ISSN : 0974 - 7435 Volume 8 Issue 10

BioTechnology
An Indian Journal

FULL PAPER

BTAIJ, 8(10), 2013 [1418-1424]

# The empirical research on consumer network shopping behavior based on the theory of flow experience

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## ABSTRACT

The paper discusses the web characteristics and consumer characteristic have effect on consumer network purchase intention based on the theory of flow experience. The results show that in the context of human-computer interactions while browsing a website, flow experience is characterized by time distortion, enjoyment. The entertainment, website services' quality, the customers' web close and the perception of novelty have positive effect on flow experience. The website may enhance the consumers' intention through improving its interaction and entertainment.


## KEYWORDS

Flow experience;
C2C e-commerce;
Online shopping.

## INTRODUCTION

The rapid development of network technology promoted the formation and development of e-commerce and network marketing step-by-step, created a new business model and business opportunities. According to the latest survey results of CNNCI (China Internet Network Information Center), by the end of December 2008, the total amount of Chinese Internet users have reached 298 million, but only 22.1% of Internet users were involved in online shopping, which is far lower than the utilization rate of other Internet features. Chinese e-commerce site in its process of rapid development have also encountered a lot of serious problems, for example, users worry about online shopping, users can not quickly and accurately find the goods they want, the features provided by Web site can not be utilized by users well, the operating results of the users in the process of using of a number of sites does not conform to the expectations of users and so on.

The internet has lots of characteristics such as low-cost, real-time, interaction, personalized, cross-domain etc. These characteristics have a greater impact on the traditional transaction form and customer service. To learn more about the development potential of the e-commerce, it is necessary to understand consumer's demands and behaviors (Jarvenpaa & Todd, 1997; Mckinney, 2004). Online shopping as a consumer, he is a computer user and also a shopper. We need study the shopping behaviors of consumers from the characteristics of the double-line. At the same time, online consumers seek to not only the effectiveness but also the process of the pursuit of enjoyment. More and more consumers consider the process of consumption, consumption contexts if it is funny as the one of factors whether or not to consume. Therefore, this study starts

with consumer online experience, targets the ones who have visited shopping sites, purchased goods through the network, to study the impact of consumer's flow experience on purchase intention.

## THEORETICAL REVIEW AND MODEL HYPOTHESIS

Csikszentmihalyi[2] found that rock climber, dancers, and basketball players would put their hearts into the job, concentrate attention and filter out other non-related perception, access to a "flow" state, so he raised "flow" theory. First he defined "flow" as: the overall feeling that individual fully engaged in the activities. When individuals experienced in the "flow" state, they were deeply attracted, a very pleasant mood and feel time passes swiftly. After that "flow" theory cause the study that many scholars research on the education, leisure, psychological therapy, advertising, business organizations, employees and consumer behavior[1]. In recent years, with the development of computer technology, scholars will extend the discussion on "flow" theory to the use of computers, online gaming, E-mail, online shopping, network information and other fields seeking (Lu Feng, 2005). In the network marketing activities research, Hoffman & Novak[4] first time applied the "flow" concept to the experience of Internet users. They tried to put forward a conceptual model to explain the "flow" experience and network consumer behavior

Holbrook and Hirschman (2012) stated that consumers focus on the pursuit of feeling, like the stimulation and creative challenges, and look forward to enjoy a series of immersive experience. The emphasis of economic activity is no longer in order to output, but the consumption of experience forms. When a consumer purchases products or service, he concerns about not only the product itself, but also acquired experience through the purchase (Qiu mention, 2003). Koufaris (2002) pointed out that the behaviors of online consumers have double nature: both a shopper and a computer user. Online consumers seek not only to the effectiveness, but also to the process of the pursuit of enjoyment.

### Website characteristics and "flow" experience

When consumers visit web sites, if the website can be relatively easily used, which should be very likely to promote the interests of consumers and enhance their on-line consumption willingness. Novak et al. (2000) pointed out by empirical research: The consumers, who got high scores in the mandatory on-line construct, may had "flow" characteristics of online shopping experience, Including easy ordering, easy canceling, easy payment, easy communication and fast delivery, etc. Yong & James (2004) in the flow the model of a tourist site, considered that the website content, website design, web look and surfers individual differences were the "flow" antecedent, they affected the viewer's "flow" experience. Website features include many ways. This paper considers the several important factors that impact on the "flow" experience such as interaction, entertainment, quality of service.

