



# Customer behavior in electronic commerce: The moderating effect of e-purchasing experience

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## ABSTRACT

This study analyzes the perceptions which induce customers to purchase over the Internet, testing the moderating effect of e-purchasing experience. We distinguish between two groups: (1) potential e-customers, who are considering making their first e-purchase, and (2) experienced e-customers, who have made at least one e-purchase and are thinking about continuing to do so. The perceptions that induce individuals to purchase online for the first time may not be the same as those that produce repurchasing behavior. Our findings demonstrate that customer behavior does not remain stable because the experience acquired from past e-purchases means that perceptions evolve. The relationships between perceptions of e-commerce change with purchasing experience, whilst the influence of Internet experience is stable for all users. The implications are especially interesting for e-commerce providers whose business models depend on e-customer behavior.

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## 1. Introduction

The analysis of consumer behavior is a key aspect for the success of an e-business. However, the behavior of consumers in the Internet market changes as they acquire e-purchasing experience (Gefen et al., 2003; Yu et al., 2005). The perceptions which induce them to make an initial e-purchase may have different effects on their subsequent decisions or repurchasing behavior because the use of the information technology (IT) may modify certain perceptions and attitudes (Thompson et al., 1994; Taylor and Todd, 1995; Gefen et al., 2003). Despite these differences, very little research carried out in the e-commerce field has conducted a separate analysis of the perceptions related to the adoption and to the “post-adoption” decisions (Karahanna et al., 1999; Vijayarathy, 2004). Moreover, hardly any researchers have analyzed the behavior of e-customers as they gain experience (as Taylor and Todd, 1995; Vijayarathy, 2004 state). Most studies have considered that the low level of development of this new channel meant that the differences between the two decisions were not yet significant, and their principal objective was, therefore, to determine the perceptions which led consumers to adopt the Internet as an alternative shopping channel to the offline market (Chen et al., 2002; Verhagen et al., 2006). Nevertheless, the growth of e-commerce has made it clear that

customer behavior has evolved. As in other types of purchase situations (Sheth, 1968; Heilman et al., 2000), customer behavior does not necessarily remain stable over time since the experience acquired from past purchases means that perceptions change (Taylor and Todd, 1995; Yu et al., 2005). When customers repeat their behavior several times, they feel more and more in control and form favorable intentions about purchasing (Liao et al., 2006). Likewise, e-purchases allow the customers to become more familiar with the Internet as a shopping channel, to value some aspects of the shopping process more highly and to ignore certain characteristics that may have been important in the early stages.

The principal objective of this paper is to analyze the perceptions which lead customers to purchase over the Internet, testing the moderating effect of e-purchasing experience. We distinguish between two types of behavior: the *adoption* of e-commerce (initial behavior or first purchase) and *repurchase* or subsequent behavior. We carried out this analysis in Spain and distinguished two groups in the sample; (1) potential e-customers, who are considering making their first e-purchase, and (2) experienced e-customers, who have made at least one e-purchase and are thinking about continuing to purchase through this channel. As Yu et al. (2005) affirm, potential users of an IT are different from experienced users, since they show different determinants for acceptance, intentions and usage.

Using the Technology Acceptance Model (TAM) (Davis, 1989; Davis et al., 1989), we try to test whether the perceptions of this model – ease of use and usefulness – and other variables, such as Internet experience, self-efficacy and attitude, influence the two behaviors mentioned above in the same way.

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## 2. Theoretical background and hypotheses

### 2.1. Extension of the TAM

The TAM is one of the most successful theories for examining technology acceptance (Lee et al., 2003; Sun and Zhang, 2006). It analyzes user behavior by establishing two key variables: perceived ease of use (PEOU) and perceived usefulness (PU). Recently, some studies have extended the TAM by including other concepts which permit more precise explanations of individuals' behavior. Most of this research introduces perceptions which act either in a similar way to PEOU and PU (Childers et al., 2001; Ha and Stoel, 2009) or as intermediaries between them and the dependent variable (Van DerHeijden and Verhagen, 2004; Roca et al., 2006). There is a third research line which concentrates on "previous external variables" (Davis et al., 1989) which precede PEOU and PU. Our study is in line with the latter approach. It employs other earlier theories of behavior and includes factors related to Internet experience (Liaw and Huang, 2003; O'Cass and Fenech, 2003) and intrinsic motivations, such as self-efficacy (Chen et al., 2002; Bruner and Kumar, 2005).

The inclusion of previous technological experience has its origins in, among other theories, the Task-Technology Fit Model (Goodhue, 1988; Teo et al., 1999). This model considers that technological experience facilitates the direct acquisition of information, which increases individuals' knowledge, alters their initial perceptions (Min and Galle, 2003) and encourages the adoption of different IT (Thompson et al., 1994; Teo et al., 1999). This kind of experience reflects automatic behavior tendencies accumulated by the user (Liao et al., 2006).

