

Influence of Internet on Low-Cost Airlines and Organizational Performance in Spanish Hotels

Rodrigo Martín-Rojas^a, Víctor García-Morales^b, Fernando Matías-Reche^c, Encarnación García-Sánchez^d.

Faculty of Business Administration and Economics, University of Granada, Spain.

rodrigomr@ugr.es, victorj@ugr.es, fmatias@ugr.es encags@ugr.es.

Abstract

This research examines the effects of Internet on low-cost airlines and organizational performance on the lodging sector, specifically in hotels. This is showed through the previous influence of organizational learning and personal information technology innovativeness on Internet, obtaining positive results which assert all our hypotheses. Based on the literature, we develop a theoretical model that shows the interrelations between these concepts. The hypotheses are tested using data from a questionnaire which was sent to hotels by the University of Granada, getting a resulting outstanding sample of 327 CEOs in Spanish hotels. The paper provides several practical results and implications for future research.

Keywords: Organizational learning, personal information technology innovativeness, Internet, low-cost airlines, organizational performance.

Introduction

Technological progress and the tourist sector have been connected for decades. Their continued and increasing interaction has produced fundamental changes in the tourism industry and perceptions of it (Buhalis, 2003). The use of communication technology plays a strong role in the competitiveness of tourist organizations (Buhalis, 2003). 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).

In addition to increasing customers' power to identify and purchase products, Information and Communication Technology (ICT) allows tourists to travel further and more frequently, motivating the industry's adoption of effective tools to develop, manage, and distribute its global offers (Buhalis, 2003). Internet, an essential ICT tool, has caused relevant changes in the behavior of the "average tourist" (Mills & Law, 2004). In fact, 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). Internet is key in these processes, as is the development of proper tourism organization management. Tourism organization management (e.g., hotel management) must be competitive in an environment characterized by increasing globalization, especially the risky conditions of

crisis in the economic environment. Such organizational management must be motivated by the use of Internet to attract and retain foreign tourists to tourism organizations (e.g., hotels).

To achieve our objectives and verify the proposed relationships, the article is structured as follows. The next part is the body of the paper, which firstly explains theoretical background needed for each construct, the next subsection proposes a series of hypotheses on the influence of organizational learning on personal IT innovativeness and the influence of both of these on Internet. We emphasize the importance of providing empirical results that prove these relationships. The model also claims to demonstrate a positive influence of Internet on low-cost airlines and the influence of both Internet and low-cost airlines on organizational performance. The relatively slight attention paid in practice to these topics contrasts with their importance for technicians and practitioners. The subsection on research methodology presents the data and the method used to analyze empirically the hypotheses developed in Spanish firms. The results subsection presents the outcomes obtained. Finally, the conclusion section analyzes the results and some of the limitations of this study.

Discussion and hypotheses

Organizational learning is the capability “within an organization to maintain or improve performance based on experience. This activity involves knowledge acquisition (the development or creation of skills, insights, relationships), knowledge sharing (the dissemination to others of what has been acquired by some), and knowledge utilization (integration of the learning so that it is assimilated and broadly available and can be generalized to new situations)” (DiBella, Nevis & Gould, 1996:363). Organizational learning is the process by which the knowledge created by individuals is increased in an organized way and transformed into part of the organization’s knowledge system. This process takes place within a community of interaction in which knowledge is created and expands in a constant dynamic between the tacit and the explicit (Nonaka & Takeuchi, 1995).

Learning in tourism organization encourages the existence of knowledgeable tourism workers who can use Internet in this today’s knowledge society. Tourism organizations that invest in their front-line workers achieve a significant competitive advantage (Shaw & Williams, 2009). It is crucial to attract and retain these “knowledgeable” employees as a critical economic resource and a core element (Shaw & Williams, 2009).

Firms with well-developed capabilities in organizational learning are more likely to adapt to technological advances (Cegarra et al., 2007). An organization committed to learning enhances its IT innovativeness (Calantone et al., 2002). IT innovativeness is influenced by perceptions of the environment and personality (Agarwal & Prasad, 1998). Personality’s influence varies by situation and with individuals’ ability to realize target behaviors (Calantone et al., 2002). If innovativeness reflects innovative predispositions and social influences affect individuals’ capacity to manage exploratory behavior in tourism, both factors can be concentrated on innovativeness in the hotel personnel or personal innovativeness.

In the domain of IT, personality is analyzed through personal IT innovativeness, “the willingness of an individual to try out any new information technology” (Agarwal & Prasad, 1998:206). Personal IT Innovativeness is conceptualized as a trait, i.e., a relatively stable descriptor of individuals that is invariant across situational considerations (Agarwal & Prasad,

1998). As a trait, personal IT innovativeness can produce a cultural framework that facilitates execution of a strategy or makes this strategy more difficult to copy (as a trait). It can also lead to a competitive sustainable advantage (Hurley & Hult, 1998). The positive impact of employees' personal IT innovativeness on the use of the Internet has been viewed as a trait, or way of thinking and acting. This trait alone may explain Internet use (Agarwal & Prasad, 1998).

