

A User Experience Study on C2C E-Commerce Localization in China

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Abstract. Chinese online commerce develops rapidly. How to give user the good shopping experience in C2C e-commerce website is discussed. In this research, we selected 22 college students, and let them try their first online shopping experience on two Chinese C2C e-commerce websites- Ebay(China) and Taobao which are designed under two different cultures, through the analysis of their experience process and satisfaction questionnaire, we found that in user's purchase decision process, the transfer and expression of function/ concept provided by website play a decisive role, shopping flow control have certain effect to the purchase implement process, and the main factor which impacts user total experience is whether the website provides the necessary function for shopping. Both websites have their own advantages in either interaction or interface, although they do not have effect to user's total shopping experience, but they do effect to the user's shopping feeling.

Keywords: E-commerce, localization, user experience, user testing, satisfaction questionnaire.

1 Introduction

With the rapid development of China's economy and information technology, many business activities are transferred to the internet. According to the report by iResearch Marketing, China's e-commerce transactions in 2005 have come to 740 billion yuan. It is expected that by the end of 2007 only B2B transaction will reach 210 billion dollars [1]. Chinese e-commerce potential is very huge, many world famous e-commerce company are coming to China: in 2004 Amazon acquired Joyo; in 2003 Ebay completed the acquisition of entire eachnet shares. But the final winners are rare: Dangdang and Joyo are still in the competition; Ebay(China) lost its dominant position in the competition with Taobao.

What brings to this? Is it because of the different strategy and function provided to meet users among websites? Or is it because of the different design styles under different cultural background? Or have other reasons?

We tried to do some studies in this area. We select two C2C e-commerce websites ebay.com.cn and taobao.com which are designed in different cultural backgrounds. In

our study, user testing and satisfaction questionnaires are used to measure the user's initial online shopping experience. According to the analysis of the user's behaviors in the shopping process and their evaluation of satisfaction, we will find out the existing problems and the factors which affect the total experience of users' initial purchase on website, which can provide design ideas of localization and good experience for C2C e-commerce website.

The rest of this paper is organized as follows: Section 2 examines existing related work on the research of e-commerce website user experience and localization. In section 3 we discuss the research background, shopping process and our hypotheses. Furthermore, we will describe our experiment design and the data analysis in section 4, and we will end by drawing the results, conclusions and identifying opportunities for further work.

2 Related Work

2.1 E-Commerce Website User Experience Research

In the research of user experience on e-commerce website, many academicians make their contributions. Because the asymmetry of information in online marketplaces is the main cause of the potential risk to online traders [2], so trust is often discussed [6], [8], [10], [15], [16], [17], [18], [19]. Patricia Lanford's research shows that trust in online stores strongly affects consumers' purchase decisions[10], Troy's research about C2C e-commerce website trust also shows the importance of trust for the purchase decision, and he think the reputation of the seller and quality of previous dealings with the seller are the key factors[16], Florian N. Egger described the trust model from Graphic Design, Structure & Navigation Design and Content Design[15],and the researchers from South Africa give a 'ABCD' trust model for e-commerce in South Africa[2]. Chinese researchers try to give the trust model [6], [17], [18], and some academicians even discuss the usefulness of credit [8]. The researchers also attempt to do some works on the e-commerce website usability evaluation, website comparing and design methodology [3], [11], [12], [14].

2.2 E-Commerce Website Localization Research

There are some researchers engage in cross-cultural studies on e-commerce. British researchers did a study on the interaction design of globalization and localization [9]. Through a comparative study between Amazon and Dangdang, Chinese researchers discuss the impact of cultural factors on the behavior of user's shopping [13]. Another paper is about Taobao and Ebay, the researchers compare the data of reputation scores of two websites [7].Now the C2C e-commerce localization user experience research is not much.

3 Hypotheses

3.1 Background

Nowadays, about two-thirds netizens who purchase products online select C2C e-commerce website in China [4]. Taobao and Ebay(China) are most famous C2C e-commerce websites in China, both of them have strengthen registration members, and the product number and transaction are both more than the other similar websites. Among the users who have visited e-commerce website, at least 50% didn't buy anything, but if user had bought once on the website, then the possibility he becomes a regular user is close to 50% [4]. So users' initial shopping experience is very important for the C2C e-commerce websites. So we select Taobao and Ebay(China), and study the user's initial shopping experience.

