer experience. It is a key factor for online game companies to improve their competitiveness and maintain a good development prospect. As customer experience is the main research aim, the latitude of customer experience is analyzed through literature research, data query, etc., and combines the relevant characteristics of the online game industry to build a model to verify

whether customer experience will influence purchasing intent of online games. Based on the online game customer experience, a theoretical model of customer experience and online game customer purchase intention is constructed. The logical relationship between online game customer experience and purchase intention is explored. Finally, the influence of related factors on online game purchase intention is analyzed empirically. As the results of the research, the elements that affect the online game customer's purchase intention are pointed out to the online game industry, and suggestions are conducted to provide theoretical and practical references for online game companies.

2. Objectives

Psychology is the first academic field to mention and study purchasing intent. Research results in the field of psychology believe that purchasing intent is the subjective initiative of individuals in certain circumstances. Purchasing intention, which is consumer behavior theory research, has been affected by the rapid growth of marketing disciplines, and has gradually become the core research content of marketing disciplines. Andreu (2006) conducted research on purchasing intent and found that repeated purchases and product or service recommendations to others are the main factors for measuring purchasing intent. Henning-Thurau (2004) pointed out that word-of-mouth network refers to the good or bad evaluation of the company or products by real customers or potential customers, which can be transmitted to the general public through the Internet. Research on related Internet word of mouth has proven that the word-of-mouth network plays a crucial role in promoting product sales.

This article focuses on distinguishing the connection between customer experience and purchase intent. In addition, based on research motivation, research purpose, and literature discussion, seven hypotheses were proposed to find the connection between customer experience and purchase intention.

H1: The online game sensual experience influences purchasing intent in the same direction.
H2: The online game affective experience influences purchasing intent in the same direction.
H3: The online game thinking experience influences purchasing intent in the same direction.
H4: The online game related experience influences purchasing intent in the same direction.
H5: The online game action experience influences purchasing intent in the same direction.
H6: The online game ease-of-use experience influences purchasing intent in the same direction.
H7: The online game usefulness experience influences purchasing intent in the same direction.

Therefore, this study proposes a causal relationship model as the research framework of this study, and uses this framework for hypothesis verification as displayed in Figure 1.
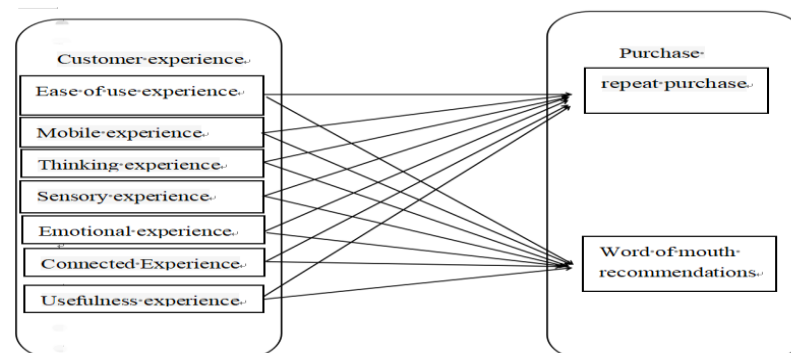

Figure 1 Research structure

3. Materials and Methods

3.1 Research Sample

The survey objects were Chinese online game players, and the distribution form was filled out online. The online questionnaires were distributed via email and social software. The obtained data are

analyzed by descriptive statistical analysis, reliability test, validity test, correlation analysis, regression model analysis and other methods.

       1. Gender: divided into male and female items.

       2. Age: based on actual age, and divided into five groups; 20 years old (and below), at the age of 21-29, at the age of 30-39, at the age of 40-50, and 50 years old (and above).

       3. Education level: divided into four groups, including education at senior high school and below, college, bachelor's degree, master's degree.

       4. Vocations: divided into four groups; students, corporate employees, civil servants or public institution personnel, freelancers, others

       5. Your disposable income: divided into two groups; below 2,000 RMB, 2,001-3,000 RMB, 3,001- 4,000 RMB, 4,001- 5,000 RMB, and above 5,000 RMB

3.2 Research objects and data collection

       In this survey, the online questionnaire was used as the survey method. The survey period was from December 20, 2019 to December 26, 2019. 400 questionnaires were collected in total from people of all ages, cultural levels, and social strata in 7 days. After repeatedly screening and sorting the information collected in the questionnaire, the invalid questionnaires were eliminated, of which 36 were invalid questionnaires (the criteria for invalid questionnaires were: those who have never used online game products; and falsely filled in the questionnaire for 7 consecutive identical answers). 364 valid questionnaires were obtained, and the valid response rate was 91%.