No single definition can capture the full reality behind the term "Internet." Ultimately, Internet may be understood as a large network, a network of computer networks (Hoffman & Novak, 1996). This approach involves Internet information and services flowing through this network. In short, the Internet is a distributed system of information, a global network of computer networks, and each network is composed of thousands of computers (Hoffman & Novak, 1996). Then, Internet represents an opportunity for worldwide distribution, a mechanism for the propagation of information, and a means of collaboration and interaction between individuals and their computers, regardless of geographical location (Hoffman & Novak, 1996). Internet has radically changed tourist behavior (Mills & Law, 2004). Customers book flights, tickets, hotels and purchase online, instead of using travel agencies (Morrison et al., 2001). The popularization of Internet applications has forced most tourism organizations—e.g., hotels, airlines and travel agencies—to change part of their marketing and communication (Mills & Law, 2004). In this sense, with the implementation and popularization of new technologies, Internet users will look for the cheapest flights that best fit their schedules. In this environment, Internet influences low-cost flights.

A low-cost flight 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). 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. Low-cost flights motivate hotel occupancy and increase real estate value. Tourists are first attracted to local hotels through low-cost flights and may then acquire property in cities receiving cheap flights (Papatheodorou, 2002).

Studies by Goodrich (2002) and Papatheodorou (2002) assert a positive relationship between low-cost airlines and organizational performance. Other Scholars like Cockerell (1992) proved the great importance for the accommodation in hotels from air sector and reinforced this idea but focus it on the Spanish economy, underscoring the potential of low-cost airlines on Spanish hotels.

Internet has a positive impact on organizational performance, specifically in hotels, perhaps via improved marketing or distribution. Better and more competitive organizations adopt Internet technologies faster than their lower-performing colleagues (Buhalis, 2003; Das, 2008; Scaglione et al., 2009).

Das (2008) has recognized that hotels must be able to promote their individual property websites and allow the Internet shopper to book directly without paying excessive distribution costs or supplying deeply discounted rates to third-party merchant sites. Hoteliers obtain incredible savings, from booking-fee savings to IT and support savings. Hotels can thus access more revenue than they did than before they used Internet. Internet use can improve the result in companies, specifically in hotels.

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 and personal IT innovativeness motivate Internet use, which in turn encourages the opportunity for growth in low-cost flights and improves organizational performance.

Hypotheses.

Influence of Organizational Learning on Personal IT Innovativeness and Internet.

Measuring organizational learning from the perspective of the learning culture requires us to assume a positively reinforced relationship between organizational learning and the learning culture. That is, organizations characterized by a strong learning culture are better able to learn, while organizations with better learning processes find that these processes enhance their learning culture.

Covin and Slevin (1991) articulate the importance of organizational culture for organizational innovation and innovativeness. They consider organizational culture to be a key determinant in fostering employees' innovative behavior. Since an organization's innovative capability can be seen as an outcome that, given the overlap in features of innovation and knowledge creation, is enhanced by organizational learning, it is reasonable to treat the learning culture as one contextual factor of organizational innovativeness.

Much innovation management literature emphasizes the importance of learning capability as a competency that impacts innovativeness (Llorens et al., 2005). When considering the role of organizational learning in innovativeness, developing and enhancing a firm's learning capability to devise solutions to business problems and challenges provides the basis for the firm's survival and its success well into the future (Covin and Slevin, 1991). Individual members' ability in and mastery of specific IT will be enhanced through continuous learning opportunities. Consequently, the organization's members are better able to create new ideas, assimilate new technologies, and innovate, given up-to-date knowledge and capabilities. The organization's learning culture is essential for innovativeness focused on information technologies. Based on previous literature the following hypothesis is proposed:

Hypothesis 1: *Organizational learning will be positively associated with personal IT innovativeness in hotels.*

The relationship between organizational learning and IT has been analyzed by two related lines of research (Robey et al., 2000). Some researchers analyze organizational learning as a means of explaining and resolving the problems of implementing and using new IT—in this case, Internet—in organizations. Others focus on its application to support organizational learning processes. We follow Plessis and Boon (2004), who analyze how organizational learning can foster Internet use.

Lynn et al., (1999) find a positive relationship between organizational learning and successful development of Internet. They define organizational learning as a process by which organizations create knowledge and acquire technological competencies, thereby demonstrating some technological dominance. This technological dominance may mean command of a competitive advantage.

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 (Lynn et al., 1999). 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 (Covin and Slevin, 1991). Based on previous literature, the following hypothesis is proposed:

Hypothesis 2: *Organizational learning will be positively associated with Internet in hotels.*

Influence of Personal IT Innovativeness on Internet.