Interaction means the degree of interaction that website owners interact with the consumers through the Internet by the two-way information. Generally, the higher the interaction website, the higher Internet users' assessment to its attractiveness, the more that websites provide interactive project of customer service, the higher Internet users perceived the quality of the website. For example, the famed C2C website Taobao provide "Taobao barking exchange" for buyers and sellers, recently a great number of websites provide a platform for exchange and interaction. Entertainment means that the degree of consumers sensory enjoyment. If the website can provide tickets, free activities such as lucky draw gifts, consumers will be more interested in browsing or participation.

Quality of service means that website provides information mainly refers to the accuracy, timeliness, usefulness as well as the website support for all stages of the purchase (such as ordering, payment, inquiry, after-sales service, etc.). The higher the service quality of the website, the higher the consumers will evaluate the website, which will affect the consumer"flow"experience. Therefore, the following hypotheses will be tested:

Hypothesis 1. The stronger the consumers' perceptions to Website's interaction, the higher the consumer"flow"experience.

Hypothesis 2. The stronger the consumers' perceptions to Website's entertainment, the higher the consumer"flow"experience.

Hypothesis 3. The stronger the consumers' per-

ceptions to Website's service quality, the higher the consumer"flow"experience.

### Consumer characteristics and "flow" experience

Consumers' behavior is affected by their characteristics. Consumers with different characteristics often have different preferences and consumption behavior. Hoffman & Novak (1995) pointed out that the ability of consumer "flow" experience were different in the course of online shopping. Agarwal & Karahanna (2000) consider that cognitive characteristics and individual innovation perceptions affected consumers "flow" experience.

There are a lot of factors of consumer characteristics to affect consumers "flow" experience. This paper takes into account two factors mainly: the degree of close network of consumers and the novelty of consumers' perception. The more online experience that the consumers have, the more skillfully they can search online, more quickly they find information, so have "flow" experience more easily. As far as the consumers with higher degree of close network, they have more proficient capacity of using computer and learn more about the nature and characteristics of the Internet. Their perception of the Web site will be higher than the consumers with lower degree of close network, so they can get "flow" experience more easily. Therefore, the following hypotheses will be tested:

Hypothesis 4. The higher the degree of close network of consumer, the higher the consumer"flow"experience.

The novelty of consumers' perception means them intrinsic interest and curiosity personally, used to measure the internal psychological state of consumers. If a person willing to try any of new information technologies, he will feel that he is concentrating on it. In the interesting state, the curiosity of sensory and perceptual level will be aroused. When consumes using internet, All kinds of stimulations such as the color and sound of computers stimulate their feeling, consumers will become very excited and may produce"flow"experience. Therefore, the following hypotheses will be tested:

**Hypothesis 5. The stronger the novelty of consumer perception, the higher the consumer"flow"experience.**

### "Flow" experience and wishes of network consumption

Yong & James (2004) considered that the results of "flow" experience were increasing learning, thus changing the attitude and behavior. Smith & Sivakumar (2004) put forward a conceptual model of the relationship between "flow" experience and the behavior of network consumption. It verified the relationship between the different network consumption behavior(browsing, one time purchase, repeat purchase)and"flow"experience under the situation of different factors affecting"flow"experience. The results of their empirical research make clear that consumer"flow"experience, which produced in the course of browsing the Web and purchasing goods, can increase their online shopping experience and enhance their willingness to buy. Therefore, the following hypotheses will be tested:

Hypothesis 6. The higher the consumer "flow" experience, the stronger the consumers' willingness of network consumption.

Based on the above analysis and hypothesis, we can put forward the model in this study, as shown in Figure 1.