3.2 Shopping Process Analysis

A total initial online shopping process contains four phases: attracted and enter, making a decision, implementing purchase and waiting. The process is shown in figure 1. Two key stages of user's initial experience is the stage of decision and the stage of implementation. In the stage of making a decision, users should do the following things: first of all, finding out the product they wanted, then compare a the product information and seller information, if they want to know some product detail information they should contact with seller. And in the stage of implementation, user should find the payment enter, register to become the website member, and after e-mail confirm and activation on another website, they should come back to the website and recover the product again, then study the secure online payment system, enter E-bank, and end this phase by writing the mail address .

3.3 Hypotheses

In the process of making a decision to purchase, users may contact with a lot of concepts and functions which are provided by websites in order to dispel user's worry or help purchase convenient, such as seller's credit feedback system, secure online payment system. Are these concepts and functions which is provided by websites is effectively for user's purchase? We give the hypotheses:

H1: The concepts and function the website provided have enough effect for users' purchase.

There are so many differences between internet shopping and real life shopping, especially in the initial shopping process. The difference in the stage of implementing purchase is much greater. For example, they are required to be find the payment enter, registered members, use the secure online payment system and E-banking..., the process is so Complex, so will the difference between online shopping process and real life shopping process affect the user's purchase experience on website?

H2: The difference between website and real shopping process affect the user experience.

In addition, will the different design style under different cultural backgrounds in the two websites affect the user’s purchase behavior?

H3: The difference between interaction and interface has effect to user’s initial shopping experience.

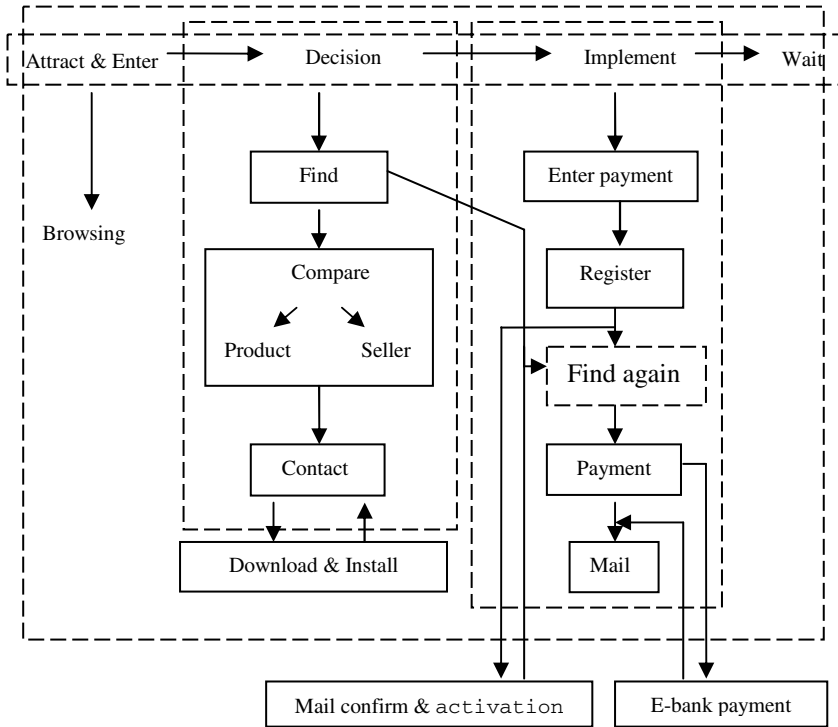


Fig. 1. Total initial online shopping process of C2C e-commerce website

4 Experiment Process

4.1 Method

We recruit 22 students without any online shopping experience from a university in Dalian as participants. They are divided into two groups for the evaluation of the two websites. The test is implemented in usability laboratory. The task scenarios are shown in table 1. After the test, each user will fill in a satisfaction questionnaire, as shown in table 2.

