

# Chapter 16

## A Model of the Antecedents and Consequences of E-Procurement

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### ABSTRACT

*The Internet is used by firm purchasers as a source of information in procurement. We propose a model of the determinants and consequences of Internet use in this process. We analyzed whether different Internet tools are used throughout all purchasing phases and whether the characteristics of the buying situation determined the use of the Internet in that process. We also proposed to analyze how Internet use in this process impacts companies from two different points of view: organizational and economical. Organizational consequences refer to the buying center structure in terms of size, participation, number of hierarchical levels, and functional areas. Economical consequences refer to purchase results in terms of efficacy and efficiency. Implications for business-to-business marketers and researchers are discussed.*

### INTRODUCTION

Since the discovery of the Internet as a new communication medium, it has become part of many firms' strategy. The Internet has been largely used in management; it works as an advertising medium for firms to include their campaigns, as a distribu-

tion channel, and as a source of information. Application of Internet usage to the development of diverse firm strategies is a practice that has come to be called *e-commerce*.

Basically, the Internet added-value resides in its ability to contribute to cost reduction associated with communication and transaction (Boyd & Spekman, 2001; De Boer et al., 2002). The Internet allows access to a great amount of information

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with lower costs of time and money than those derived from other tools, both inside and outside the organization (Avlonitis & Karayanni, 2000; Boyle & Alwitt, 1999; Min & Galle, 1999; Tang et al., 2001).

The present research is framed within industrial marketing or business-to-business (B2B). Specifically, we focused on the role the Internet plays in firm procurement. Most of the literature regarding the use of Internet in the process of industrial purchase covers an analysis of the consequences. Determinants of Internet adoption in industrial purchase have rarely been given attention by researchers in the literature (Garrido et al., 2006).

Taking this into account, we propose a theoretical model about the buying process's determinants and consequences in order to put Internet technology systems into practice in the buying process. On the one hand, regarding determinants of e-procurement process, in this model, we intend to approach the factors that determine the use of the Internet as a source of information in procurement. Referring to the traditional literature on the process of industrial purchasing and other more recent studies related to the characteristics of the Internet as a communication medium, we propose a contingency model accounting for the use of the Internet in the process of industrial purchases. In this model, both the stage in the buying process and the type of buying situations (characterized by novelty, complexity, perceived risk, time pressure, and personal stake) act as determinants of Internet use in purchasing.

On the other hand, the intent of identifying the consequences of Internet use in the process of industrial purchase has been carried out in different ways. We are interested in two: the consequences of Internet use on the organizational structure of the buying center, and a study of the effect of Internet use on the results of the purchase. Based on the theoretical model proposed by Osmonbekov et al. (2002), the organizational consequences of Internet use in the purchasing process considered

in this work concern the structure of the buying center. The structural aspects of the buying center analyzed here include size, functional areas, hierarchical levels, and participation. Part of the interest of our work is that some of our hypotheses relating to the consequences of Internet use intensity on the buying center structure contradict the approaches used in the pioneering research of Osmonbekov et al. Several procurement outcomes are analyzed, as well. The economical consequences of e-procurement refer to efficiency and effectiveness of the purchasing process, according to the classification of economic consequences of e-procurement proposed by Kalakota and Robinson (1999).

This study provides several substantial contributions in e-procurement. This research is different from previous works because it is the first effort to offer a complete context of Internet use in the buying process. In this study, we extend theory and previous research because until now, no researchers had analyzed both the stage in the buying process and the type of buying situation as determinants of Internet use in the purchasing, nor have previous researchers recollected in a combined form the economical and organizational consequences of Internet use. These factors allow us to establish a series of interesting managerial recommendations in the last part of this article.

## **A MODEL OF INTERNET USE IN INDUSTRIAL PURCHASING**

The model proposed of determinants and consequences of e-procurement in firms appears in Figure 1. It is a contingency model based on the premise that Internet use is not a uniform process throughout all of a firm's purchases, but rather it can vary depending on each situation. In particular, we propose that, considering the flow of information allowed for each Internet tool, each tool's use is conditioned by two aspects: the phase in the purchasing process, and the characteristics of

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