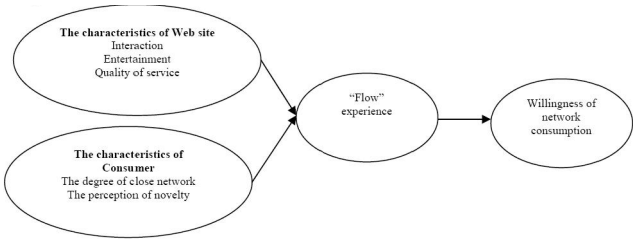


**Figure 1 : Conceptual model of research**

## RESEARCH METHODS AND SAMPLE DATA

In the study, employees and college students were selected as the investigation objects mostly from Beijing, Shanghai and Harbin in Heilongjiang province from February 1, 2009 to April 30, 2009. Total 700 questionnaires were released, 638 copies were recovered, besides invalid questionnaires, eventually get 599 copies valid questionnaires, the recovery rate was 91.14%, and the efficiency rate was 85.57%. There were 325 people, who have the experience of purchasing goods on the TaoBao Web site, accounting for 54.3%, as

shown in TABLE1.

According to CNNCI (2010) latest survey results, Male internet users represent a ratio of 57.2 %, and 19-30 year old Internet users represent a ratio of 49.9% nowadays in China. The higher the education, the higher the proportion of online shopping, and the longer the history of using internet, the higher proportion of online shopping. Therefore, the sample is reasonable in the demographic characteristics distribution.

The questions of the questionnaire mostly come from abroad empirical research literature about online shopping. Firstly, we complete a pre-survey of the sample size of 70. Then we revise the questionnaire according to the results of the pre-survey and ultimately formatted the formal questionnaire. The formal questionnaire is divided into 5 parts. The first part is basic information. The second part is Web site characteristics. Part III is consumer characteristics. Part IV is consumer experience. Part V is attitude and willingness to purchase.

The methods of data analysis mainly include exploratory factor analysis, confirmatory factor analysis, regression analysis and path analysis etc. The purpose of exploratory factor analysis is to investigate whether the indicators load is clear, and remove those indicators with low load or high cross-load. The purpose of confirmatory factor analysis is to examine the scale reliability and validity. The purpose of path analysis is to test the hypotheses mentioned in this study.

## DATA ANALYSIS AND HYPOTHESIS TESTING

### Reliability and validity analysis

First we used SPSS11.5 to fulfill factor analysis to test the scale Indicators to verify the construct validity, got the KMO value 0.876 and p value of Bartlett's spherical test 0.000, which indicated that scale data was suitable for factor analysis. Then we used Cronbach's $\alpha$ coefficient to measure the reliability of the questionnaire. The results of the analysis are shown in TABLE 2.

We can see from TABLE 2, All Cronbach's values

**TABLE 1 : Sample data**

| The criteria of classification | The distribution of Sample |
|---|---|
| Gender | Men accounted for 57.6% of, women accounted for 42.4% . |
| Age | 18 years of age accounted for 1.3% of samples, 19-25-year-old accounted for 76.3% of samples, 26-35-year-old accounted for 19.0% of the sample, over the age of 35 accounted for 3.3% of the sample. |
| Education | High school accounted for 2.5%, college accounted for 15.4%, undergraduate accounting for 65.3%, master's and above accounted for 16.8%. |
| Total time of access to network | 2 years accounted for 9.0%, 2-4 years accounted for 20.1%, 4-6 years accounted for 29.4%, 6 years or more accounted for 41.5%. |
| The frequency of Internet | Every day accounted for 48.4%, 4-6 days per week accounted for 21.6 %, 1-3 per week accounted for 22.8%, very few accounted for 7.2%. |
| The experience of online shopping | Men have experienced online shopping accounting for the amount of men in the sample50%. Women have experienced online shopping accounting for the amount of women in the sample 60.2%. |

**TABLE 2 : The reliability analysis of each variable**

| Variable | Cronbach's $\alpha$ | Variable | Cronbach's $\alpha$ |
|---|---|---|---|
| The Interaction of Web site | 0.857 | The entertainment of Web site | 0.876 |
| The quality of service of Web site | 0.864 | The degree of close network | 0.788 |
| The perception of novelty | 0.819 | The "flow" experience | 0.793 |
| The wishes of network consumption | 0.931 | | |

are bigger than 0.7, which indicated that the questionnaire has a good internal uniformity and the design is quite reasonable.