Table 1. User task scenario

Task	Scenario description and explanation
Browsing	Let the users browsing on the website leisurely. This task inspects the initial impression and feelings the website brings to the user.
Product finding	Let the user find out a favorite MP3. This task inspects the way user used to find out the product.
Product comparing	Let the users take a comparing among the MP3 they have been searched, and choose one. This task inspects the gist of making decision and their understanding of the functions and concepts provided by the website.
Find the product visited before	Find out a product visited before This task inspects the compositor of merchandise and the function “product browse before”.
Study the concept and function	Explain the functions and concepts they used, and dispel their concerns before their decisions, and transit to the implementation stage
Purchase-1(registration)	Complete the purchase-1. This task inspects the usage of search of payment enter , registration, and recover the product ever visited .(after registration, user have to recover the product again in both of the two website)
Purchase -2(payment)	Complete the purchase-2. This task inspects the understanding and usage of secure online payment system
Purchase -3(fill out mail address and contact)	Complete the last step of purchase-write the mail and contact address. This task inspects users’ understanding and usage of mail address and contact.

Table 2. User satisfaction questionnaire

Question	Strongly Agree							Strongly Disagree							NA
1.The system is easy to use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
2.The system provides the necessary function.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
...															
16.I like the interface of the system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
...															
20.Overall, I am satisfied with the system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

4.2 Data Analysis

The analysis of user testing data. We describe the issues we founded from two ways: task and function. Meanwhile, classified the issues according to the issue number which user meet, the impact for the final completion of the task, and the effect on user’s cognition of purchase process and website concept. For example, serious issues are the issues that most of the users meet or user’s task is paused, or user’s cognition of purchase process and website concept has a big mistake because of the issue.

The analysis of satisfaction questionnaire data. Except the overall satisfaction (the 20th question), we classify the nineteen questions into five factors: system usability

factor, information quality factor, interface quality factor, emotional factor and the functions users expect. We consider user's overall satisfaction is decided by the five factors. We calculate the average of every questionnaire question of the two website and the average of every factor (for example the system usability factor). The item which is missed or NA is filling in with the average.

5 Result

Based on the analysis of user test results, we know the concept/function transfer and expression have very large effect during their purchase decision process. The flow control and the experience conflict are all work at the purchase implement process; the data of the satisfaction questionnaire show that both websites have its own advantage on either interaction or interface. The functions that the website provides will affect the user's evaluation to the whole website. Although system usability and interface don't affect the user's total experience directly, it works on the user's feeling to the whole system.

5.1 Transfer and Expression of Function/Concept

Trust and security are the key factors which let user make purchase decision. Both websites provide relevant function to solve these problems, for example, secure online payment system and credit feedback of the sellers. Especially Taobao provides IM for users to contact the sellers to understand the product information better, and for user's convenient shopping it provides the functions of "Product comparing" and "Finding the product visited before".

Many users didn't make a purchase decision after their task 2, 3, 4(the purchase decision phase). But after training, they express their concerns dispelled a lot and can accept the online shopping. They all express that they need these functions, but most of the time the functions are not "visual". Even the users find out these concepts, it can't "explain" and "express" by itself, that is to say, users can not simply judge its meaning simply, but also unable to estimate how much they will pay for understanding and using these concepts and functions. The result is the users abandon their purchase and leave the website before they dispel their worry.

5.2 Flow Control and Experience Conflict

Generally speaking, if the users make a decision to buy, they can stick to complete the entire shopping process. However, the initial shopping experience is not ideal, they have to suffer flow skip and experience conflict incessantly.

Not continuous shopping process. As it is shown in fig 1, we can see that user has to skip to another two websites in the phase of their implement purchase. One is member confirm and activation, the other is going to the e-banking to pay. According to he website's restrict, users have to recover the product they want to buy after they successfully registrant as a member. These seriously break the fluency of the shopping process, and if the product was expired during user's registration process, it may lead the user's reprovod and dissatisfaction.

Additional and Complex operation and study process. In the process of payment, users do a lot of things that has no matter with shopping itself. In reality user can gain the product as long as he pay for it. But shopping on website are not so easy, users has to suffer registration, recover the product they visited, studying and understanding online payment system, entering e-banking, filling in the mail address and so on, which makes the purchase process too long.

5.3 Satisfaction Questionnaire Analysis

The average score the user give on the satisfaction questionnaire of the two websites is shown in figure 3. Ebay(China) has got a higher score than Taobao in many questions. So the result is Ebay(China) is better than Taobao on total experience.