Strategic and operational dimensions of information communications technology (ICT) have been opening new paths in tourism (Jen-Hung & Chia-Yen, 2006). ICT should be developed for its direct impact on the competitiveness of enterprises, as it determines two fundamental sources of competitive advantage: differentiation and cost advantage (Porter, 2001).

Managerial perceptions and attitudes can influence the development of business strategies that result in ICT adoption and implementation for employees. Personal IT innovativeness is an important element within innovation in organizational settings. Agarwal and Prasad (1998) defined it as an individual's willingness to try out any new IT. Moreover, the construct of personal IT innovativeness may be used to identify individuals who can either serve as agents of change or be targeted specifically for adoption when resources are limited.

The incorporation of personal IT innovativeness, especially Internet, in the business is crucial, particularly in those proactive organizations that, according to Laudon and Laudon (2007), seek differentiation through corporate innovativeness. Hotel management's attempt to improve the culture of innovation among its employees and thereby improve innovativeness can lead to innovation in all ways and areas, including Internet use as an innovative tool in hotel management. Based on previous literature, the following hypothesis is proposed:

Hypothesis 3: *Personal IT innovativeness will be positively associated with Internet in hotels.*

Influence of Internet on Low-Cost Airlines and Organizational Performance.

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

In focusing on the airlines, we would stress that they have been using the Internet to provide a more personalized service to customers (McIvor et al., 2003). In the past, consumers determined the value of a product or service based on some combination of quality and price (Morrison et al., 2001). Nowadays, the Internet transforms customers from passive participants to proactive, more sophisticated agents in their relationship with airlines (McIvor et al., 2003). Online tickets reduce transaction costs significantly (McIvor et al., 2003), enabling 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).

Internet sales of flight tickets have been growing (Morrison et al., 2001). Thus, Internet and low-cost airlines 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 (Buhalis, 2003). Our analysis of the relationship between the hotel managers' perceptions of the opportunity presented by the influx of travelers from low-cost flights and the use of Internet as a management tool leads to the following hypothesis:

Hypothesis 4: Internet will be positively associated with low-cost airlines in hotels.

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). Successful Internet use is the ideal response to this dynamic marketplace.

While many investigations laud the Internet's potential, few papers examine the relationships between Internet adoption and success in the hospitality industry (Scaglione et al., 2009). In hospitality, the Internet is an important interface between customers and hotels. It enables information exchange, business transactions and relationship management and may improve hotel performance through cost reduction in the distribution process, increased revenues, improved guest loyalty and improved marketing and market access (Buhalis, 2003). Scaglione et al. (2009) show that hotels with no web presence experience a negative trend in revenues. Currently, the firm must recognize the great importance of the Internet for consumers, who may travel using low cost flights, thus easily reaching any hotel for a low price and increasing their savings capacity (Scaglione et al., 2009). Therefore, hotels have managed to incorporate the 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 the Internet reaches everybody. Based on previous literature, the following hypothesis is proposed:

Hypothesis 5: Internet will be positively associated with organizational performance in hotels.

Influence of Low-Cost Airlines on Organizational Performance.

Tourism is an essential part of the economy. Kerpel (1990) highlight some issues that may be key to countries' future success, among them, ethnic diversity, good climate range (sun) and cultural richness, 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 from foreign countries, mainly of tourists 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. Consequently, a great deal of tourism may be attracted by following this rule (Kerpel, 1990).

International tourism has not always been successful. For example, the 2001 September 11th attacks (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). 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. Based on previous literature, the following hypothesis is proposed:

Hypothesis 6: Low-Cost Airlines will be positively associated with organizational performance in hotels.

Procedures for collecting data.

Sample and Procedure.

The population for this study consisted of the main hotels, in the region of Andalusia in southern Spain, according to the Tourism from Andalusia database (2003). 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 richness and beaches-. Spain has all of these characteristics. 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 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. However, Spain is in a geographical area that has received relatively little attention from organizational researchers.

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 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). 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 68 percent 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).

Table 1. *Technical Details of the Research.*

Sector	Tourism sector (hotels)
Geographical location	Andalusia (Spain)
Methodology	Structured questionnaire
Procedure	Stratified sample with proportional allocation (size)
Sample size	1621 hotels
Response size	327 hotels
Sample error	5.4%
Confidence level	95 percent, $p-q=0.50$; $Z=1.96$
Period of collecting data	April 2007 – January 2008

Measures.

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 ($\chi^2=7.62$, NFI=.99, GFI=.99, CFI=.99, IFI=.99) and showed that the Likert-type 7-point scale (1 "totally disagree", 7 "totally agree") of four items was unidimensional and had high reliability ($\alpha=.895$).