We consider that extensive experience in the general use of the Internet may condition specific applications of this IT, such as e-commerce. To measure Internet experience, we have followed the studies of Liao and Cheung (2001), Goldsmith and Goldsmith (2002) and Blake et al. (2003) and we employ three factors: acceptance of the Internet, frequency of use and satisfaction (included on the basis of the Expectation–Confirmation Theory of Oliver, 1980). They measure the same concept from different perspectives so they are probably inter-linked (Shih, 2004). Moreover, they allow us to identify some requirements that an individual must fulfill to carry out an e-purchase. It seems logical to think that a greater acceptance leads to greater frequency of use and, as a result, greater satisfaction. However, not all studies find these results. In some cases, there is a negative relation between these variables (Ganzach, 1993). This is because different variables to measure IT experience may be not always equivalent. As Straub et al. (1995) state, the link between these variables depends on each individual and the precision of his/her perceptions about use. Furthermore, although some studies have theoretically proposed the relationships between these variables, little research has tested them empirically in the e-commerce arena. Therefore, we will test the following hypotheses:

**H1a.** The acceptance of the Internet by its users positively influences their frequency of use.

**H1b.** The acceptance of the Internet by its users positively influences their satisfaction.

According to Montoya-Weiss et al. (2003), Internet experience creates a greater sense of comfort with the online channel, thereby reducing its perceived uncertainty and increasing consumer decision-making ability (Rodgers et al., 2005). So, our TAM model includes Internet experience as an antecedent of self-efficacy and, consequently, of customers' final behavior.

Some of the earliest models of behavior, the Social Cognitive Theory (SCT) (Bandura, 1986) and the Theory of Planned Behavior (Schiffer and Ajzen, 1985), had already included a variable called "perceived self-efficacy" (SEF), defined as "people's judgment of their

capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986). Subsequently, Taylor and Todd (1995) formulated the Decomposed Theory of Planned Behavior (DTPB) specifically to analyze technological behavior and also included this variable.

According to Bandura (1986), direct experience is the strongest generator of SEF, since the skills obtained through Internet use determine this perception (Compeau and Higgins, 1995; Koufaris, 2002). Frequent Internet users may be more self-confident and, therefore, more inclined to favor e-purchasing (Yoon et al., 2002). We could assume that users with more experience in navigating, who access the Internet more frequently and, in addition, are satisfied with it, have a greater SEF (Goldsmith, 2002; Yoon et al., 2002). Consequently, we have included self-efficacy as a mediating variable between experience with the Internet and perceptions of e-commerce.

**H2a.** Acceptance of the Internet positively influences SEF.

**H2b.** Frequency of Internet use positively influences SEF.

**H2c.** Satisfaction with previous Internet experience positively influences SEF.

According to the SCT, self-efficacy influences (1) decisions about what behavior to undertake, (2) the effort necessary for this behavior and (3) the individual's performance. Many researchers have considered the importance of its direct effect on final behavior (Dabhokar and Sheng, 2009). Our model contributes an approach that is not habitual in the literature (Yi et al., 2006; Wu et al., 2007). We propose that SEF acts as an antecedent, exerts a direct effect on the other perceptions of the e-customer, and indirectly conditions e-purchasing behavior.

**H3a.** Perceived self-efficacy positively influences the PEOU of e-commerce.

**H3b.** Perceived self-efficacy positively influences the PU of e-commerce.

Finally, we have also included the concept of attitude and tested the relationship proposed by the extended version of the TAM (Davis et al., 1989; Childers et al., 2001). PEOU is the perception that the employment of an IT does not require additional effort, and PU is the degree to which users consider that the employment of an IT improves their results (Davis, 1989; Chen et al., 2002). Both perceptions affect individuals' attitude towards using IT (Chen and Tan, 2004; Shin, 2008).

**H4.** PEOU positively influences individuals' attitude towards e-commerce.

**H5.** PU positively influences individuals' attitude towards e-commerce.

Attitude has become one of the key variables of IT acceptance, especially in e-commerce (Chen and Tan, 2004; Richard, 2005). Following Castañeda et al. (2007), we consider that the more positive the attitude to e-purchasing, the greater will be the willingness to begin and continue buying on the Internet.

**H6.** Individuals' attitude towards e-commerce positively influences their intentions to make an e-purchase.

Fig. 1 illustrates all these relationships.

### 2.2. The moderating effect of e-purchasing experience

Researchers in several fields, such as price formation (Yadav and Seiders, 1998), brand preferences (Sheth, 1968; Heilman et al., 2000), the launching of new products (Szymanski and Henard, 2001), and general perceived risk (Michell and Prince, 1993), have evaluated the role of experience in traditional purchase situations (Holloway et al.,

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