3.3 Research Methods

       Questionnaire survey was used as the main research approach to analyze the research aim. Research of related literature helps to find out the connection of customer experience and purchasing intent through related literature such as papers, journals, magazines and books. SPSS and other software were used for relevant analysis of the data in order to conduct whether survey data is reliable and valid, conduct results' in-depth analysis, and combine the previous literature research to verify the content of this research to achieve the expected goals.

       In this study, customer experience is divided into seven dimensions. In fact, there are still many dimensions that make up the customer experience. For research purposes, this article focuses on analyzing the seven dimensions such as sensual experience and affective experience and other experiences. It lacks integrity to a certain extent, and whether the seven dimensions can fully reflect the online game customer experience, it has yet to be demonstrated. The scale designed in this research is based on the design of relevant scholars, and is modified and supplemented with the relevant characteristics of online games and the characteristics of core variables. Whether the topic of variable inspection fits the core variables, it remains to be investigated.

       There are several analysis methods applied in this paper, including the analysis of descriptive statistics, reliability, validity, correlation and multiple regression.

4. Results and Discussion

4.1 Reliability and validity test findings

       Reliability analysis focuses on Cronbach's Alpha, whose coefficient means the coefficient of correlation between one dimension and all dimensions containing some other alternatives to verify the credibility inside the questionnaire. In general, the alpha coefficient of Cronbach ranges from 0 to 1. When alpha coefficient of Cronbach surpasses 0.9, it indicates that some trust can be put on the questionnaire. When it falls into the range of 0.6 to 0.9, it means the questionnaire is more credible. However, when it falls into the range of 0.3 to 0.6, it is generally credible.

       Concerning validity, The KMO (Kaiser-Meyer-Olkin) test and Bartlett's methods were used to analyze whether the scale is valid. With the help of the KMO test statistic, it can be indicated to find the relations between different alternatives comparing coefficients of correlation and partial coefficient of correlations. In general, the KMO statistic ranges from 0 to 1. If the squares of the simple coefficients of correlation between all variables in total surpass the squares of the partial coefficients of correlation in

[1803]

total, the variables will have stronger connection when the KMO value approaches 1; If the squares of the simple coefficients of correlation between all variables in total approach 0, variables will have weaker connection as the value of KMO is close to 0.

In this study, alpha coefficient of Cronbach helps to define the reliability of the criterion. The alpha value of each variable was higher than 0.60, and the KMO value was larger than 0.90, as shown in Table 1 and 2.

Table 1 Results of reliability analysis

Variable		Question items	Cronbach's alpha coefficient
Customer experience	The online game sensual experience	3	0.604
	The online game affective experience	4	0.658
	The online game related experience	4	0.686
	The online game thinking experience	4	0.613
	The online game action experience	4	0.650
	The online game perceived usefulness experience	4	0.628
	The online game perceived ease-of-use experience	5	0.729
Repeat purchase		4	0.667
Word-of-mouth recommendation		4	0.660

Table 2 Results of KMO and Bartlett's tests

KMO		0.936
Bartlett sphericity test	rough chi-square	4350.920
	df	630
	P value	0.000

4.2 Narrative statistical analysis

4.2.1 Descriptive statistics on demographic elements

According to this analysis, the survey respondents used narrative statistics to understand the basic information overview. Through this information, they learned about the relevant information and summarized it. The contents are five items of gender, age, education, vocation, and disposable income, and the results of statistical findings are summarized as followed.

