

## Knowledge-Based Organization in Tourism Industry

Rodrigo Martín-Rojas<sup>1</sup>, Victor Jesus Garcia-Morales<sup>2</sup>, Antonio Mihi-Ramirez<sup>3</sup>

<sup>1</sup>Universidad de Leon

Campus de Vegazana, s/n 24071 Leon, Spain

E-mail. rodrigo.martin.rojas@unileon.es

<sup>2,3</sup>Universidad de Granada

Campus de Cartuja s/n 18071, Granada, Spain

E-mail. victorj@ugr.es, amihi@ugr.es

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*The importance of technology has been growing along decades mainly in the period of time where information is essential so that firms may globalize.*

*In that way, this research indicates that combination of adoption of new technologies with introduction of low cost transport leads to bookings higher than might otherwise be the case. This study further examines this relationship in the case of the Spanish accommodation industry with reference to indicators of organizational performance.*

*There is used a sample of 327 respondents who answered the questionnaire sent to hotels in tourist destinations in Spain. Using a structural equation modeling, the findings show mainly that organizational learning best enables hotels to gain from the advent of low cost airlines and the use of information and communication technologies in the company, mainly through the Internet.*

*Finally, conclusions are of vital importance in tourism management because they can contribute to several tourism' practical implications for managers in hotels, and for better design and development of the future research on tourism.*

**Keywords:** *Organizational learning, Internet, low-cost airlines, organizational performance.*

### Introduction

Technological progress and tourist sector have been connected for decades. In fact, Internet, an essential ICT tool (OECD, 2009), has caused relevant changes in the behavior of the “average tourist” (Mills & Law, 2004). And it has let the birth of a real community of inquiry on e-tourism (Frew, 2000). For the last 20 years, rapid development of telecommunications and proliferation of international and national collaboration have increased publications by a spectacular 275 % (Frew, 2000) and highlighted the key role of Internet in tourism (Tse *et al.*, 2005).

Information and Communication Technology (ICT) has radically transformed the efficiency and effectiveness of tourism organizations, the structure of this industry, the way the companies are refined in the market and, in a prominent manner, customers' interaction with tourism organizations (Buhalis, 2003; Hopeniene *et al.*, 2009).

Nowadays, many tourists book flights or hotels on-line, eliminating classic booking by travel agents (Morrison *et al.*, 2001). Tourists visiting big cities are usually well prepared and can function in multicultural environments without many problems (Buhalis, 2004). The development of Internet has created a “new potential tourist” with good knowledge, both technological and linguistic, and an exceptionally low price search (Buhalis, 2003; Martinez-Garcia & Raya, 2008). The key to success lies, therefore, in the rapid and accurate identification of consumers' needs and potential customers and in customizing products, services and processes to satisfy those needs (Buhalis, 2003). Internet is the key in these processes, as is the

development of proper tourism organization management, through organizational learning.

Organizational learning is the capability “within an organization to maintain or improve performance based on experience. This activity involves knowledge acquisition, knowledge sharing and knowledge utilization” (DiBella *et al.*, 1996). Then, organizational learning is the process by which the knowledge created by individuals is increased in an organized way and transformed into a part of the organization's knowledge system (DiBella *et al.*, 1996).

Some researchers analyze organizational learning as the means of explaining and resolving the problems (Bulut & Culha, 2010) of implementing and using the Internet in organizations (Robey *et al.*, 2000). Even although no single definition can capture the full reality behind the term “Internet” but, ultimately, Internet may be understood as a large network, a network of computer networks (Hoffman & Novak, 1996). However, from another perspective, perhaps more appropriate here, one can think of leading networks as the medium through which information is collected and sent (Hoffman & Novak, 1996). In short, Internet is a distributed system of information, a global network of computer networks, and each network is composed of thousands of computers (Buhalis, 1998).

A low-cost flight or airline involves a leadership strategy in cost, for both the airline company and its direct (e.g., travel agencies) or indirect customers (e.g., end-users) (Francis *et al.*, 2007). As the name suggests, low-cost (or discount) airlines are “companies offering low fares in exchange for eliminating many of the services traditionally enjoyed by passengers” (Francis *et al.*, 2007).

Low-cost airlines are an important driver of tourism and have revitalized it in places far from the classic touristy locations in Spain (Martínez-García & Raya, 2008). They motivate hotel occupancy and increase real estate value (Satterlee, 2003). As well as low-cost airlines, Internet also has a positive impact on organizational performance, specifically in hotels, perhaps via improved marketing or distribution. The shortage of academic research in tourism, the increasing influx of tourists who travel by low-cost flights booked on the Internet, and the general need to attract and retain foreign tourists to hotels justify our study's attempts to discover whether better tourism organization management through management of organizational learning motivate Internet use, which in turn encourages the opportunity for growth in low-cost flights and improves organizational performance.

To achieve our objectives and verify the proposed relationships, the article is structured as follows. The next part is the theoretical framework, which firstly explains the hypotheses in the model. We emphasize the importance of providing empirical results that prove these relationships. Later we underline the research methodology which presents the data and the method used to analyze empirically the hypotheses developed in firms from Spain. The results section presents the outcomes obtained. Finally, the conclusion section analyzes the results and some of the limitations of this study.

## Hypotheses

### *Influence of Organizational Learning on Internet*

Lynn *et al.*, (1999) find a positive relationship between organizational learning and successful development of Internet. Cegarra-Navarro *et al.*, (2007) define organizational learning as the development of new knowledge and insights that have the potential to influence organizations' behavior. Development occurs when the organization's members share associations, cognitive systems and memories (Pham *et al.*, 2013). Nonaka & Takeuchi (1995) define the development as the process of continuous learning (dynamic focus) through which companies generate new technological knowledge and innovate. Internet has been recognized as a management tool for managing company's relationship with its customers (Real *et al.*, 2006). This technological development may mean command of competitive advantage (Real *et al.*, 2006).

