

## Using integrated information systems in supply chain management

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The aim of this paper is to empirically test not only the direct effects of information and communication technology (ICT) capabilities and integrated information systems (IS) on firm performance, but also the moderating role of IS integration along the supply chain in the relationship between ICT external and capabilities and business performance. Data collected from 102 large Iberian firms from Spain and Portugal are used to test the research model. The hierarchical multiple regression analysis is employed to test the direct effects and the moderating relationships proposed. Results show that external and internal ICT capabilities are important drivers of firm performance, while merely having integrated IS do not lead to better firm performance. In addition, a moderating effect of IS integration in the relationship between ICT capabilities and business performance is found, although this integration only contributes to firm performance when it is directed to connect with suppliers or customers rather than when integrating the whole supply chain.

**Keywords:** e-business; supply chain management; supply chain; business information integration; enterprise information systems

### 1. Introduction

For a long time, analysing and quantifying the effect that ICT (information and communication technology) adoption had on business performance was an intensively discussed research topic (Fawcett et al. 2011). Recently, much debate about the business value of ICT in general and e-business in particular has been raised (Li 2006; Soto-Acosta and Meroño-Cerdan 2008; Zhu 2004). It has been argued that the technology itself is available to all firms (including competitors), so it will rarely create superiority, while at the same time some empirical studies have found that ICT spending rarely correlates to superior performance (Carr 2003; Tallon, Kraemer, and Gurbaxani 2000). However, information sharing, as the basic enabler for effective supply chain quality management, has been and will be supported by advances in information technology (IT) (Xu 2011b). Thus, innovations in ICT have enabled the creation of effective and efficient information systems (IS) (Sharma 2009; Soto-Acosta, Colomo-Palacios, and Perez-Gonzalez 2011). IS are considered the set of interrelated components that collect (or retrieve), process, store and distribute information to support decision-making, coordination and control (Laudon and Laudon 2004, 13). ICT is the IS' technical foundation, the tools and materials of IS in the form of computers, electronic devices and related software programs. Thus, IS

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