From the perspective of the gender of the customers who filled the questionnaire, there were 148 male customers occupying 40.7%, and 216 female customers occupying 59.3%. In terms of the age of customers participating in the survey, the number of customers aged 21 to 30 was the largest, accounting for 53.3%, followed by customers under 20, accounting for 27.2%. Customers over 51 years old were the least, with only 15, accounting for 4.1%. From the perspective of the customers' education level in the survey, customers who are at bachelor's degree level occupying 47.5% of customers interviewed, those whose education level is of senior high school or below occupies 23.9%. The least customers with master's degree or above were 46, accounting for 12.6%. In terms of the customer occupation, students have the largest number of customers, accounting for 41.2%, while other professions have the smallest number of customers, accounting for 6.3%. From the perspective of the disposable income of the customers

[1804]

participating in the survey, the number of customers with the disposable income of less than 2,000 yuan is the largest, accounting for 29.1%, while the number of customers with the disposable income of more than 5,000 yuan is the smallest, accounting for 11%.In this survey, a network questionnaire was used as a survey method. A total of 400 questionnaires were filled out by people of all ages, cultural levels and social strata. 364 valid questionnaires in total were retrieved from 400. The effective recovery rate was 91 %, as displayed in Table 3.

Table 3 Distribution situation analysis (n=364)

Variable	Categorization	Frequency	Ratio (%)
Gender	Male	148	40.7
	Female	216	59.3
Age	Under 20	99	27.2
	21 - 30	194	53.3
	31 - 40	36	9.9
	41 - 50	20	5.5
	Over 51	15	4.1
Educational level	Senior high school or below	87	23.9
	College	58	15.9
	Undergraduate	173	47.5
	Master or above	46	12.6
Vocation	Student	150	41.2
	Enterprise employees	80	22.0
	Civil servant or public institution staff	62	17.0
	Freelancers	49	13.5
	Other	23	6.3
Disposable income	Under 2,000 RMB	106	29.1
	2,001 – 3,000 RMB	90	24.7
	3,001 – 4,000 RMB	73	20.1
	4,001 – 5,000 RMB	55	15.1

[1805]

| Above 5,000 RMB | 40 | 11.0 |

4.3 Correlation Analysis

Before analyzing the effects of sensual experience, affective experience, related experience, action experience, thinking experience, perceived usefulness and perceived ease of use on repeated purchases as well as word-of-mouth recommendations in each dimension, descriptive statistics of variables were made, analyzing the correlations between variables descriptive statistics. The average score for the questions in each dimension was calculated as the score of a higher-level stands for a greater-level of agreement. Among them, 1 stands for totally disagree, 2 stands for disagreement, 3 stands for uncertainty, 4 stands for agreement, 5 for strongly agree. The results are shown in Table 4.

Table 4 Variables' descriptive statistics

	N	Minimum value	Maximum value	Mean value	Standard deviation
Sensual experience	364	1.00	5.00	3.68	0.85
Affective experience	364	1.25	5.00	3.68	0.82
Related experience	364	1.00	5.00	3.61	0.86
Thinking experience	364	1.00	5.00	3.53	0.81
Action experience	364	1.25	5.00	3.60	0.85
Perceived usefulness experience	364	1.00	5.00	3.53	0.82
Perceived ease of use experience	364	1.00	5.00	3.56	0.85
Repeat purchase	364	1.00	5.00	3.44	0.80
Word-of-mouth recommendation	364	1.25	5.00	3.55	0.82

From Table 4, it shows the mean statistic and standard deviation situation of sensual experience, affective experience, related experience, thinking experience, action experience, perceived usefulness experience, perceived ease of use experience, repeat purchase, and word-of-mouth recommendation. Concerning the value of mean, each mean value of variables is bigger than 3, which indicates that the customer has a higher degree of agreement with each variable.

Table 5 Pearson coefficient of correlation matrix

Variable	Sensory experience	Emotional experience	Related experience	Thinking experience	Action experience	Perceived usefulness experience	Perceived ease of use experience	Repeat purchase	Word of mouth recommendation
Sensory experience	1								
Emotional experience	.533**	1							
Related experience	.562**	.599**	1						
Thinking experience	.413**	.621**	.643**	1					
Action experience	.449**	.577**	.587**	.651**	1				
Perceived usefulness experience	.469**	.568**	.630**	.601**	.589**	1			
Perceived ease of use experience	.477**	.555**	.621**	.596**	.517**	.572**	1		
Repeat purchase	.421**	.530**	.563**	.580**	.568**	.588**	.624**	1	
Word of mouth recommendation	.513**	.567**	.552**	.574**	.567**	.524**	.512**	.559**	1

Note: ** means a significant correlation in 99% confidence level (two-tailed)

As displayed in Table 5, there are positive correlations between sensual experience, affective experience, related experience, thinking experience, action experience, perceived usefulness experience, perceived ease of use experience, and repeated purchase (all p falls below 0.05, all r falls above 0). With better sensual experience, affective experience, related experience, thinking experience, action experience, perceived usefulness and perceived ease of use, customers would like to purchase more and recommend more on the internet.