Technological advances have been linked to organizational learning (Robey *et al.*, 2000; Martín *et al.*, 2011), thus representing a source of heterogeneity and potentially sustainable competitive advantage, due to companies' different capabilities for learning and absorbing knowledge (Gilbert & Cordey-Hayes, 1996; Mihi-Ramírez *et al.*, 2011; Chio, 2012). Since organizational learning capacity may affect the degree to which technologies are adopted and used effectively (Robey *et al.*, 2000; Martín *et al.*, 2011; Cegarra-Navarro *et al.*, 2007) examine how organizational learning is linked to effective Internet use to obtain a positive result. However, the presence of Internet does not guarantee knowledge creation, knowledge distribution or knowledge use (Mercader *et al.*, 2006).

High growth and high technology firms appear more able and willing to seize the opportunities afforded by Internet. Their fast-growth tendencies are often associated with the entrepreneurial character of the owner, individual managers or operational teams (McCalman, 1998; Mets *et al.*, 2010). Given that virtually every aspect of organizational learning has either direct or indirect relevance for entrepreneurial management, enhanced entrepreneurship, innovative workplace cultures, knowledge management and organizational learning are often viewed as the main strategic factors associated with successful ICT - mainly Internet- adoption and usage in SMEs (Martín & Matlay, 2001; Mets *et al.*, 2010). Then:

H1: *Organizational learning will be positively associated with Internet in hotels.*

### *Influence of Internet on Low-Cost Airlines and Organizational Performance*

Internet virtually influenced all known sectors in the economy greatly, including tourism and aviation sector (Mills & Law, 2004). This technological revolution has enabled this sector's development into a safer and better way to book or purchase tickets (Morrison *et al.*, 2001).

A significant challenge for management in exploiting Internet is to realize that these fundamental changes are creating a situation where organizations operate in an increasingly global, technologically interconnected and information-driven world (Sampler, 1998; Buhalis, 2003; Bulut & Culha, 2010; Chio, 2012). Exploitation of Internet at the customer interface is a key catalyst in transformation of the airline industry. Findings highlight the importance of information as a critical resource for airlines (McIvor *et al.*, 2003).

In the past, consumers determined the value of product or service based on some combination of quality and price (Treacy & Wiersema, 1993). Nowadays, Internet transforms customers from passive participants to proactive, more sophisticated agents in their relationship with airlines (McIvor *et al.*, 2003). Customers can set much more detailed search criteria, gaining immediate access to even richer information sources, such that airlines now deal with a "virtual tourist".

Online tickets reduce transaction costs significantly (McIvor *et al.*, 2003), and also enable online buyers to benefit from better selection in terms of choice (of airlines, flights, schedules, destinations, levels of service and complementary services), speed (time, convenience of access capabilities on Internet), and reduced transaction costs (money, effort, and mistakes). It is clear that Internet has played a major role in providing low-cost entrants with market growth and expansion opportunities (Porter, 2001). Improvements in efficiency via Internet technologies create the potential to exploit complementary products and services (Porter, 2001). Low-cost airlines have integrated these technological benefits of Internet with existing and new technologies. In fact, Internet has become central to strategic development of the analyzed airline companies (McIvor *et al.*, 2003). In this way, low-cost airlines have attracted millions of consumers because of their low prices and have transported them in a very similar way to flights that do not offer low cost (Buhalis, 2003). Thus, Internet

and low-cost airlines could provide a very good way to face the current crisis.

Then, low-cost flights enable hotel managers to intensify Internet use to attract more customers (Harvey & Turnbull, 2006). With all this previous literature the following hypothesis is proposed:

*H2: Internet will be positively associated with low-cost airlines.*

Information-intensive industries are ideal candidates for Internet transformation (Olsen & Connolly, 2000). Continuous improvement and high performance in Internet applications such as e-mail correspondence, website effectiveness and online marketing are growing as a critical competitive factor (Olsen & Connolly, 2000). But industry and academics suggest that the lodging industry lags behind other industries in IT implementation (Buhalis & Main, 1998). Low IT use among small hospitality enterprises may stem from lack of training, traditional ownership, lack of rational management and marketing functions, and management's short-term operational focus (Buhalis & Main, 1998). Consistent and efficient management has been a formula for past hotel success, but global competition demands innovation and flexibility in today's dynamic marketplace (Porter, 2001; Sigala *et al.*, 2001).

While many investigations laud Internet's potential, few papers examine the relationships between Internet adoption and success in the hospitality industry (Scaglione *et al.*, 2009). In hospitality, Internet is an important interface between customers and hotels. It enables information exchange, business transactions and relationship management and may improve hotel's performance through cost reduction in distribution process, increased revenues, improved guest loyalty and improved marketing and market access (Sigala *et al.*, 2001).

Scaglione *et al.*, (2009), show that hotels with no web presence experience a negative trend in revenues. Das (2008) recognizes that hotels must be able to promote their individual property websites and allow Internet shopper to book directly without paying excessive distribution costs or supplying deeply discounted rates to third-party merchant sites. In this way, hoteliers obtain incredible savings, from booking-fee savings to IT and support savings (Satterlee, 2003). Currently, a firm must recognize the great importance of Internet for consumers, who may travel using low cost flights, thus easily reaching any hotel for a low price and increasing their savings capacity (Oorni & Klein, 2003). Therefore, hotels have managed to incorporate Internet as they seek to differentiate and gain competitive advantage by attracting new customers, even though they are far away or in other countries, because Internet reaches everybody. Consequently:

*H3: Internet positively influences organizational performance in hotels.*

### ***Influence of Low-Cost Airlines on Organizational Performance***

Worse financial performance in airports could translate into worse performance in hotels, as Slattery & Litteljohn (1991) suggested in their study of demand for hotel accommodation in Europe. In the case of leisure travel, Spain, with its good economic performance and growing

familiarity with the international leisure travel, is becoming one of Europe's strongest growth markets (Stewart, 1992) and mainly for low-cost tourism (Martinez-Garcia & Raya, 2008). Cockerell (1993) observes that, in the future, long-haul travel is likely to be a very strong growth sector in the Spanish outbound market.