The similar tendency. According to the user's evaluation to the two websites, the users all give the highest score on the 20th question 'Generally speaking, I am satisfied with the system.' Meanwhile, the users all give the lowest score to the 17th question 'The system is very attractive.' In addition, the 5th question 'I think using this system can improve productivity.' and the 7th question 'I can use this system to complete task efficiently.' also displayed the same trend. Our testing verified their argument exactly. After the initial purchase experience on website, the users say that there are indeed some tangible benefits shopping in the website, and they say that even if they don't buy anything in the website, they may still enjoy in searching the information of products and take the comparison of goods. But the complex initial purchase process made them tired, and they don't think the initial purchase have high effective.

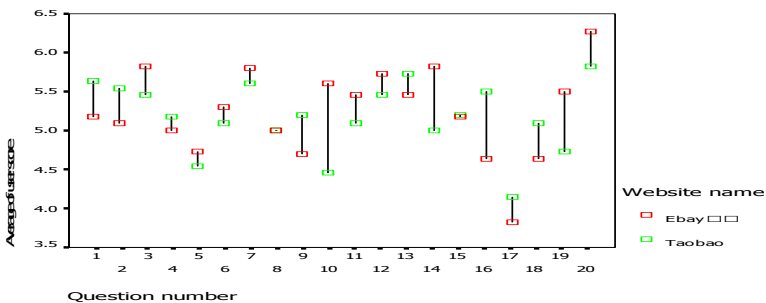


Fig. 3. The average of user score description of Taobao and Ebay(China) satisfaction questionnaires

The analysis of ANOVA. We carried out an independent-samples T test, the data analysis result shows that the score of the 10th question 'The system show the information clearly' (Ebay(China) gets the higher score) and the 16th question 'I like the interface of the system' (Taobao gets the higher score) are significant different. We speculate if it is because the colorful interface and rich pictures fit with the aesthetic needs of users in china. But it may also because of too many interface elements that bring on the uncertainty, which decentralized user's attention, and then lead to their dissatisfaction to the clear information present on the website.

Regression analysis of correlation factors. We carry a regression analysis on the five factors which may affect the total satisfaction, the five factors are system usability factor, information quality factor, interface quality factor, emotion factor and the functions that user expect. The result show that the functions the website provides will affect user’s evaluation to the website most, though system usability and interface don’t affect the total satisfaction directly, but they do have an impact on user’s feelings to the system.

6 Conclusions

Based on our test and analysis, we summarize a concept model of good shopping experience for C2C e-commerce website. They should be satisfied from the function level, interaction level and impact level, as shown in figure 4. For the initial users, their needs are focused on the function level. They pay more attention to whether the website provides the functions that can dispel their worry and are convenient for their purchase. That is to say, the function’s effective transfer and express is especially important to C2C e-commerce website to attract the initial users.

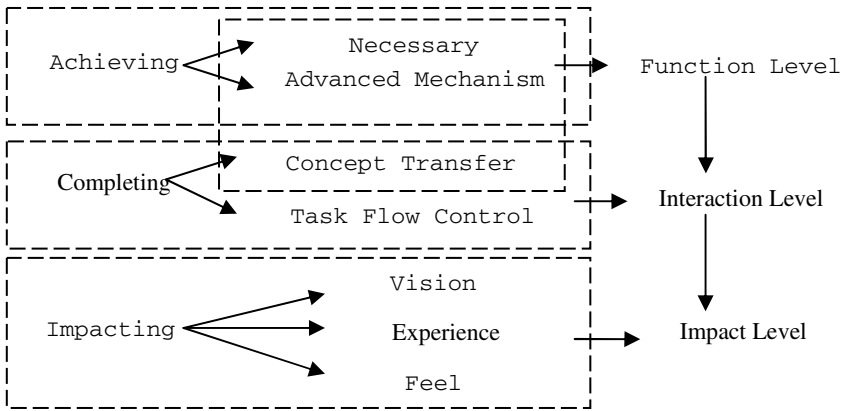


Fig. 4. Good online shopping experience concept model

Although the differences of two websites’ interaction and interface do not affect the initial user’s total experience to the website, the usability and interface quality do affect the initial user’s feeling on shopping process. Then with the deep understanding of the function and concept, will the usability and interface quality affect the regular user’s shopping experience? We know that usability affect user’s shopping feeling then is user’s emotion and cognition relative?

We select college students as subjects according with online shopping distribution, but can our subjects cover all the circs? In addition, the restriction of sample size may reduce the credibility of the result, and then it needs a further improvement.

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