

# The Effects of Nationality and Shopping Orientations on Online Shopping Cart Abandonment

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**Abstract.** Online shopping cart abandonment means that the consumer adds item(s) to her/his online shopping cart and leaves the site without a purchase. As increasing e-Commerce, shopping cart abandonment has been a crucial problem for online shopping mall. This study examined the effects of nationality and shopping orientations on online shopping cart abandonment. As results of 304 survey data analysis in Korea and China, nationality and shopping orientations influenced significantly online shopping cart abandonment. Korean and multi orientation group showed higher shopping cart abandonment. Implication of the study and further research are suggested.

**Keywords:** E-Commerce, Internet Marketing, Online Shopping, Cart Abandonment, Shopping Orientation, China, Korea, Cross-Cultural Study.

## 1. Introduction

In this booming of e-commerce, online shopping cart abandonment has been a crucial problem for internet business. The shopping cart abandonment rate is currently 71% according to the Forrester research. And during 2009, 88 % of U.S. online customers abandoned at least one shopping cart, or 136 million people in total (Forrester research, 2009). And through another investigation, shopping cart abandonment stands at 50.1% in the UK compared to 65.61% in the US (Nielson online, 2009). Forrester Research each show abandonment rates of 25%, and Jupiter Communications triangulates this finding by documenting a shopping cart abandonment rate of 27% (Tarasofsky, 2008). In the side of E-commerce firms, while e-commerce channels are generating millions of dollars in sales for many businesses, the most successful e-commerce channels convert only 8% of their online visitors to paying customers. Most firms are able to convert only 2 to 3 % (Goldwyn, 2003).

China is a fast developing country in internet area, especially in online shopping area. The number of online shopping users in 2009 (87,880,000) is almost 3 times as in 2004 (China Internet Network Information Center, 2009). And also, According to iResearch upcoming report of China Online Shopping Research 2009-2010, China's online shopping market scale will reach 248.4 billion yuan in 2009, up 93.7% compared to 2008. On the other hand, the number of Korean Internet users grew from 27 million in September 2008 to 29 million in September 2009. Internet business growth in Korea is higher than expected - projected to reach approximately USD 17 billion in 2009.

But for these two biggest internet markets in Asia, there are only few reports about online shopping cart abandonments problem and nearly no academic research on this important issue. Shopping cart is the most useful online shopping tool both in Korea and China, which means there is such problem as which occurred in US and UK about shopping cart abandonment. For the developing of E-Commerce in these two countries, a study on online shopping cart abandonment is important to implement. The main purpose of this study is to examine the effects of nationality and shopping orientations on online shopping cart abandonment between Korea and China. A survey research was performed to find the differences of shopping cart abandonment between Korea and China and among consumer groups classified by shopping orientations.

## 2. Theoretical Backgrounds

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## **2.1. Shopping Cart Abandonment**

Shopping cart abandonment takes place only after consumers place items in their shopping cart. Hence, if the consumer leaves the site after information search without adding items to her virtual cart, there is no shopping cart abandoned. If the consumer adds item(s) to her shopping cart and leaves the site without a purchase, the shopping cart is designated as being abandoned (Li and Chatterjee, 2005). Unfortunately, most commercial click-stream analyzers do not distinguish between these two categories of no-purchase sessions, nor can they identify where abandonment occurs (Li and Chatterjee, 2005).

Study on shopping cart abandonment is a new area for researching in E-Commerce and consumer behaviours (Li and Chatterjee 2005; Close et. al. 2009; Paden and Stell 2010). Li and Chatterjee (2005) propose a four-stage model of online shopping process to study shopping cart abandonment. Consumer heterogeneity is accounted within a hierarchical Bayesian framework. A hidden Markov switching process is used to capture unobserved user navigation orientation. Managerial implications for customized web pages to reduce the attrition at each stage are also discussed. Close et. al. (2009) investigate consumers' motivations for placing items in an online shopping cart with or without buying, termed virtual cart use. Beyond current purchase intentions, the investigated reasons for why consumers place items in their carts include: securing online price promotions, obtaining more information on certain products, organizing shopping items, and entertainment. Paden and Stell (2010) gave a different explanation for cart abandonment could be that consumers are simply engaging in shopping activities for hedonic purposes and really have little intention to buy, even as they add products to the cart.