Personal IT Innovativeness. Based on work by Agarwal and Prasad (1998), we developed a Likert-type 7-point scale (1 "totally disagree", 7 "totally agree") of two items. Using a confirmatory factor analysis we validated our scale and then verified the scale's unidimensionality and its validity and reliability ($\alpha=.838$).

Internet. Based on work by Das (2008), we developed a Likert-type 7-point scale (1 "totally disagree", 7 "totally agree") of two items. Using a confirmatory factor analysis, we validated our scale and then verified the scale's unidimensionality and its validity and reliability ($\alpha=.715$).

Low-Cost Airlines. Based on work by Gilbert and Morris (1995), Goodrich (2002) and Papatheodorou (2002), we developed a Likert-type 7-point scale (1 "totally disagree", 7 "totally agree") of three items. Using a confirmatory factor analysis, we validated our scale and then verified the scale's unidimensionality and its validity and reliability ($\alpha=.774$).

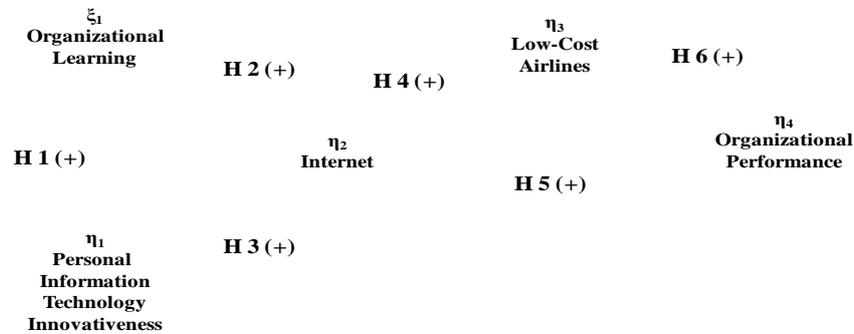
Organizational Performance. Based on work by Gilbert and Morris, (1995), we asked CEOs to indicate the evaluation they received that year, focusing on average occupancy in the hotel (1 "very bad" 7 "very good") and the percentage of average occupancy and international tourists. Using a confirmatory factor analysis, we validated our scale and then verified the scale's unidimensionality and its validity and reliability ($\alpha=.741$).

Model and Analysis.

The LISREL 8.30 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 nonsaturated model, taking organizational learning (ξ_1) as the exogenous latent variable; personal IT innovativeness (η_1) as a first-grade endogenous latent variable; and Internet (η_3), low-cost airlines (η_4) and organizational performance (η_5) 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.



Results, figures and tables with legends.

This section presents the main results of our research. Table 2 reports the inter-factor correlations matrix for the study variables to evaluate the significance level of existing relationships. A series of tests (e.g. tolerance, variance inflation factor) demonstrated the absence of multicollinearity (Hair et al., 1999).

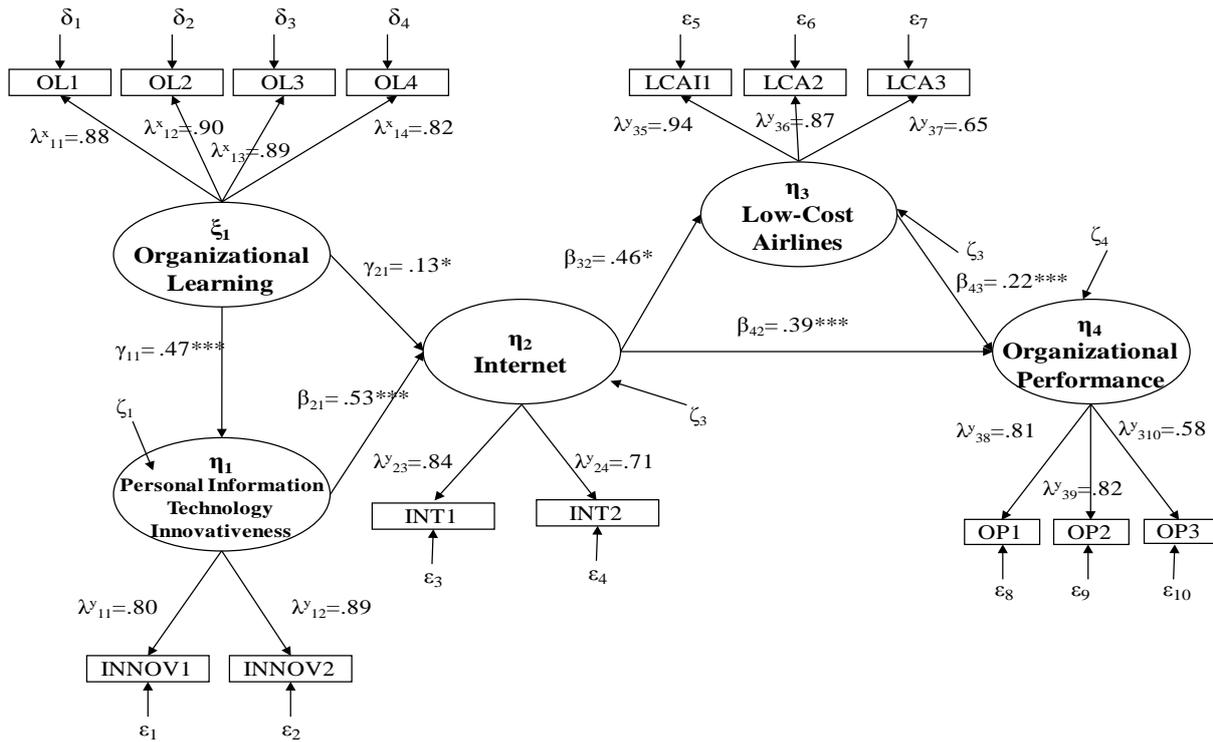
Table 2. Means, Standard Deviations and Correlations.