4.4 Regression Analysis

$$Y1=a0+ a1X1+a2X2 +a3X3 +a4X4 + a5X5 +a6X6 +a7X7+e \quad (\text{Model I})$$

$$Y2=a0+ a1X1+a2X2 +a3X3 +a4X4 + a5X5 +a6X6 +a7X7+e \quad (\text{Model II})$$

In the formula, a0 is a constant, a1-a7 is a regression coefficient, e is a residual error, Y1 is a repeat purchase, Y2 is a word-of-mouth recommendation, and X1-X7 are sensual experience, affective experience, related experience, thinking experience, action experience, perceived usefulness experience,

perceived ease of use experience, respectively.
Regression model was set up by SPSS and the results can be obtained from Table 6.

Table 6 Regression model result table

Variable	Model I			Model II		
	B	**t**	**p**	**B**	**t**	**p**
(Constant)	0.433	2.616 * *	0.009	0.431	2.452 * *	0.015
Sensual experience	0.012	0.277	0.782	0.179	3.780 * *	0.000
Affective experience	0.058	1.106	0.270	0.147	2.634 * *	0.009
Related experience	0.050	0.934	0.351	0.057	0.986	0.325
Thinking experience	0.109	1.906	0.058	0.172	2.821 * *	0.005
Action experience	0.156	3.086 * *	0.002	0.169	3.164 * *	0.002
Perceived usefulness experience	0.178	3.408 * *	0.001	0.070	1.255	0.210
Perceived ease of use experience	0.279	5.705 * *	0.000	0.072	1.390	0.166
R^2	0.517			0.482		
F	54.339			47.248		
p	0.000			0.000		

From the results in Table 6, the regression model I shares R2 of 0.517 which stands for goodness-of-fit coefficient, indicating that the regression model I is more suitable for exegetical meanings. This regression model's significance falls below 0.05, which means that independent variables can well explain the changes of dependent variables.

Based on the findings of the regression coefficients, the following factors in descending order can affect repeated purchases, which are perceived ease of use, perceived usefulness experience and action experience. Sensual experience, affective experience, related experience, and thinking experience cannot well explain the changes in the variable named repeated purchase.

In the regression model II, R2 is 0.482 indicating that the second regression model is quite suitable for explaining the connection between argument and dependent variable. The significance of regression model falls below 0.05, indicating that there is a closer relationship between argument and dependent variable.

Based on the findings of the regression coefficients, the following factors in descending order can affect mouth recommendation, which are sensual experience, thinking experience, action experience, and affective experience. On the other hand, variables like related experience, perceived usefulness and perceived ease of use cannot well explain the changes of word-of-mouth recommendation.

5. Conclusion

Through related research, it is found that the latitude other than the associated experience have significant positive correlation with purchase intention, which indicates that the better customer experience, the greater degree of influence on purchase intention. Empirical research results show that action experience, perceived usefulness experience, and perceived ease of use experience are the reasons for repeated purchase behavior which the perceived ease of use experience is the main factor that affects such behavior. Sensory experience, emotional experience, thinking experience, and action experience are

[1808]

the reasons for word-of-mouth publicity. Among them, the sensory experience is the main factor that affects consumers' word-of-mouth publicity when they purchase.

The conclusion of this study is that sensory experience positively influences the purchase intention of customers. It is the same as the conclusion put forward by Zeithaml that the better game quality in terms of visual, fluency and audio is, the higher the customer's purchase intention is.

Tang, Yan, and Zhang (2017) proposed in their research that the three factors of sensory experience, relational experience and emotional experience have the most significant effects on behavioral intention. According to the conclusion of this paper, all dimensions of customer experience, except the relevant experience, are positively correlated with purchase intention, which is slightly different.

6. Acknowledgements

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