



# The effect of ICT on relationship enhancement and performance in tourism channels



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## HIGHLIGHTS

- We discuss the effect of relationships-on business performance attributed to ICT.
- We propose a model to analyse the effect for tourism distribution channels.
- We provide measurements of relationship enhancement and business performance.
- We find a strong association between relationships and performance mediated by ICT.
- We find that vertical relationships based on ICT have a larger effect on performance.

## ARTICLE INFO

### Article history:

Received 17 July 2013

Accepted 11 April 2014

Available online 5 December 2014

### Keywords:

Business performance

Distribution channels

ICT

Intermediaries

Relationship intensity

Relationship enhancement

## ABSTRACT

ICT have provided new paths for relationships across tourism distribution channels, leading to increases in competitiveness and efficiency in the sector, and improved business performance. Since there are no validated models in the tourism literature covering this, our objective with this research is to confirm a positive relationship between the growing use of ICT by tourism intermediaries and their business performance. To this end, a structural equations model (RE–BP Model) is estimated, using data from a survey of tourism intermediaries conducted in Spain. The estimation confirms two latent variables, one for the relationship enhancement brought about by ICT in the sector, and the other for business performance. We find a cause–effect association between the two variables, and our conclusion is that tourism intermediaries should intensify their relationships with those suppliers and tour operators whose strategies allow for improved effectiveness throughout the value chain.

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## 1. Introduction

The expansion of the use of information and communication technologies (ICT) in the tourism industry has created a more

competitive environment, and they have become an indispensable element of business development. In the 1990s, the tourism sector was a pioneer in harnessing ICT (eBusiness W@tch, 2006) by adapting them successfully to business processes (Poon, 1993; Reinders & Baker, 1998). This adaptation involved inter-organization systems, intra-firm operations systems, and the entire management of tourism businesses (Connell & Reynolds, 1999), with these innovations being oriented towards an adequate adaptation of the offer to the needs of consumers (Bramwell & Lane, 1999).

More recently, ICT have provided a new mode for coop relationships among the members of the various distribution

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channels (Buhalis & Law, 2008; Law, Fuchs, & Ricci, 2011). The formation of these cooperative relationships has been facilitated and encouraged by three major factors: interdependence among a wide range of goods and services (all part of the final tourist product), the small size of many individual operators, and spatial separation between the vacation and the home, (Fyall & Garrod, 2004; Wang & Fesenmaier, 2007). Beyond these particular factors of the tourism sector, the intensity of information exchange among companies operating in the same distribution channel has led to greater efficiency, as increased information exchange highlights shared interests and common goals, which in turn facilitate collaboration (Spralls, Hunt, & Wilcox, 2011).

Tourism companies at all levels of the distribution system make up a complex global network, with intense relationship dynamics (Kracht & Youcheng, 2010). Overall, these movements have increased competitiveness and generated greater efficiency in the distribution system of tourism products and services. However, the sustainability of collaborative relationships in the distribution channel is based on the returns that individual firms obtain from the overall efficiency; improvements in channel efficiency should result in gains in the business performance of individual firms.

But how ICT have affected the business performance of individual tourism firms is not so clear. Beyond the fact that there is an uneven effect on the different types of firms within the distribution channel of tourism services, there remain significant gaps in the published research. More specifically, our knowledge of ICT in inter-firm relationships in the tourism distribution system and how this leads to higher or lower levels of business performance needs to be explored further.

The key element in the tourism distribution system is information, so it is somewhat surprising that the effect of ICT on the business performance of interrelated service firms has been neglected. For service providers, there is some research focusing on the effects of the adoption of new technologies on the performance of hotels and other tourism service providers (Claver-Cortés, Molina-Azorín, Pereira-Moline, 2007; Ham, Kim, & Jeong, 2005), but this research is focused on technologies applied within the firm. In the case of intermediaries, especially retailers, the criticism regarding the scarcity of empirical research on the impact of the internet on business performance extends to all economic sectors (Weltevredena & Boschma, 2008). For tourism industry intermediaries, some research exists that focuses on the adoption process of ICT by travel agencies (TA) and tour operators (TO), but it is characterized by a basic assumption that ICT have potential benefits for intermediaries, without putting that assumption to the test of measuring actual impacts on business performance (Margherita & Petti, 2009). To our knowledge, only one study, by Bigné, Aldás, and Andreu (2008) has explored the impact of ICT-based external relationships on the results of a firm in the tourism sector, but that work is confined to just one dyadic relationship.