## **2.2. Shopping Orientations**

Shopping orientations are related to general predisposition toward acts of shopping. They are conceptualized as a specific dimension of lifestyle and operationalized on the basis of activities, interests and opinion statements pertaining to acts of shopping. Efforts have been made to classify consumers into distinct segments primarily for targeting purposes (Li, et. al. 1999). Based on the relationship study between shopping orientations and online shopping orientation, Vijayasathy and Jones (2000) identify types of shopping orientations, such as in-home shoppers who liked to shop from home; economic shoppers who shopped around before making purchase decisions; convenience shoppers who placed a premium on convenience when shopping; and recreational shoppers who enjoyed shopping. The result of the study found that customers who prefer traditional in-home shopping, such as by mail order via catalogues, tend to show high intentions toward online shopping, whereas individuals with a preference for mall shopping tended to have low online shopping intentions. And information seeking orientation is another important factor in prior studies. Bellenger and Korgaonkar (1980) propose that the ability to seek and gather information in a retail setting is a shopping motive in the offline context. Online shopping offers an infrastructure by which the consumer is able to search, compare, and access information much more easily and at deeper levels than within the bricks-and-mortar retail structure (Lynch and Ariely, 2000). This concept of information as adding value to the retail experience is supported by Hoffman and Novak (1996), who suggest that the Internet offers not only a wide variety of information, it offers the capability to deliver specific information tailored to the needs of the consumer.

## **2.3. Differences of Online Shopping between Korea and China**

There have been many comparative studies of online shopping between Korea and China. Hwang and Park (2007) examined the differences of usage behaviours and attitudes on Internet open market between Korea and China. As results, there were significant differences in economic, convenience, and social shopping motivations between Korea and China. Functional and psychological perceived risks of Chinese were higher than Korean's. Buying frequency and intention, innovativeness, and trust of Korea were higher than China. Lim and Qu (2008) compared college student consumer's attitude and intention to use internet shopping in Korea and China, and they found there were obvious differences between two countries (buying items, perceived price, perceived quality etc).

Based on literature reviews, three hypothesis are suggested as follows:

H1: There are differences between Korea and China on online shopping abandonment.

H2: There are differences between different shopping orientation types on online shopping abandonment.

H3: There is interaction effect of nationalities and shopping orientations on online shopping abandonment.

### 3. Methods

For this research, we collected data from personal survey with students and business workers in Korea and China. We confined the subjects for this research to Internet consumers who had previously used shopping cart for shopping online. The survey began with an introductory statement that asked respondents to provide their responses if they had online shopping cart using experiences and online shopping experiences; and also we present a scenario for the respondents to explain a certain situation about purchase stage. After imaging shopping online at a shopping site with purchase stage, respondents answered the various measurement items with seven-point agreement scale and demographic questions. The final sample size was 304, including 150 Korean internet consumers (49.3%) and 154 Chinese internet consumers (50.7%). There is no significant difference on respondents' gender; also the sample was dominated by 21-25 years old. And for China and Korea, the sample was a wide dispersion of income per month, and main of sample gets income 500-1000yuan for china (37.7%), 400,000-600,000won for Korea (42%). Through the online shopping behaviour characteristics, there found it is similar between Korean and Chinese in online shopping per month (1-3 times) and online shopping items (cloths/accessory) (42.4%). However, more Korean internet consumers have more online shopping experiences (3-5years) (30.7%) than Chinese internet consumers (1-3years) (29.3%).

The shopping orientations also were entered into a factor analysis to examine the reliability and validity of the scales using SPSS 15. The factors of shopping orientations are divided economic, recreational, convenience, and information seeking orientations. The Cronbach Alpha ranged from 0.859 to 0.926 and the Eigen values are all above 1, therefore, it displayed sufficient items validity and reliability.

### 4. Results

First, for analysis online cart abandonment in Korea and China, One Way ANOVA was used, and the result as the Table1. Through the result of ANOVA, we can find that Korean online consumers did more often cart abandonment than Chinese online consumers (Mean.5.27>Mean.4.41; F=39.287; p=.000).

Table 1: Difference of shopping cart abandonment between China and Korea

	Nationality	Mean	F	p
Cart abandonment	China	4.41	39.3	.000
	Korea	5.27		

Based upon the set of measurement items, factor analysis, and resulting scale scores, subsequent cluster analysis identified a three-group typology of online shopping types like Table 2 showed.