In this sense, Kerpel (1990) highlight some issues that may be key to countries' future success, among them, ethnic diversity, good climate range (sun) and cultural heritage, transportation, sensitive environment, beaches (coast), and lakes and mountains. Spain possesses all of the characteristics that support tourism, and these characteristics could translate into more hotel bookings arriving by plane. These bookings could benefit Spain, mainly Andalusia, as it is the community with the most sun and beaches in Spain, and Spain is the country with the most beaches and sun in Europe. A great deal of tourism may be attracted by following this rule (Kerpel, 1990).

International tourism not always has been successful. For example, 1992 was a difficult year for the international travel and tourism industry as a result of the Gulf War, which depressed traveling in 1991, according to Costa (1995). Costa's study shows that world's airlines were still suffering losses, making 1992 a poor financial year for many hotel operators. The same occurred after the 2001 September 11th attacks. The airlines were shocked at the great number of losses (Goodrich, 2002). "The hotel industry also felt the brunt of the tragedy. During the first three months or so after the attacks, hotel bookings in the USA declined by some 20–50 % as individuals and groups cancelled vacation plans, and firms cancelled or postponed conventions, corporate meetings, seminars, and trade shows" (Goodrich, 2002).

However, hotels and other types of tourism companies examined their operations critically to reassess strategies for gaining competitive advantage in this economic sector, attracting low cost flights and increasing their performance (Goodrich, 2002; Enz & Siguaw, 2003). Low cost airlines and airlines in general, influence the lodging industry. Following Papatheodorou (2002), we conclude that low-cost airlines can improve occupancy in Andalusian hotels.

*H4: Low-Cost Airlines will be positively associated with organizational performance in hotels.*

## **Methodology**

### ***Sample and Procedure***

The population for this study consisted of the main hotels in the region of Andalusia in southern Spain, according to the database of Tourism from Andalusia. We chose this sector because it represents the greatest percentage, billing volume and employment volume in the Spanish economy. Choosing a sample of firms located in a relatively homogeneous geographical, cultural, legal and political space enables us to minimize the impact of the variables that cannot be controlled in the empirical research (Hofstede, 1980).

We have cited some of the characteristics of excellent tourism destinations highlighted by Kerpel (1990), named above - ethnic diversity, climate range, cultural heritage and beaches. Spain has all of these characteristics and some regions in Spain more than others (Papatheodorou,

2002). We focus on southern Spain (Andalusia) because, in addition to these features, it has low prices and excellent facilities and, more importantly, because Andalusia is the most important region for tourism in Spain. The Spanish touristic market is relatively well developed and wholly integrated in the European Union. It has had a slightly better rate of growth in recent years than the European market overall (Papatheodorou, 2002). However, Spain is in the geographical area that has received relatively little attention from organizational researchers. Drawing on our knowledge about key dimensions of this research, previous contacts with interested CEOs and scholars and new interviews with five CEOs and six academics interested in the topic and familiar with the Spanish touristic market, we developed a structured questionnaire to investigate how tourist firms face these issues. These developmental interviewees did not provide data for the empirical investigation. We decided to use CEOs as our key informants, since they receive information from a wide range of departments and are therefore a very valuable source for evaluating the different variables of the firm (Baer & Frese, 2003). In addition, the same types of informant were chosen; since this means that the level of influence among the firms is constant, increasing the validity of the variables' measurements (Glick, 1985). Surveys were mailed to the CEOs of the 1621 firms along with a cover letter. To reduce a possible desirability bias, we promised that we would keep all individual responses completely confidential and confirmed that our analyses would be restricted to an aggregate level to prevent identification of any firm. We mailed each CEO who had not yet responded two reminders. 327 CEOs finally answered the questionnaire. The approximate response rate was 20 % (Table 1).

Table 1

**Technical Details of the Research**

Sectors	Tourism sector (hotels)
Geographical location	Spain (Andalusia)
Methodology	Structured questionnaire
Universe of population	1621 hotels
Sample (response) size	327 hotels (20,17 %)
Sample error	5,4 %
Confidence level	95 %, $p-q=0,50$ ; $Z=1,96$
Period of data collection	December 2009 – October 2010

A series of t-statistics, ANOVAs and chi-squares revealed no significant differences in type of hotel, between the respondents and the sample, or between early and late respondents. Since all measures were collected in the same survey instrument, the possibility of common method bias was tested using Harman's one-factor test (see Konrad & Linnehan, 1995). A principal components factor analysis of the questionnaire measurement items yielded four factors with Eigen values greater than 1.0, which accounted for 72 % of the total variance. Since several factors, as opposed to one single factor, were identified and since the first factor did not account for the majority of the variance, a substantial amount of common method variance does not appear to be present (Podsakoff & Organ, 1986).

**Measures**

Scales are important in designing survey instrument in management research. As no single measure can precisely capture a behavior, researchers usually combine two or more measures into a scale to gauge each variable. Given that developing new scales is a complex task, wherever possible we used pretested scales from past empirical studies to ensure their validity and reliability.