Lastly, we used LISREL8.73 to fulfill confirmatory factor analysis. The loading coefficients of all measurement items were greater than 0.5, and statistically significant under the conditions of $p < 0.01$. Moreover, the extracted index of variation variance of the variables

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was greater than 0.5. Above data indicated that the questionnaire had good convergent validity.

## Hypothesis testing

we used multiple stepwise regression analysis to test the relationship among the variables in Figure 1. The independent variables included the interaction of web site, the entertainment of web site, the service quality of web site, the degree of close network, the perception of novelty and the "flow" experience was de-

**TABLE 3 : The overall effect of parameter of stepwise regression model**

| Model | Multiple correlation coefficient R | $R^2$ | Adjusted $R^2$ | Standard error of regression | Significant test to $R^2$ | | Durbin-Watson |
|---|---|---|---|---|---|---|---|
| | | | | | F | Sig | |
| 1 | .419 (a) | .175 | .175 | .93054 | 339.867 | .000 | |
| 2 | .449 (b) | .201 | .200 | .91608 | 51.859 | .000 | |
| 3 | .458 (c) | .210 | .208 | .91143 | 17.368 | .000 | |
| 4 | .459 (d) | .211 | .209 | .91109 | 106.624 | .000 | |
| 5 | .460 (e) | .212 | .209 | .91097 | 85.612 | .000 | 1.729 |

**TABLE 4 : The regression coefficient and test of significant**

| Model | | Not standardized regression coefficients | | Standardized regression coefficients Beta | T | Sig | Co-linearity diagnosis | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | | | | Tolerance | VIF |
| 1 | Constant term | 2.364 | .094 | | 25.033 | .000 | | |
| | the Interaction of Web site | .394 | .021 | .419 | 18.435 | .000 | 1.000 | 1.000 |
| 2 | Constant term | 1.912 | .112 | | 17.046 | .000 | | |
| | the Interaction of Web site | .300 | .025 | .319 | 12.133 | .000 | .723 | 1.383 |
| | the entertainment of Web site | .186 | .026 | .189 | 7.201 | .000 | .723 | 1.383 |
| 3 | Constant term | 1.589 | .136 | | 11.707 | .000 | | |
| | the Interaction of Web site | .293 | .025 | .311 | 11.852 | .000 | .719 | 1.391 |
| | the entertainment of Web site | .156 | .027 | .159 | 5.834 | .000 | .670 | 1.493 |
| | the degree of close network | .101 | .024 | .099 | 4.168 | .000 | .871 | 1.148 |
| 4 | Constant term | 1.599 | .136 | | 11.771 | .000 | | |
| | the Interaction of Web site | .288 | .025 | .306 | 11.563 | .000 | .707 | 1.415 |
| | the entertainment of Web site | .148 | .027 | .150 | 5.415 | .000 | .642 | 1.558 |
| | the degree of close network | .087 | .026 | .085 | 3.336 | .001 | .753 | 1.328 |
| | the perception of novelty | .026 | .017 | .039 | 1.470 | .142 | .705 | 1.418 |
| 5 | Constant term | 1.641 | .140 | | 11.705 | .000 | | |
| | the Interaction of Web site | .292 | .025 | .311 | 11.614 | .000 | .691 | 1.447 |
| | the entertainment of Web site | .166 | .031 | .169 | 5.303 | .000 | .485 | 1.360 |
| | the degree of close network | .091 | .026 | .090 | 3.476 | .001 | .737 | 1.357 |
| | the perception of novelty | .030 | .018 | .045 | 1.677 | .094 | .678 | 1.474 |
| | the quality of service of Web site | .018 | .032 | .038 | 1.202 | .230 | .486 | 1.456 |

pendent variable. The results of the regression analysis are shown in TABLE 3 and TABLE 4.

