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Jian Chen

Changming Cai

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A MODEL OF CONSUMER BEHAVIOR IN ONLINE SHOPPING

Jian CHEN Changming CAI

School of Economics and Management, Tsinghua University
Beijing 100084, China
Tel & Fax: 8610-62784555
jchen@tsinghua.edu.cn caichm@em.tsinghua.edu.cn
Track Area: Electronic Commerce Management

The development of Internet has brought enormous business opportunities and given new connotation to traditional commercial activities. E-commerce emerged as the times require. The business-to-consumer (B2C) is the most visible business of e-commerce. The so-called B2C is a commercial mode that starts from companies and ends at consumers. We often call B2C online shopping. With the inflation of Internet population, online shopping has been favored by more and more consumers. The benefits of online shopping are well known. The most common incentives for consumers to shop online are convenience, competitive pricing, greater access to information, complementarity of traditional stores and broader selections. Online shopping has broken through the restriction of space-time, changed the form and the way of transaction, and changed consumer concept and behavior.

As an online consumer, he/she has a dual identity, on one hand he/she is a shopper, he/she is a user of computer and Internet on the other hand. So the factors influencing online consumer should include information system, marketing and psychology. Since more and more companies swarm forward, the competition is becoming fiercer. To carry on the effective competition with "brick-and-mortar" stores and other online stores, there is urgent need for online stores to understand the factors that influence online consumer behavior, which motivates this study.

There are some classic models or theories introduced to the research of online consumer behavior [3, 7, 9, 10]. Those theories include Technology Acceptance Model (TAM) [5], the Theory of Planned Behavior (TPB) [1] and flow theory [4].

TAM is the most widely used theoretical model for explaining end-user behavior of a system. In this model, perceived usefulness (PU) and perceived ease of use (PEOU) are the primary determinants of system usage. TAM has been successfully applied in the acceptance of Internet related technologies, such as e-mail, WWW and e-commerce. Using it as the basis for studying consumer acceptance of online stores is proven a highly reliable and valid approach.

Another model is developed based on flow theory [4]. Not of its original meaning, flow is used to describe a state of mind sometimes experienced by people who are deeply involved in some activity [8]. Flow has also been studied in the context of computer-mediated environments. Due to its valid results, flow has been recommended as a valuable metric of the online consumer experience. Many studies found that shopping enjoyment is an important predictor of online shopping.

Koufaris [7] has applied TAM and flow theory to online consumer behavior. He came to a conclusion that shopping enjoyment (considered in flow theory) and perceived

usefulness are important factors influencing consumers' intention to return. But the study had some limitations, i.e., subjects and missing of an important variable (e.g. planned purchases).

Chen [3] also had some findings of online consumer behavior with an extended technology acceptance perspective, by using TAM as the basic model. He indicated that compatibility, PU, and PEOU are the primary determinants of consumer attitude towards using virtual stores.

In social psychology, TPB is a well-established general theory. TPB shows the relationships between specific salient beliefs, given behavioral perceptions and subsequent actual behavior. Three types of beliefs will impact three constructs: behavioral beliefs that influence attitudes, normative beliefs that affect subjective norm, and control beliefs that shape perceived behavioral control.

Palvou [9] has studied the drive of e-commerce by using TPB. One of his important contributions was considering perceived behavioral control, trust, and perceived risk as determinants of B2C e-commerce adoption, drawing from TPB.

As to perceived risk, it's increased by two types of uncertainty in e-commerce. One is behavioral uncertainty, which arises because web retailers may behave in an opportunistic manner. Another is environmental uncertainty that occurs because of the unpredictable nature of the Internet technology that is beyond the control of the consumer. Given the uncertain environment of EC, it is expected that perceived risk would lower consumers' intentions to shop online.

Palvou [10] pointed out perceived risk is a direct negative antecedent of intention to transact online and privacy and security perceptions indirectly reduce perceived risk and influence intentions to transact online. That perceived usefulness and perceived ease of use influence online usage intentions was validated again.