Variable	Mean	S.D.	1	2	3	4	5
1. Organizational learning	4.91	1.32	1.000				
2. Pers. Inf. Tech. Innovativeness	4.95	1.40	.480***	1.000			
3. Internet	4.99	1.42	.287***	.417***	1.000		
4. Low-Cost Airlines	4.88	1.39	.077	.188***	.353***	1.000	
5. Organizational Performance	4.96	1.16	.154**	.148**	.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). 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. Figure 2 shows the standardized structural coefficients. The relative importance of the variables is reflected by the magnitude of the coefficients.

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 0.75 to 0.92 and shared variance coefficients ranging from 0.59 to 0.76 (Table 3). 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 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 (λ) being significantly related to its underlying factor (t-values greater than 10.12) 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 3. *Validity, reliability and internal consistency.*

Variable	Item	Parameter	Validity, reliability and internal consistency		
			λ^*	R ²	A. M.
Organizational Learning	OL1	λ^x_{11}	0.88(f.p.)	0.77	$\alpha=0.895$; C.R.=0.927; S.V.=0.762
	OL2	λ^x_{12}	0.90*** (33.79)	0.81	
	OL3	λ^x_{13}	0.89*** (33.10)	0.80	
	OL4	λ^x_{14}	0.82*** (33.59)	0.67	
Personal I.T. Innovativeness	INNOV1	λ^y_{11}	0.80(f.p.)	0.64	$\alpha=0.838$; C.R.=0.836; S.V.=0.718
	INNOV2	λ^y_{12}	0.89*** (14.08)	0.80	
Internet	INT1	λ^y_{23}	0.84(f.p.)	0.70	$\alpha=0.715$; C.R.=0.752; S.V.=0.604
	INT2	λ^y_{24}	0.71*** (10.39)	0.51	
Low-Cost Airlines	LCA1	λ^y_{35}	0.94(f.p.)	0.89	$\alpha=0.774$; C.R.=0.879; S.V.=0.713
	LCA2	λ^y_{36}	0.87*** (17.84)	0.76	
	LCA3	λ^y_{37}	0.65*** (15.29)	0.52	
Organizational Performance	OP1	λ^y_{48}	0.81(f.p.)	0.65	$\alpha=0.741$; C.R.=0.810 S.V.=0.593
	OP2	λ^y_{49}	0.82*** (11.06)	0.67	
	OP3	λ^y_{410}	0.58*** (10.12)	0.54	

Notes: λ^* =Standardized structural coefficient; R²=Reliability; α =Alpha Cronbach; C.R.=Compound Reliability; S.V.=Shared Variance; f.p.=fixed parameter; A.M.=Adjustment Measurement; [†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

The overall fit measures, multiple squared correlation coefficients of the variables (R²s), and signs and significance levels of the path coefficients all indicate that the model fits the data well ($\chi^2_{71}=173.24, p>.001; \chi^2$ ratio=2.44; RMSEA=.070; NFI=.95; NNFI=.96; CFI=.97; PGFI=.66). The hypothesized model was a significantly better fit than the null model ($\chi^2_{91}=3227.10, p>.001; \Delta \chi^2_{20}=3053.86, p>.001$). All modification indices for the 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 around zero.

The standardized parameter estimates (Table 4) show that organizational learning is highly related to and affects personal IT innovativeness ($\gamma_{11}=.47, p<.001, R^2=.22$), as predicted in Hypothesis 1. Internet appears to be influenced strongly by organizational learning ($\gamma_{21}=.13, p<.05$) and personal IT innovativeness ($\beta_{21}=.53, p<.001$), supporting Hypotheses 2 and 3, respectively. We also show an indirect effect (.25, $p<.001$) of organizational learning on Internet due to personal IT innovativeness (.47x.53; see, for instance, Bollen 1989 for calculation rules). The global influence of organizational learning on Internet is thus 0.72 ($p<.001$). Comparing the magnitudes of these effects indicates that the effect of personal IT innovativeness on Internet is larger than the total effect of organizational learning on Internet. Globally, Internet is explained well by the model (R²=.36).

