

# Analyzing the complementarity of web infrastructure and eInnovation for business value generation

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## Abstract

**Purpose** – In recent years, there has been much debate about the value generated by the firms' investments in information technology (IT). Although literature suggests that technology itself will rarely create superiority, web infrastructure can be critical for knowledge sharing and the formation of virtual teams to execute innovation processes which, in turn, may enhance e-innovation and business value. Building on these antecedents, the purpose of this paper is to explore whether and how web infrastructure and e-innovation can create business value by complementing each other.

**Design/methodology/approach** – Based on the resource-based view (RBV) of the firm this paper develops a conceptual model to assess the effects of web infrastructure and e-innovation on business value as well as the complementarity between these resources. To test the associated hypotheses, a regression model was estimated and tested on a large sample of Spanish firms from different industries.

**Findings** – The results show that web infrastructure is not positively related to business value, but on the contrary e-innovation has a positive impact on business value. However, support for complementarity between web infrastructure and e-innovation was not found.

**Originality/value** – The present study tests the RBV logic, arguing that not all IT resources are source of competitive advantage. In the same vein, this study shows that e-innovation, as it requires combination of IT infrastructure with other unique intangible resources, is much more difficult to imitate, leading to competitive advantages.

**Keywords** Information systems, Resource-based view, Technology management, Business value, E-business, E-innovation

**Paper type** Research paper

## Introduction

Recent studies are starting to analyze the adoption and use of internet technologies within organizations and how these technologies support specific business processes and innovation (e.g. Bordonaba-Juste *et al.*, 2012; Palacios-Marqués *et al.*, 2015a, b; Soto-Acosta *et al.*, 2014). Effective adoption and use of internet technologies have become therefore a major management concern (Colomo-Palacios *et al.*, 2013; Soto-Acosta and Meroño-Cerdan, 2008; Soto-Acosta *et al.*, 2013, 2015). The literature agrees that technology itself will rarely create superiority but, at the same time, suggests that relative advantage can be created and sustained where the technology leverages some other critical resources (González-Gallego *et al.*, 2010; Soto-Acosta *et al.*, 2010a, b; Zhu, 2004). This complementarity of resources is a corner stone of the resource-based view (RBV) of the firm and has been offered as an explanation of how information technology (IT) has largely overcome its paradoxical nature and is contributing to business value (Bhatt and Grover, 2005; Clemons and Row, 1991).