**Organizational Learning:** Various studies have measured learning within organizations. Due to the fact that there is a closer link with our research, that they reflected the different prior trends well and that the scale's validity was verified in detail, we used the first two items from the scale developed by Kale *et al.*, (2000) and added two items based on Edmondson's (1999) research. We developed a confirmatory factor analysis to validate our scales ( $\chi_2=2,99$ , NFI=.99, GFI=.99, CFI=.99, IFI=.99) and showed that a Likert-type 7-point scale (1 "totally disagree", 7 "totally agree") of 4 items was one-dimensional and had high reliability ( $\alpha=.895$ ). **Internet:** Based on work by Das (2008), we developed a Likert-type 7-point scale (1 "totally disagree", 7 "totally agree") of 2 items. Using a confirmatory factor analysis, we validated our scale and then verified the scale's one-dimensionality and its validity and reliability ( $\alpha=.715$ ). **Low-Cost Airlines:** Based on work by Gilbert & Morris (1995), Goodrich (2002) and Papatheodorou (2002), we developed a Likert-type 7-point scale (1 "totally disagree", 7 "totally agree") of 3 items. Using a confirmatory factor analysis, we validated our scale and then verified the scale's one-dimensionality and its validity and reliability ( $\alpha=.774$ ). **Organizational Performance:** Based on work by (Gilbert & Morris, 1995; Tse *et al.*, 2005), we asked CEOs to indicate the evaluation they received that year, focusing on average occupancy in the hotel (1 "very bad" 7 "very good") and the percentage of average occupancy and international tourists. Using a confirmatory factor analysis, we validated our scale and then verified the scale's one-dimensionality and its validity and reliability ( $\alpha=.841$ ). All the items have been duly adapted to the present study (Table 2).

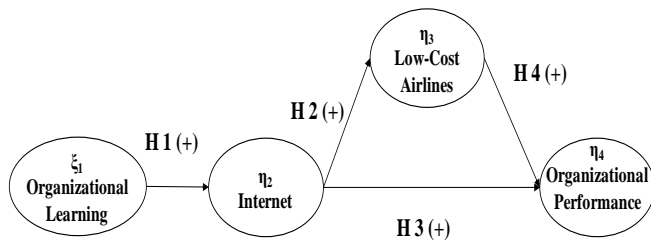
Table 2

**Items of the research**

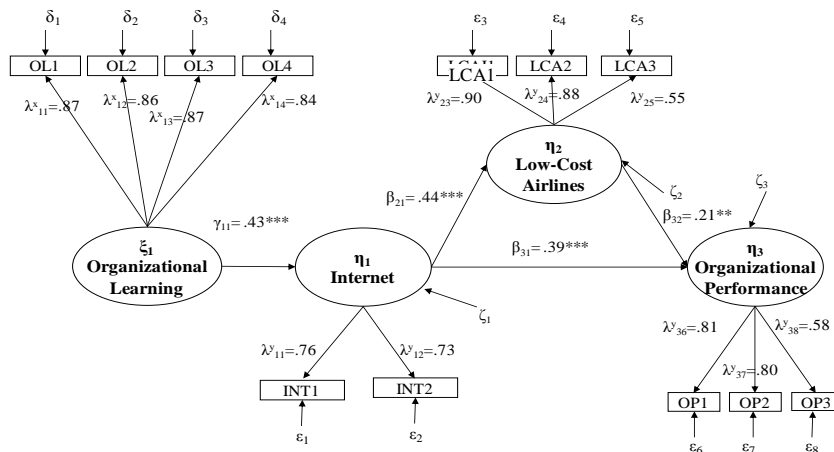
Organizational Learning	OL1. The hotel has acquired and used much new and relevant knowledge that provides competitive advantage.
	OL2. The hotel's members have acquired some critical capacities and skills that provide competitive advantage.
	OL3. The hotel's improvements have been influenced fundamentally by new knowledge entering the firm.
	OL4. The hotel is a learning organization.
Internet	INT1. Promotion of the hotel through Internet is a strategic matter to which we give maximum attention, time and resources.
	INT2. The hotel sales through Internet are a high percentage over the total hotel sales.
Low-Cost Airlines	LCA1. Tourists who arrive on low-cost airlines represent a wonderful opportunity for the tourist lodging sector.
	LCA2. Tourists who arrive on low-cost airlines represent a wonderful opportunity for the hotel.
	LCA3. The number of tourists who use low cost airlines will increase in the future.
Organizational Performance	OP1. Percentage of average occupancy of hotel.
	OP2. Evaluation of average occupancy of hotel.
	OP3. Percentage of tourists.

**Model and Analysis**

The LISREL 8,71 program was used to test the theoretical model. Figure 1 shows the basis of the model proposed, together with the hypotheses to be tested. We used a recursive non-saturated model, taking organizational learning ( $\xi_1$ ) as the exogenous latent variable, Internet ( $\eta_1$ ) as first-grade endogenous latent variables, and low-cost airlines ( $\eta_2$ ) and organizational performance ( $\eta_3$ ) as second-grade endogenous latent variables. Through flexible interplay between theory and data, this structural equation model approach bridges theoretical and empirical knowledge to allow better understanding of the real world. Such analysis allows for modeling based on both latent and manifest variables, a property well suited to the hypothesized model, where most of the represented constructs are abstractions of unobservable phenomena. Further, structural equation modeling takes into account errors in measurement, variables with multiple indicators, and multiple-group comparisons.



**Figure 1.** Hypothesized Model



**Figure 2.** Results of Structural Equation Model

As to the quality of the measurement model for the sample, the constructs display satisfactory levels of reliability, as indicated by composite reliabilities ranging from 0,71 to 0,91 and shared variance coefficients ranging from 0,55 to 0,73 (Table 4). Convergent validity – the extent to which maximally different attempts to measure the same concept agree – can be judged by examining at both the significance of the factor loadings and the shared

**Results**

This section presents the main results of our research. Table 3 reports the inter-factor correlations matrix for the study variables to evaluate the significance level of existing relationships. Series of tests (e.g. tolerance, variance inflation factor) demonstrated the absence of multi-collinearity (Hair *et al.*, 1999).