As predicted in Hypothesis 4, low-cost airlines appear to be influenced strongly by Internet ($\beta_{32}=.46, p<.001$). Low-cost airlines are explained well by the model (R²=.22). Internet has a positive, statistically significant, direct association with organizational performance ($\beta_{42}=.39, p<.001$) and an indirect relationship (.10, $p<.001$) through low-cost airlines (.46x.22). The total effect (direct and indirect) of Internet on organizational performance shows a significant, positive relationship (0.49, $p<.001$) overall, supporting Hypothesis 5. Finally, Hypothesis 6 relates low-cost airlines to organizational performance ($\beta_{43}=.22, p<.001$). Organizational learning is explained well by the model (R²=.28). In addition to these effects, we have shown indirect effects of organizational learning and personal IT innovativeness on low-cost airlines and organizational performance (Table 4).

Table 4. *Structural Model Result (Direct, Indirect and Total Effects).*

Effect from	To	Direct Effects ^a	<i>t</i>	Indirect Effects ^a	<i>t</i>	Total Effects ^a	<i>t</i>
Organizational Learning	→ Pers. Inf. Tech. Innovativeness	0.47***	9.57			0.47***	9.57
Organizational Learning	→ Internet	0.13*	2.08	0.25***	6.48	0.38***	6.55
Organizational Learning	→ Low-Cost Airlines			0.18***	5.74	0.18***	5.74
Organizational Learning	→ Organizational Performance			0.19***	5.20	0.19***	5.20
Pers. Inf. Tech. Innovativeness	→ Internet	0.53***	8.70			0.53***	8.70
Pers. Inf. Tech. Innovativeness	→ Low-Cost Airlines			0.25***	6.18	0.25***	6.18
Pers. Inf. Tech. Innovativeness	→ Organizational Performance			0.26***	5.92	0.26***	5.92
Internet	→ Low-Cost Airlines	0.46***	7.91			0.46***	7.91
Internet	→ Organizational Performance	0.39***	5.20	0.10***	3.31	0.49***	7.76
Low-Cost Airlines	→ Organizational Performance	0.22***	3.36			0.22***	3.36
Goodness of Fit Statistics		$\chi^2_{71}=173.24$ ($P>0.01$) GFI=0.98 AGFI=0.97 ECVI=0.81 AIC=241.24 CAIC=400.94 CN=175.23					
		NFI=0.95 NNFI=0.96 IFI=0.97 PGFI=0.66 PNFI=0.74 NCP=102.24 RFI=0.93 CFI=0.97 RMSEA=0.07					

Notes: ^a Standardized Structural Coefficients; [†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

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, 1989). The summary statistics in Table 5 indicate that Model 1 was preferred to the others, supporting the inclusion of a model with these relationships among the analyzed constructs. 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 ($>RMSEA=.006$), Normed Fit Index ($<NFI=.01$), Non-Normed Fit Index ($<NNFI=.01$), Goodness of Fit Index ($<GFI=.01$), Comparative Fit Index ($<CFI=.01$), Adjusted Goodness of Fit Index ($<AGFI=.01$), Expected Cross-Validation Index ($>ECVI=.07$), Akaike Information Criterion ($>AIC=21.19$), Parsimony Goodness of Fit Index ($<PGFI=.01$) and Estimated Non-Centrality Parameter ($>NCP=22.19$). Hence, results show that Internet affects organizational performance and that Model 1 is preferred to Model 3 ($\Delta\chi^2=23.19$, $\Delta df=1$). The theoretical model is also preferable to the other models formulated (Table 5). 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 5. *Parameter, relationship and goodness of fit statistics.*

Model	Description	χ^2	<i>df</i>	$\Delta\chi^2$	RMSEA	NFI	NNFI	GFI	CFI	AGFI	ECVI	AIC	PGFI	NCP
1	Theoretical	173.24	71		0.070	0.95	0.96	0.98	0.97	0.97	0.81	241.24	0.66	102.24
2	W.R. Org. learning → Internet	177.12	72	3.88	0.070	0.95	0.96	0.98	0.97	0.97	0.82	243.12	0.67	105.12
3	W.R. Internet → Org. Performance	196.43	72	23.19	0.076	0.94	0.95	0.97	0.96	0.96	0.88	262.43	0.67	124.43
4	W.R. Low-Cost Airlines → Org. Performance	181.67	72	8.43	0.072	0.94	0.96	0.98	0.97	0.96	0.83	247.67	0.67	109.67

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

Conclusions and international and managerial implications.