Thus, the objective of this paper is to examine the empirical evidence for an association between the growth of ICT-based relationships among intermediaries of the tourism sector, and business performance. For this reason, in Section 2 we review the literature on how the intensity and number of ICT-based relationships improves business performance. In Section 3, we propose a theoretical model in which we specify three different types of relationship that are expected to be associated with improvements in the two major factors of business performance: market, and financial. In Section 4, we describe the empirical setting and the quantitative method used to estimate the model. In Section 5, our empirical analysis confirms the structural specification of the relationships proposed in the theoretical model, and that the enhancement of relationships via the use of ICT by tourism

intermediaries in distribution channels has a positive impact on business performance.

## 2. Background of the association between inter-firm relationships and business performance

In the tourism sector, there is a quantity of published work describing how ICT have changed the industry, and how firms and consumers can benefit from their application (Buhalis & Law, 2008). ICT have been seen as a major contributor to the development of firms via a knowledge base that improves the management and performance of marketing functions (Schertler & Berger-Koch, 1999), particularly distribution and trade marketing (O'Connor and Frew, 2002; Yu & Law, 2000). In addition, the published research points to the existence of a direct impact of ICT on competitiveness. ICT have been shown to be determinants of cost advantages and product-service differentiation (Porter, 2001; Buhalis and O'Connor, 2005), and their application in an organization improves coordination and control of activities and more effective decision-making (Porter, 2001). Further, ICT are key contributors to the globalization of the tourism sector, allowing for expanded interconnection and interactivity with interest groups (Buhalis & Law, 2008). These factors, combined with the availability of databases, are key determinants of the success of tourist businesses. Weaver and Lawton (2008), in a qualitative study of successful travel agencies, suggest that customer service excellence, employee enrichment, and effective networking are the core perceived strengths that comprise a theme of “relationship building”.

Other research works have explored the e-metrics that are important in the measurement of the effect of e-commerce on a company's online performance (Michopoulou & Buhalis, 2008), but most of the tourism-specific literature does not provide empirical analyses, and lacks a formalized, reliable research framework. To find empirical evidence of the varied ways in which relationships and ICT can enhance the business performance of firms, we must broaden our scope beyond the tourism sector. In general, the published research provides empirical evidence that users of ICT win market share at the expense of non-users (Baldwin & Diverty, 1995) through the expansion of their operations (Baldwin & Sabourin, 2001), showing that ICT play an increasingly important role in the management of customer relationships, allowing a bi-directional interactive relationship and a continued customization of the offer to the expectations of each customer.

The most active research strand on this topic has been the study of supply chain arrangements. Firms engage in inter-firm distribution networks supported by ICT to achieve supra-organizational competitive advantages, improving the efficiency and performance of the participating firms. Recently, those groups of organizations that are electronically and socially interconnected in one or more relationships have been referred to as extranets (Spralls et al., 2011), and the supply chain literature offers a wide array of empirical studies providing evidence for the effects of electronically-supported relationships on the performance of extranets and the member firms (Stock, Boyer, & Harmon, 2010). Some of the results in the supply chain setting could be biased by the fact that firms are required to operate with very high levels of ICT resources and interdependence, but in other sectors, such as tourism, ICT can be used with more discretionary criteria in terms of the intensity of the relationship and the number of inter-firm relationships available.

The levels of these two criteria of inter-firm relationships, intensity and number, are decided by firms and are therefore profit-oriented. For a better understanding of the purpose of this research, we display the frame of the intensity and number of relationships in the tourism channels in Fig. 1. For the sake of simplicity, consider

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