Table 3

**Means, Standard Deviations and Correlations**

Variable	Mean	s.d.	1	2	3	4
Organizational Learning	4,91	1,39	1,000			
Internet	4,99	1,30	,287***	1,000		
Low-Cost Airlines	4,88	1,33	,077	,353***	1,000	
Organizational Performance	4,96	1,16	,154**	,263***	,280***	1,000

Note: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two-tailed).  $n = 327$ .

Second, we performed structural equation modeling to estimate direct and indirect effects using LISREL with the correlation matrix and asymptotic covariance matrix as input (Bollen, 1989). Several researches have used this methodology because this type of analysis has the advantage of correcting for unreliability of measures and provides information on the direct and indirect paths between multiple constructs after controlling for potentially confusing variables (Garcia *et al.*, 2007; Garcia *et al.*, 2009; Garcia *et al.*, 2011; Mihi-Ramirez, 2011) Figure 2 shows the standardized structural coefficients. The relative importance of the variables is reflected by the magnitude of the coefficients.

variance. The amount of variance shared or captured by a construct should be greater than the amount of measurement error (shared variance  $> 0,50$ ). All of the multi-item constructs meet this criterion, each loading ( $\lambda$ ) being significantly related to its underlying factor (t-values greater than 9,92) in support of convergent validity. Likewise, a series of chi-square difference tests on the factor correlations show that discriminant validity – the

degree to which a construct differs from others – is achieved among all constructs (Anderson & Gerbin, 1988). In particular, discriminant validity was established between each pair of latent variables by constraining the estimated correlation parameter between them to 1.0 and then performing a chi-square difference test on the values

obtained for the constrained and unconstrained models (Anderson & Gerbin, 1988). The resulting significant differences in chi-square indicate that the constructs are not perfectly correlated and that discriminant validity is achieved.

Table 4

**Validity, reliability and internal consistency**

Variable	Item	Parameter	$\lambda^*$	R <sup>2</sup>	A. M.
Organizational Learning	OL1	$\lambda^x_{11}$	0,87(f.p.)	0.75	$\alpha=0.895$ C.R.=0,919 S.V.=0,739
	OL2	$\lambda^x_{12}$	0,86*** (31,08)	0.75	
	OL3	$\lambda^x_{13}$	0,87*** (32,54)	0.75	
	OL4	$\lambda^x_{14}$	0,84*** (31,22)	0.71	
Internet	INT1	$\lambda^y_{11}$	0,76(f.p.)	0.58	$\alpha=0.715$ C.R.= 0,716 S.V.=0,557
	INT2	$\lambda^y_{12}$	0,73*** (9,92)	0.54	
Low-Cost Airlines	LCA1	$\lambda^y_{23}$	0,90(f.p.)	0.80	$\alpha=0.774$ C.R.=0,853 S.V.=0,669
	LCA2	$\lambda^y_{24}$	0,88(16,72)	0.77	
	LCA3	$\lambda^y_{25}$	0,55*** (11,78)	0.50	
Organizational Performance	OP1	$\lambda^y_{36}$	0,84(f.p.)	0.70	$\alpha=0.841$ C.R.=0,813 S.V.=0,598
	OP2	$\lambda^y_{37}$	0,80*** (12,35)	0.63	
	OP3	$\lambda^y_{38}$	0,58*** (10,38)	0.54	

Notes:  $\lambda^*$ =Standardized structural coefficient; R<sup>2</sup>=Reliability;  $\alpha$ =Alpha Cronbach; C.R. =Compound Reliability; S.V. = Shared Variance; f.p. =fixed parameter; A.M. =Adjustment Measurement; <sup>†</sup> $p < ,10$ , \*  $p < ,05$ , \*\*  $p < ,01$ , \*\*\*  $p < ,001$ .

The overall fit measures, multiple squared correlation coefficients of the variables (R<sup>2</sup>s), and signs and significance levels of the path coefficients all indicate that the model fits the data well ( $\chi^2_{50}=126.294$ ,  $p>,001$ ;  $\chi^2$ ratio=2,52; RMSEA=,072; NFI=,96; NNFI=,97; CFI=,97; PGFI=,63). The hypothesized model was significantly better fit than the null model ( $\chi^2_{66}=3081,88$ ,  $p>,001$ ;  $\Delta \chi^2_{26}=2955,58$ ,  $p>,001$ ). All modification indices for beta pathways between major variables were small, suggesting that adding additional paths would not significantly improve the fit. The residuals of the covariances were also small and centered on zero.

The standardized parameter estimates (Table 5) show that organizational learning is highly related to Internet. Internet appears to be influenced strongly by organizational learning ( $\gamma_{11}=,43$ ,  $p<,001$ ), supporting Hypothesis one. Internet is explained well by the model

(R<sup>2</sup>=,18). As predicted in Hypothesis two, low-cost airlines appear to be influenced strongly by Internet ( $\beta_{21}=,44$ ,  $p<,001$ ). Low-cost airlines are explained well by the model (R<sup>2</sup>=,20). Internet has a positive, statistically significant, direct association with organizational performance ( $\beta_{31}=,39$ ,  $p<,001$ ) and indirect relationship (,09,  $p<,001$ ; see, for instance Bollen, 1989 for calculation rules) through low-cost airlines (,44x,21). The total effect (direct and indirect) of Internet on organizational performance shows a significant, positive relationship (0,48,  $p<,001$ ) overall, supporting Hypothesis three. Finally, Hypothesis four relates low-cost airlines to organizational performance ( $\beta_{32}=,21$ ,  $p<,01$ ). Organizational performance is explained well by the model (R<sup>2</sup>=,27). In addition to these effects, we have shown indirect effects of organizational learning on low-cost airlines and organizational performance (Table 5).