Internet factor and the tourist sector have been connected for decades (Buhalis, 2003). Our research highlights this connection, and all assumptions are related to it and indirectly to organizational performance. Computer technology has had great impact on every concept we have studied, especially on sales results in the hospitality sector (Scaglione et al., 2009), as some items had no direct relationship but show a high indirect correlation with the results through the Internet links that have helped to streamline the distribution of hotel information.

In our study, Internet was the main variable that influenced and indirectly caused other variables –personal IT innovativeness and organizational learning—to influence hotel performance. This result is consistent with Das (2008), who finds evidence that, if a company can promote its individual property on websites and allow the Internet shopper to book

directly without paying excessive distribution costs or supplying deeply discounted rates to third-party merchant sites, bookings increase considerably

This study confirms that organizational learning is a motivator of personal IT innovativeness in the firm. Based on some authors (Agarwal & Prasad, 1998), we hypothesized that firms that focus on organizational learning may have a more innovative organizational climate and that this strong innovative capability can further enhance their employees' ability to solve problems daily. In addition, we have tried to link the new technologies to organizational learning, specifically to the Internet, which with organizational learning can help the organization to gain competitive advantage (Cegarra et al., 2007). Developing an organizational learning process may provide the company with customer knowledge and development solutions and offer new products and services through the Internet (Matthing et al., (2006).

Matthing et al. (2006) discussed the influence of new technology-based services on customers. We extend their affirmation to hotel employees, specifically to employees in the low-cost company. As discussed earlier, the ability to innovate effectively in the context of new technology-based services depends on the extent of employees' involvement.

Hotel managers should promote personal IT innovativeness through knowledge of new technologies, especially through the Internet (Matthing et al., 2006). Hotel managers ought to thus motivate open-minded employees so that hotel personnel can obtain contact with foreign tourists through Internet and adapt the hotel properly to them (Laudon & Laudon, 2007).

Nonetheless, innovativeness among employees cannot explain the percentage of foreign tourists' occupancy in Andalusian hotels. This may be because innovativeness is not as important for tourism as are ICTs (Internet) and weather (Kerpel, 1990). Then, we can conclude that foreign tourists prefer to spend their leisure time in Andalusia for these reasons rather than in a place with bad weather or no proficiency in Internet use, despite very innovative employees. We thus find no direct relationship between innovativeness and firm performance, like many authors indicate (Porter, 2001).

Low-cost airlines, must promote their bookings through the Internet, underscoring their advantages compared to full-cost companies. Since low-cost airlines are much cheaper, they provide a good way to save money 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. For European countries, they should stress Spain's proximity by plane.

If we focus on our results for the tourism sector, we highlight this paper's continuous recognition of the importance of the Internet (Buhalis, 2003). The impacts of e-tourism may be more important for future accommodation than they are now (Goodrich, 2002). Personal IT innovativeness and organizational learning indirectly influence hotels' performance.

Finally, 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 (Das, 2008).

Limitations: 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 even when responses are related to sensitive topics (Konrad & Linnehan, 1995).

Second, the absence of objective measures is a limitation. However, external validation of this variable from the archival data of a 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.

Third, the cross-sectional nature of the research into a series of dynamic concepts (personal IT innovativeness, 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). 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 research based on a multiple views for each hotel, supported the use of CEOs as respondents. Fifth, we have concentrated on the hotel sector. In others 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 influences such as organizational learning and personal IT innovativeness. Other factors could be analyzed. However, it should be noted that the strategic variables we chose (low-cost airlines and Internet) explain a significant amount of variance of organizational performance. Empirical papers supporting (or rejecting) our results in different contexts would be welcomed (especially longitudinal studies).

References.

1. Buhalis, D. (2003). *eTourism: Information Technology for Strategic Tourism Management*. New Jersey: Prentice-Hall.
2. Mills, J. & Law, R. (2004). *Handbook of Consumer Behaviour, Tourism and the Internet*. New York: Harworth Hospitality Press.
3. DiBella, A., Nevis, E., & Gould, J. (1996). Understanding Organizational Learning Capability. *Journal of Management Studies*, 33, 361-379.
4. Nonaka, I., & Takeuchi, H. (1995). *The Knowledge-Creating Company*. New York: Oxford University Press.
5. Shaw, G., & Williams, A. (2009). Knowledge Transfer and Management in Tourism Organisation: An Emerging Research. *Tourism Management*, 30, 325-335.
6. Cegarra Navarro, J.G., Jiménez Jiménez, D., & Martínez Conesa, E.A. (2007) Implementing e-Business through Organizational Learning: An Empirical Investigation in SMEs. *International Journal of Information Management*, 27, 173-186.