In our study, we attempt to provide both theoretical and empirical analyses to explain consumers' behavior in online shopping by applying TAM, TPB, flow theory and other relevant theory in an integrated theoretical framework. Based on these well-established theories, we retain PU and PEOU of TAM, shopping enjoyment, subjective norms of TPB, and perceived risk in the proposed model. And we add some factors that we consider important to develop a more comprehensive model. We think price advantage, perceived convenience and product involvement are important antecedents of PU and shopping enjoyment. Privacy perceptions and security perceptions of the consumer and after-sales service of the online stores will influence perceived risk of online shopping importantly. So we keep them as the antecedents of perceived risk. Figure 1 shows the proposed model, which incorporates the factors we mentioned above. The relationships in figure 1 can be stated in 15 hypotheses.
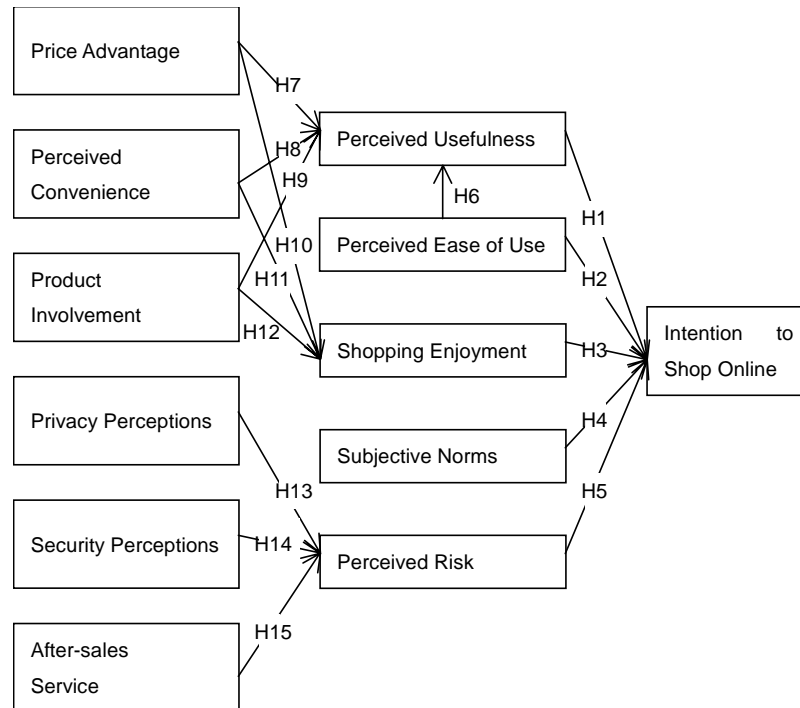
Figure 1 The Proposed Model

A questionnaire-based empirical study is used to test the proposed model. The questionnaire was completed by 183 subjects, including 125 university students and 58 office staffs. Their average age is 23.2 and 57.9% of them are males.

As shown in figure 1, there are 12 constructs in this model. To validate their internal consistency, we develop several items for each construct, which use 7-point scale. All constructs have acceptable internal consistency (Cronbach's alpha values, from 0.7579 to 0.9725).

The results of the regression analysis show that the model has an excellent fit and explains a large percentage of variance. To sum up, Hypothesis H1, H5, H6, H7, H8, H9, H12, H14 and H15 are supported by the survey.

From the results, some findings are drawn, which include:

1. The classic theories on IT and psychology are still valid in explaining online consumer behavior in the B2C e-commerce context.

2. Different from Koufaris's conclusion [7], shopping enjoyment cannot play an important role in our study.

3. Perceived usefulness and perceived risk are the primary determinants of intention to shop online. The former has positive impact and the latter negative.

4. The factors that influence perceived usefulness include perceived ease of use, price advantage, perceived convenience and product involvement.

5. Perceived risk is determined by security perceptions and after-sales service.

For managers of an online store, in order to entice consumers, it is useful to increase consumers' perceived usefulness of the store and reduce their perceived risk. To increase consumers' perceived usefulness, the store can put effort to the antecedents of it, such as offer more competitive price, make access and payment more convenient, and diversify products. To reduce perceived risk, the store can raise the level of security and after-sales service.

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