Table 5

**Structural Model Result (Direct, Indirect and Total Effects)**

Effect from	To	Direct Effects <sup>a</sup>	t	Indirect Effects <sup>a</sup>	t	Total Effects <sup>a</sup>	t
Organizational Learning	→ Internet	0,43***	6,94			0,43***	6,94
Organizational Learning	→ Low-Cost Airlines			0,19***	5,30	0,19***	5,30
Organizational Learning	→ Organizational Performance			0,20***	5,28	0,20***	5,28
Internet	→ Low-Cost Airlines	0,44***	6,71			0,44***	6,71
Internet	→ Organizational Performance	0,39***	4,89	0,09***	2,90	0,48***	6,82
Low-Cost Airlines	→ Organizational Performance	0,21**	2,92			0,21**	2,92
Goodness of Fit Statistics	$\chi^2_{50}=126,294$ ( $P>,001$ ) GFI=0,98 AGFI=0,97 ECVI=0,61 AIC=182,29 CAIC=313,81 NFI=0,96 NNFI=0,97 IFI=0,97 PGFI=0,63 NCP=76,29 CFI=0,97 RMSEA=0,072						

Notes: <sup>a</sup> Standardized Structural Coefficients; <sup>†</sup> $p < ,10$ , \*  $p < ,05$ , \*\*  $p < ,01$ , \*\*\*  $p < ,001$

In testing the theoretical framework, we fit several nested models, each incorporating different assumptions about parameters. Comparisons with reasonable alternative models are recommended as means of showing that a hypothesized model is the best representation of the data. Comparison is an important part of assessing model fit

(Bollen & Long, 1993). If we compare the theoretical model (Model 1) to a model that does not consider the relationship between Internet and organizational performance (Model 3), we see that the latter has a worse Root Mean Square Error of Approximation (>RMSEA=,008), Normed Fit Index (<NFI=,01), Non-Normed Fit Index (<NNFI=,01),

Expected Cross-Validation Index (>ECVI=,07), Akaike Information Criterion (>AIC=18,65), Estimated Non-Centrality Parameter (>NCP=19,65), and Consistent Akaike Information Criterion (>CAIC=13,95). Hence, the results show that Internet affects organizational performance and that Model one is preferred to Model two ( $\Delta\chi^2=20,65$ ,  $\Delta df=1$ ). The theoretical model is also

preferable to the other models formulated (Table 6). Length restrictions prevent detailed discussion of each model and of other models. (A full report is available from the authors). In sum, the proposed theoretical model (Figure 2) represents the preferred, i.e. the most acceptable and parsimonious, model.

Table 6

**Parameter, relationship and goodness of fit statistics**

Model	Description	$\chi^2$	$\Delta \chi^2$	RMSEA	NFI	NNFI	CFI	ECVI	AIC	NCP	CAIC
1	Theoretical	126,29		0,072	0,96	0,97	0,97	0,61	182,29	76,29	313,81
2	Without Internet → Low-Cost Airlines	163,27	36,98	0,087	0,95	0,95	0,96	0,74	219,27	113,27	350,79
3	Without Internet → Org. Performance	146,94	20,65	0,080	0,95	0,96	0,97	0,68	200,94	95,94	327,76
4	Without Low-Cost Airlines → Org. Performance	133,63	7,34	0,074	0,96	0,96	0,97	0,63	187,63	82,63	314,45

Notes: W.R. =Without Relationship; n=327.

**Conclusions**

Computer technology has had a great impact on every concept we have studied (Scaglione *et al.*, 2009). Then, more knowledge is required in the firm in order to learn to use information technology in the firm.

In this sense, organizational learning among the hotel’s employees has motivated the wider use of Internet in firms (Sooraksa, 2012; Pham *et al.*, 2013). That is to say, the more training people the organization has, the more innovative the organization will be (Chipika & Wilson 2006); and consequently organizations that learn may use Internet technologies better and have a structure that satisfies the requirements for competitive advantage, making the firm a centre for continuous improvement (Slater & Narver, 1995; Mihi-Ramirez *et al.*, 2011).

Some researchers analyze organizational learning as a mean of explaining and resolving the problems of implementing and using new IT in organizations (Robey *et al.*, 2000). Although organizational learning is considered an effective and efficient mean of improving the competitiveness of organizations (Mihi-Ramirez *et al.* 2011), few studies consider the relationship between organizational learning and Internet from a SME’s perspective (Cegarra-Navarro *et al.*, 2007).

Then we try to knowledge acquisition as the facilitator of successful technological innovation which drives a company to get a better performance (Scaglione *et al.*, 2009; Fernandez & Martin, 2012). Consequently, companies should have many incentives to implement Internet, which should constitute a new source of relevant knowledge to generate innovations.

In addition to this, in this current crisis period, Internet may well be becoming the best way to save money, since customers can look for the cheapest offers by themselves, for many sectors (Chio, 2012), although in this research we have focused on both flights and hotels (Orni & Klein, 2003; Das, 2008; Hopeniene *et al.*, 2009).

Building on some scholars (Costa, 1995; Goodrich, 2002; Papatheodorou, 2002), we assert the influence of low-cost airlines on tourism, and, consequently, on hotel performance in each country.

In our study, hotel performance is influenced directly and indirectly, caused by other variables – organizational learning —, by Internet. This result is consistent with Das (2008) and Enz & Siguaw (2003), who find evidence that,

if a company can promote its individual property on websites and allow Internet shopper to book directly without paying excessive distribution costs or supplying deeply discounted rates to third-party merchant sites, bookings increase considerably.