Table 2: Difference of shopping cart abandonment among Shopping orientation groups

	Shopping orientation types	Mean	F	p
Cart abandonment	Economic & Convenience	5.10	34.9	.000
	Multi	5.16		
	Recreational	3.78		

A non-hierarchical cluster analysis of the entire sample was undertaken based on responses to the core shopping orientation scales. Factor scores, calculated for each of the four shopping orientation scales, were used as the input. The stability of the solution was tested by splitting the sample into two.

Cluster 1 is distinguished by its similar values on the convenience, and price dimensions. The cluster suggests that these consumers have a relatively strong preference for acquiring purchases in a convenient manner. However, they also enjoy shopping around to find the best prices. Consumers belonging to this group are primarily interested in getting the best possible value for their money. They are prepared to forego

convenience in order to get a bargain and feel no obligation to shop locally. In describing this cluster, the label ‘economic and convenience shopper’ could be applied. Cluster 1 comprised 35.2 per cent of the sample (n = 107). Cluster 2 is unique in that values are moderate to high on nearly every core shopping orientation. Such a result indicates that consumers belonging to this group are highly involved in most aspects of the shopping process. The cluster comprises 33.9 per cent of the sample (n = 103) and is described as the multi shopping orientation group. High values on the shopping enjoyment factor characterize Cluster 3. Consumers affiliated with this cluster take pleasure in shopping around for their purchases. These individuals are apparently not driven by any shopping motivation other than the pleasure of shopping itself. For these people, shopping is a recreational pursuit. They make up 30.9 per cent of the sample and, along with economic shoppers, form the largest group of Internet shoppers identified in the study (n = 94): A suitable description of these consumers would be recreational shoppers.

As the Table 2 present, there is significant difference among three shopping orientation types. The multi shopping orientation type has the highest value (5.16) on the shopping cart abandonment, and the economic & convenience orientation type also presents a high value (5.10) on the cart abandonment factor. But recreation orientation types show lowest value (3.78) on shopping cart abandonment.

And to analyze about the differences of three shopping orientation types on shopping cart abandonment in two different countries, in the following part, a Two-way ANOVA was implemented (Table 3).

Table 3: Results of Two-way ANOVA

	Shopping orientation types and nationality	d. f	F	P
Cart abandonment	Nationality	1	7.316	.007
	Shopping orientation groups	2	18.494	.000
	Nationality*Groups	2	2.814	.062

As Two-way ANOVA presented in Table 3, There found that the significant differences exist between Korea and China, and among three types of shopping orientations. However, the result showed no significant interaction (Nationality\*Groups) effect. There was no difference among the same shopping orientation type in Korea and China.

## 5. Discussion and Conclusion

Korean online consumers did more often cart abandonment than Chinese online consumers. Korea and China are two countries with lots of differences in online shopping culture and shopping behavior as prior studies told us; also internet infrastructures developing levels are different in these two countries. And as our study mentioned, Korean online consumers generally have higher value in shopping orientations and online shopping experience. All of these results mean, compared with Chinese online Consumers, Korean consumers had and better online shopping environment and better online shopping skills. Generally, Korean online consumers were more good-skilled than Chinese ones.

The significant differences of shopping cart abandonment exist between Korea and China, and the three different types (economic and convenience orientation, multi orientation and recreation orientation) of shopping orientations: However, there is no significant difference among the same shopping orientation type in Korea and China (Cluster 1 in China and Cluster 1 in Korea, Cluster 2 in China and Cluster 2 in Korea, Cluster 3 in China and Cluster 3 in Korea). It is an interesting result we found in this study: same shopping orientation type had the same thinking on shopping cart abandonment and abandoned the carts with similar times no matter the nation is Korea or China. In another word, there is actually no significant difference between Korean online consumers and Chinese online consumers of shopping cart abandonment if they own the same shopping orientation.

Therefore no matter the nationality differences, for different shoppers with different shopping orientation type, online sellers should try various methods to low the abandon rate. For examples, design by including entertainment such as competitions, sweepstakes, chat rooms, notice boards are motive way for recreational consumers; provide lower price and better shipping price for economic and convenience consumers; doing

all the services and features suggested above and developing the shopping cart with more powerful functions for the involved orientation consumers. In another word, consumer segmentation is an effective way to solve the carts from abandonment.

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