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## The influence of the commercial features of the Internet on the adoption of e-commerce by consumers

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### ABSTRACT

Taking the Theory of Planned Behavior as a theoretical framework, this study analyzes how commercial features of the Internet determine its adoption as a sales system. In particular, the study examines the influence of product perception, shopping experience, information provided or the level of risk perceived on the adoption of B2C e-commerce. The results show that attitudes toward e-commerce, subjective norm and perceived risk are the main factors that affect the decision to purchase from electronic retailers. Moreover, the results show that the influence of the commercial features of the Internet is mediated through attitudes toward e-commerce.

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### 1. Introduction

The Internet's capacity to access, organize and communicate information in a more efficient way has brought about new formulas for the relationship between consumers and firms. New economic agents and new business models have emerged too. In this way, the development of e-commerce offers great opportunities for both manufacturers and retailers, but it also presents important challenges for organizations, demanding an in-depth review of marketing strategies and consumer knowledge (Goldsmith and Bridges 2000, Jones and Vijayasathy 1998).

In this context, this research analyzes the features of e-commerce that determine its adoption by final consumers and leading Internet users to purchase online. In particular, this study is carried out from a commercial perspective in contrast to the technology-oriented approach, which has been the main topic of e-commerce literature. This technology-oriented approach is based on the diffusion of innovations theory (Rogers 1983, 1995, Mathieson 1991, Moore and Benbasat 1991, Taylor and Todd 1995) and focuses on the technological attributes of e-commerce (Davis 1989, Davis et al. 1989). Thus, this research line, the most well-developed in the e-commerce and online consumer behavior literature, adopts a technical perspective taken from information system (IS) research. It has been specifically developed to test the acceptance

of management software in organizational settings. Therefore, most studies regarding online shopping acceptance consider mainly functional attributes of the Internet as a sales system (e.g., its perceived "usefulness", "ease of use" or "compatibility"). These studies very rarely include commercial attributes of online shopping. However, from a marketing perspective (both academic and practical), this latter approach is much more relevant than the technological one. Thus, when consumers decide to purchase on the Internet they are making a commercial decision, and it should be based on commercial variables, such as the attributes of the channel or the system with respect to other shopping alternatives. Additionally, beyond the identification of the commercial attributes that may affect the adoption of e-commerce by final consumers, it is particularly important to determine and to model how this influence is produced. Therefore, the adoption of a commercial approach will provide useful insights into the variables that must be developed and highlighted by firms when designing their marketing strategy online.

Besides, the studies that have focused on the commercial characteristics of the Internet as a sale system have adopted diverse theoretical approaches and have obtained contradictory results. Thus, most authors that have adopted this perspective only consider specific characteristics of the Internet as a sales system. They do not provide an integrative and complete frame of its commercial attributes (Donthu and García 1999, Li et al. 1999, Morganosky and Cude 1999, Swaminathan et al. 1999, Teo et al. 1999, Bakos and Brynjolfsson 2000, Goldsmith 2000, Goldsmith and Bridges 2000, Childers et al. 2001, Goldsmith and Lafferty 2001, Liao and Cheung 2001, Brynjolfsson et al. 2003, Joines et al. 2003, Cho

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2004). Moreover, the theoretical approaches adopted in these studies are very diverse, including retail choice criteria (Swaminathan et al. 1999, Meuter et al. 2000), motivational research (Korgaonkar and Wolin 1999, Joines et al. 2003), attitudinal research (Goldsmith 2000, Goldsmith and Bridges 2000, Goldsmith and Lafferty 2001, Limayem et al. 2000, Liao and Cheung 2001, Cho 2004) and utility-based microeconomic modelling (Bakos and Brynjolfsson 2000, Brynjolfsson et al. 2003), which have given rise to mixed and confusing results. Additionally, most of the studies mentioned do not provide a theoretical model of how Internet commercial attributes influence online consumer behavior. Those that tackle this research question have obtained contradictory results (Jarvenpaa and Todd 1996, 1997; Podlogar 1998, Vijayarathy and Jones 2000). However, in order to really understand the online purchasing adoption process, it is necessary to develop and empirically test a global behavior model that integrates electronic commerce attributes. Thus, the attributes of the Internet as a sales channel must be considered in relation to other behavioral variables such as attitudes towards e-commerce or intention to purchase online. Also given the scarce and contradictory evidence available regarding this issue, additional research is needed to identify the complete set of relevant commercial features of e-commerce and, especially, to model how these variables influence consumers' online shopping behavior.