To sum up based on some authors (Buhalis, 2003, 2004; Daft, 1983; Thatcher *et al.*, 2003; Mets *et al.*, 2010; Mihi-Ramirez *et al.*, 2011); we hypothesized that firms that focus on organizational learning may have more innovative organizational climate and that this strong innovative capability can further enhance their employees’ ability to solve problems daily. In addition, we have demonstrated that developing of organizational learning process may provide the company with customer knowledge and development solutions and offer new products and services through Internet (Langerak *et al.*, 2007; Bulut & Culha, 2010; Martin *et al.*, 2011; Pham *et al.*, 2013). Furthermore, the ability to innovate effectively in the context of new technology-based services depends on the extent of employees’ involvement (Lai, 2011). Managers can give employees the possibility of innovating, since they are recruited to the firm, motivating innovative culture in the company (Straub, 1994; Hopeniene *et al.*, 2009; Sooraksa, 2012).

Consequently, Andalusian hotel managers must innovate in all areas to improve their results, but primarily in the hotel’s employees through organizational learning processes, so that the hotel can gain competitive advantage (Larsen & Sorebo, 2005). The structure of the Andalusian hospitality industry, and of the hospitality industry overall, is changing with the continuing process of globalization, especially the risky conditions of crisis in the economic environment (Senge *et al.*, 1994; Mets *et al.*, 2010).

Airlines, specifically low-cost airlines, are important in this matter (Martinez-Garcia & Raya, 2008). They must promote their bookings through Internet, underscoring their advantages compared to full-cost companies. Since low-cost airlines are much cheaper, they provide a good way to so as to help people to avoid the crisis. Low-cost airlines should also stress that they have airports and gateways with similar facilities to those of the full cost airlines and good travel timetables (Martinez-Garcia & Raya, 2008).

If we focus on our results for the tourism sector, we highlight this paper’s continuous recognition of the importance of Internet (Poon, 1993). The impacts of e-

tourism may be more important for future accommodation than they are now (Costa, 1995; Goodrich, 2002).

We would like to conclude that hotel managers and low-cost companies should learn or have proficiency in technologies and motivate a firm culture of learning and innovation in new technologies, specifically Internet. In the current crisis period, Internet may be becoming the best way to save money, as customers can look for the cheapest offer by themselves, in both flights and hotels (Oorni & Klein, 2003; Das, 2008).

### ***Limitations and future research***

This investigation has several limitations that may suggest further possibilities for empirical research. First, survey data based on self-reports may be subject to social desirability bias (Podsakoff & Organ, 1986). However, an assurance of anonymity can reduce such bias (Konrad & Linnehan, 1995). The low risk of social desirability bias in this study was indicated by several managers who commented that it made no sense at all for their companies to go beyond regulatory compliance. Still, the responses are subject to interpretation by individual managers.

Second, the absence of objective measures is a limitation. However, external validation of this variable from the archival data of subset of respondents increased confidence in self-reports and reduced the risk of common method variance. Further, the possibility of common method bias was tested using Harman's one-factor test and other methods. We also used objective data and randomized the order of presentation of the survey items across the subjects. Common method bias does not appear to be present (Podsakoff & Organ, 1986; Konrad & Linnehan, 1995).

Third, the cross-sectional nature of the research into a dynamic concept (organizational learning) allows us to

analyze only a specific situation in time of the organizations studied, not their overall conduct through time. Our approach has reduced the magnitude of this problem, since dynamic characteristics and causal affirmations can be made if the relationships are based on theoretical rationales (Hair *et al.*, 1999). For this reason, we began with a theoretical effort that would allow us to identify and check the formal existence of the different cause-effect relationships. Nonetheless, future research should focus on longitudinal study.

Fourth, the use of a single respondent may have influenced the accuracy of some measurements. However, difficulties in obtaining sponsorship for the research based on a multiple views for each hotel, the value of CEOs' knowledge of their hotels, and common practice in organizational research all supported the use of CEOs as respondents. Fifth, we have concentrated on the hotel sector. In other firms from the tourism sector, the results may be different.

Finally, our model analyzes only the direct and indirect relation between Internet, low-cost airlines and organizational performance, analyzing previous influence such as organizational learning. Other factors could be analyzed (Martinez-Garcia & Raya, 2008) or a larger international sample used. However, it should be noted that strategic variables we chose (low-cost airlines and Internet) explain a significant amount of variance of organizational performance.

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Rodrigo Martín-Rojas, Víctor Jesús García-Morales, Antonio Mihi-Ramírez

### **Žiniomis pagrįsta organizacija turizmo versle**

#### **Santrauka**

Technologijų tobulinimas ir turizmo sektorius dešimtmečius buvo tarpusavyje susiję. Internetas, kaip svarbi IKT priemonė (OECD, 2009), sukėlė svarbius „vidutinio turistų“ elgsenos pokyčius. Interneto plėtra sukūrė „naują potencialų turistų“, turintį geras technologines ir lingvistines žinias ir ieškančių išskirtinai mažų kainų.

Informacinės ir komunikacinės technologijos (IKT) radikaliai pakeitė turizmo organizacijų našumą ir efektyvumą, šios pramonės struktūrą, būdą, kurio įmonės tobulėja rinkoje, ir vartotojų ryšius su turistinėmis organizacijomis.