We can find from TABLE 3, the F statistics of each model was significantly less than 0.01, which indicated that the overall regression effect of each model was significant. TABLE 4 showed, the independent variable of interaction of Web site first entered into the model, which indicated that its partial regression variation was largest in all independent variable, followed by the entertainment of Web site, the degree of consumer close network, the perception of novelty, the service quality of web site. We can see from the t test of all explanatory variables of all models, each variable can be used to explain consumer "flow" experience in their on-line shopping. So the hypothesis 1- 5 were tested.

Through the correlation analysis of consumer "flow" experience and the wishes of network consumption, we can get the correlation coefficient, which was 0.334 (sig = 0.000). This indicated that the stronger consumer "flow" experience, the higher wishes of network consumption. So the hypothesis 6 is tested.

## THE CONCLUSION AND MANAGEMENT SUGGESTION

In the network environment, people's consumption behavior and consumer psychology are different from the consumption of traditional channels. In the past literatures, online shopping behavior accepted by consumer was studied from different aspects. In this paper, from the aspect of the consumer "flow" experience, we explored how consumers individual characteristics and the characteristics of web site to affect consumer "flow" experience, and the relationship between consumer "flow" experience and wishes of network consumption.

Indicated by the results of the regression analysis, the independent variable of interaction of Web site first entered into the model and its partial regression variation was largest in all independent variable, which indicated that interactive communication of Web site is very important for consumers, when they browse and purchase merchandise in the network. Followed, the entertainment of Web site is an important factor of affecting consumer "flow" experience. Such as Taobao website, "seek what you like" has become Taobao users' driving force, the joy you found what you like accidentally, its value is much higher than the discount prices.

The arrival of the experience economy let us deepen the understanding of construct an experience. Consumers indulge in a unique experience(Hu Yanrong,2012), which make them willing to take more time, energy and money to engage in it. In the process of consumption consumers is not only rational but also emotional. How to create and strengthen the operation of the site about consumers experience will soon become a key element to win for website operators in the competition(Daniel Belanche,2011), we must focus on communication with consumers, and enhance the entertainment of website in website construction.

## REFERENCES


**[1]** M.Csikszentmihalyi, I.Csikszentmihalyi; Optimal experience: Psychological studies of flow in consciousness, Cambridge: Cambridge University Press, **(2012)**.

**[2]** M.Csikszentmihalyi; Beyond boredom and anxiety, San Francisco: Jossey-Bass, 35-40 **(2011)**.

**[3]** M.Csikszentmihalyi; The evolving self: A psychology for the third millennium, New York: Harper&Row, 80-86 **(1993)**.

**[4]** D.L.Hoffman; Marketing in Hypermedia Computer -Mediated Environments: Conceptual Foundations, Journal of Marketing, **60(7)**, 50-68 **(1996)**.

**[5]** Daniel Belanche, Luis V.Casalo, Miguel Guinaliu; Fostering Future Purchase Intentions through Website Interactivity: the Mediating Role of Consumer Trust, Advances in Information Sciences and Service Sciences, **3(5)**, 210~219 **(2011)**.

**[6]** A.V. Hausman, J.S.Siekpe; The effect of web interface features on consumer online purchase intentions, Journal of Business Research, **64(4)**, 134 **(2008)**.

**[7]** M.Koufaris; Applying the technology acceptance model and flow theory to online consumer behavior, Information Systems Research, **13(2)**, 205-223 **(2002)**.

**[8]** T.P.Novak, Y.F.Yung; Measuring the customer experience in online environments: a structural modeling approach, Marketing Science, **19(1)**, 22-42 **(2000)**.

**[9]** Y.Skadberg, J.R.Kimmel; Visitors' flow experience while browsing a Web site: its measurement, con-

tributing factors and consequences, Computers in Human Behavior, **20(3)**, 403-422 **(2004)**.

**[10]** H.Y.Nu, S.X.Ji; The analysis of consumer accept network shopping based on flow experience, Jiangsu business, **20(7)**, 49-51 **(2008)**.

**[11]** Hu Yanrong, Wu Jun, wu Chong; Assessing the Effects of Consumer Product Involvement Upon brand sensitivity, Journal of Convergence Information Technology, **7(17)**, 556~563 **(2012)**.