Accordingly, in this research we take as a basis the classification of the attributes of the Internet as a sales system, as proposed by Jarvenpaa and Todd (1996), to analyze the influence that aspects such as product perceptions, shopping experience, quality of services delivered or level of risk perceived have on the adoption of B2C e-commerce. We thus intend to determine the commercial aspects that have a direct impact on the e-commerce acceptance process. Moreover, we aim to propose and validate a global and integrative model to explain the way these features influence the intention to purchase online. Additionally, the effects of users' social demographic characteristics on their online purchasing behavior are also analyzed in order to identify the differences in the purchasing and consumption process among the different user categories. In this sense, although many studies have indicated that users' social demographic characteristics affect e-commerce acceptance (Dahlén 1999, Donthu and Garcia 1999, Korgaonkar and Wolin 1999, Li et al. 1999, Morganosky and Cude 1999, Bhatnagar et al. 2000, Kau et al. 2003), these variables have rarely been included in a global model of online shopping behavior. Therefore, additional research is still needed to clarify how users' social demographic characteristics influence e-shopping behavior.

The Theory of Planned Behavior (Schifter and Ajzen 1985) has been adopted as the framework for our research so that we can apply a solid theoretical basis. Both its widespread use in the existing literature and its tested capacity to explain the e-commerce adoption process (Limayem et al. 2000, Gentry and Calantone 2002, Khalifa and Cheng 2002, Hsu and Chiu 2004, Keen et al. 2004, Luarn and Lin 2005, Bosnjak et al. 2006, Lee et al. 2007, Liao et al. 2007) are the reasons for our choice of this model.

We intend to provide three main contributions with respect to the existing literature: (1) to identify the set of relevant attributes of e-commerce, considered from a commercial perspective, that influence Internet shopping behavior; (2) to propose and validate a global and integrative model to explain the way these features influence the intention to purchase online; and (3) to examine the moderator effect of consumers' social demographic characteristics on their online purchasing behavior.

We start our study with a description of the Theory of Planned Behavior, focusing on the empirical evidence obtained within the framework of e-commerce. We also carry out a review of the relevant existing literature regarding the influence of Internet commercial features and users' social demographic characteristics on

the adoption of e-commerce. In each case, we lay out the relevant research hypotheses, which together give rise to an overall B2C e-commerce acceptance model. Subsequently, we describe our methodology and the results obtained from a sample of regular users of the Internet. Finally, we discuss the most relevant conclusions of the study and the corresponding implications.

## 2. Literature review and research hypotheses

A description of the Theory of Planned Behavior and an analysis of the main research performed on e-commerce within this theoretical framework are set out below. We also set out a classification of the online purchase features, as proposed by Jarvenpaa and Todd (1996), and analyze the empirical evidence supporting the influence of these factors on the decision to purchase from online retailers. To conclude, we perform a review of the relevant literature regarding the effects of users' social demographic characteristics on the online purchasing process. We also discuss the related research hypotheses in each case according to the literature review and the evidence available.

The Theory of Planned Behavior is an evolution of the Theory of Reasoned Action that focuses on cases where users do not have complete control over the choice but are somehow conditioned by non-motivational factors related to the availability of certain requirements and resources. Just like its predecessor, the Theory of Planned Behavior considers intention as the best indicator of behavior, since it "captures the motivational factors that influence a behavior; they are indicators of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform a behavior" (Ajzen 1991). This model identifies three variables determining or explaining behavioral intention: attitude towards behavior, subjective norm and perceived behavioral control (see Fig. 1).

*Attitude* towards behavior refers to the global predisposition for or against developing such behavior. According to the expectations-value model proposed by Fishbein and Ajzen (1975), attitude is considered to result from individual beliefs regarding behavior and its consequences, and the importance these beliefs are given. On the other hand, *subjective norm* reflects how the consumer's behavior is affected by the perception of some significant referents, for example, relatives, friends or colleagues, among others, on a person's behavior (Ajzen and Fishbein 1980). Subjective norm arises from two basic underlying factors: the normative beliefs the consumer associates with significant referents, and the motivation to behave according to these people's wishes. Finally, *perceived behavioral control* represents individual perception of the availability or lack of the necessary resources and opportunities to develop this behavior (Ajzen and Madden 1986). Thus, perceived control results from both individual beliefs regarding the factors determining behavior and from control over such factors.

According to this model, attitude, subjective norm and perceived behavioral control are the elements that help to understand the reasons or factors explaining individual actions, although intention is considered to be the best indicator of behavior. The Theory of Planned Behavior also implies the fact that perceived control has a direct effect on an individual's effective behavior. Thus, this variable can be considered to indicate an individual's effective capacity to undertake a certain action as far as individual beliefs represent the real limitations the person has to face.

The Theory of Planned Behavior has been used in Internet research to analyze different behavior, such as the acceptance of the World Wide Web (Klobas and Clyde 2000), the adoption of mobile technology (Luarn and Lin 2005) and the use of online services (Liao et al. 1999, 2007; Lau et al. 2001, Hsu and Chiu 2004, Bosnjak et al. 2006, Lee et al. 2007). Likewise, a number of authors have considered this approach to explain online shopping behavior.

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