Šis darbas tiria du svarbiausius aspektus. Pirmasis analizuoja kiek reikalingi organizacinio mokymosi procesai norint pagerinti naujovių produktyvumą įmonėje, naudojantis naujomis technologijomis. Antrasis tiria mažų ir vidutinio dydžio turizmo įmonių vadovų suvokimą, kuris susijęs su atsakomybe prisiimti tam tikrus įsipareigojimus dėl įmonių naudingumo. Tam tikslui buvo sukurtos ir patvirtintos kelios, struktūrinėmis lygtimis pagrįstos skalės, kad būtų išmatuotas naudojamų punktų suvokimas. Norint atlikti tyrimą, buvo panaudotas struktūrinės lygties modelis programa *Lisrel* 8.0, kuris sustiprina sudarytus ryšius ir suteikia tvirtumo bei pagrįstumo šiam tyrimui. Šiame tyrime buvo išanalizuoti Andalūzijos viešbučiai pasinaudojant anketa, išsiųsta viešbučių vadovams, kad būtų išsiaiškinta, kokie duomenys tinkamiausi sudarant pavyzdžius. Ši statistinė analizė atskleidė, kad šis modelis yra vienas iš stipriausių šiuo metu naudojamų modelių ir yra geresnis lyginant su kitais, galimais šio pavyzdžio modeliais.

Tyrime išskirti du aspektai: žinių valdymas ir organizacinis mokymasis. Jie dažnai yra laikomi pagrindiniais strateginiais veiksniais, susijusiais su sėkmingu IKT, dažniausiai interneto pritaikymu ir panaudojimu mažose ir vidutinėse įmonėse. Kartu su organizacinio mokymosi aspektais, mes turime atsižvelgti į tai, kad internetas daro didelę virtualią įtaką visiems žinomiems ekonomikos sektoriams, įskaitant turizmo ir aviacijos sektorius. Ši technologinė revoliucija leido išplėtoti šį sektorių, kad būtų galima saugiau ir patogesniu būdu nusipirkti arba rezervuoti bilietus. Šie du aspektai yra išreikšti nuosavybės, kuri valdo viešbutį, struktūroje, taip pat ir strategijoje, naudojamoje norint įgyti konkurencinį pranašumą, ir kuris sustiprina viešbučių pozicijas lyginant su jų varžovais.

Naudojami statistiniai duomenys gali garantuoti rezultatų ir svarbių išvadų apibendrinimą. Struktūrinės lygties modelis yra naudojamas norint išanalizuoti, kiek būtini yra organizacinio mokymosi procesai, kad būtų galima suburti puikią, naujų technologijų komandą. Ir antra, išsiaiškinti kaip naujos technologijos internetu ir naudojant pigių skrydžių oro linijas veikia viešbučių užimtumą.

Tyrime iškelta hipotezė, kad įmonės, kurios sutelkia dėmesį į organizacinį mokymąsi, gali sukurti daug naujoviškesnę organizacinę klimatą. Šis stiprinamas inovatyvus gebėjimas gali toliau stiprinti jų darbuotojų galimybes spręsti kasdienes problemas. Be to, tyrime parodyta, kad organizacinio mokymosi proceso tobulinimas gali suteikti kompanijai informacijos apie vartotoją ir plėtros sprendimus bei pasiūlyti naujų produktų ir paslaugų per internetą.

Tyrimas atskleidė, kaip naujos technologijos, dėl naudojimosi internetu, tampa nauju, svarbiu informacijos šaltiniu. Siekiama, kad būtų sukurta naujovių viešbučiuose. Visa tai priklauso nuo organizacinio mokymosi procesų.

Vienas iš svarbiausių šio darbo tikslų yra parodyti kaip naudoti svarbiausius šio darbo kintamuosius: „naujos technologijos internetu“. Autoriai tobulina skalę, naudodami antros eilės nematomą kintamąjį, taip pat ir daugiadimensį kintamąjį. *Kelio* diagramos ir patvirtinančio *faktorialo* tyrimo

panaudojimas leidžia jį įvertinti tiesiogiai ir netiesiogiai (naudojant *Lisrel* programinę įrangą) su koreliacijos matrica kaip įvestimi. Šis analizės tipas turi matmenų nepatikimumo koregavimo privalumą. Jis taip pat suteikia informaciją kaip tiesioginiai ir netiesioginiai *keliai* tarp sudėtinių konstrukčių keičia potencialiai supainiotų kintamųjų valdymą.

Išanalizavę tyrimo duomenis galima patvirtinti, kad viešbučių vadovai ir pigių skrydžių bendrovės turėtų ne tik mokėti naudotis, bet ir turėti informacijos apie naujausias technologijas ir taip skatinti tvirtą mokymosi kultūrą ir naujoves, diegiant naujas technologijas, ypač internete.

Be to, gebėjimas greitai atnaujinti paslaugas panaudojant technologijas, priklauso nuo gebėjimo įtraukti darbuotojus, dydžio. Vadovai gali suteikti darbuotojams inovacijos galimybių, nes juos pasamdžiusi įmonė, skatina inovatyvią kultūrą. Atlikus tyrimą išsiaiškinta, kad Andalūzijos viešbučių vadovai, norėdami, kad rezultatai pagerėtų, turi atsinaujinti visose srityse. Pirmiausia paminėtinas organizacijos mokymosi procesas, susijęs su viešbučio darbuotojais, nes tik tokiu būdu viešbutis įgytų konkurencinį pranašumą.

Nustatyta, kad elektroninio turizmo įtaka apgyvendinant turistus, ateityje gali būti dar didesnė nei dabar.

Taigi, apibendrinant galima teigti, kad dabartinės krizės laikotarpiu, internetas gali tapti vienu iš geriausių būdų sutaupyti pinigus, nes vartotojai gal patys ieškoti pigiausių viešbučių ir skrydžių pasiūlymų.

Raktažodžiai: *organizacinis mokymasis, internetas, pigių skrydžių oro linijos, organizacinė veikla.*

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