7. Calantone, R.J., Cauvsgil, S.T. & Zhao, Y. (2002). Learning Orientation, Firm Innovation Capability, A Firm Performance. *Industrial Marketing Management*, 31, 515-524.
8. Agarwal, R., & Prasad, P. (1998). A Conceptual and Operational Definition of Personal Innovativeness in the Domain of Information Technology. *Information Systems Research*, 9(2), 204-215.
9. Hurley, R., & Hult, G.T. (1998). Innovation, Market Orientation, and Organizational Learning: An Integration and Empirical Examination. *Journal of Marketing*, 62, 42-54.
10. Hoffman, D.L., & Novak, T.P. (1996). Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations. *Journal of Marketing*, 60, 50-68.
11. Morrison, A.M., Jing, S., O'Leary, J.T., & Lipping, A.C. (2001). Predicting Usage of the Internet for Travel Bookings: An Exploratory Study. *Information Technology & Tourism*, 4(1), 15-30.
12. Francis, G., Dennis, N., Ison, S., & Humphreys, I. (2007). The Transferability of the Low-Cost Model to Long-Haul Airline Operations. *Tourism Management*, 28, 391-398.
13. Papatheodorou, A. (2002). Civil Aviation Regimes and Leisure Tourism in Europe. *Journal of Air Transport Management*, 8, 381-388.
14. Goodrich, J.N. (2002). September 11, Attack on America: A Record of the Immediate Impacts and Reactions in the USA Travel and Tourism Industry. *Tourism Management*, 23, 573-580.
15. Cockerell, N. (1992). Spain Outbound. *Travel and Tourism Analyst*, 2, 53-71.
16. Das, A.K. (2008). Internet Service Marketing in the Hospitality Sector – A Case Study of Vizergy Hotels. *Management Science and Engineering*, 2(2), 27-31.
17. Scaglione, M., Schegg, R., & Murphy, J. (2009). Website Adoption and Sales Performance in Valais' hospitality Industry. *Technovation*, 29, 625-631.
18. Covin, J.G., & Slevin, D.P. (1991) A Conceptual Model of Entrepreneurship as Firm Behavior. *Entrepreneurship: Theory and Practice*, 16, 7-25.
19. Llorens Montes, F.J., Ruiz Moreno, A., & García Morales, V.J. (2005). Influence of Support Leadership and Teamwork Cohesion on Organizational Learning Innovation and Performance: An Empirical Examination. *Technovation*, 25, 1159-1172.
20. Robey, D., Boudreau, M.C., & Rose, G.M. (2000). Information Technology and Organizational Learning: A Review and Assessment of Research. *Accounting Management and Information Technologies*, 10(2), 125-155.
21. Plessis, M.D., & Boon, J.A. (2004). Knowledge Management in e-Business and Customer Relationship Management: South African Case Study Findings. *International Journal of Information Management*, 27, 73-86.
22. Lynn, G.S., Skov, R.V. & Abel, K.D. (1999). Practices that Support Team Learning and Their Impact on Speed to Market and new Product Success. *Journal of Product Innovation Management*, 16(5), 439-454.
23. Jen-Hung, H. & Chia-Yen, L. (2006). Empower Internet Services in Hotel Industry - A Customer Service Life Cycle Concept. *Journal of American Academy of Business*, 9(1), 99-103.
24. Porter, M. (2001). Strategy and the Internet. *Harvard Business Review*, 79(3), 63-78.
25. Laudon, K., & Laudon, J. (2007). *Management Information Systems*. New Jersey: Prentice-Hall.
26. McIvor, R., O'Reilly, D., & Ponsonby, D. (2003) The Impact of Internet Technologies on the Airline Industry: Current Strategies and Future Developments. *Strategic Change*, 12(1), 31-47.
27. Buhalis, D., & Main, H. (1998) Information Technology in Peripheral Small and Medium Hospitality Enterprises: Strategic Analysis and Critical Factors. *International Journal of Contemporary Hospitality Management*, 10 (5), 198-202.

28. Kerpel, E. (1990). Tourism Potential in Eastern Europe. *Travel and Tourism Analyst*, 1, 68-86.
29. Hofstede, G. (1980). Motivation, Leadership, and Organization: Do American Theories Apply Abroad?. *Organizational Dynamics*, 9, 42-63.
30. Baer, M., & Frese, M. (2003). Innovation is not enough: Climate for Initiative and Psychological Safety, Process Innovations, and Firm Performance. *Journal of Organizational Behavior*, 24, 45-68.
31. Glick, W.H. (1985). Conceptualizing and Measuring Organizational and Psychological Climate: Pitfalls in Multilevel Research. *Academy of Management Review*, 10, 601-616.
32. Konrad, A.M., & Linnehan, F. (1995). Formalized HRM Structures: Coordinating Equal Employment Opportunity or Concealing Organizational Practice?. *Academy of Management Journal*, 38, 787-820.
33. Podsakoff, P.M., & Organ, D.W. (1986). Self-reports in Organization Research: Problems and Prospects. *Journal of Management*, 12, 531-544.
34. Kale, P., Singh, H., & Perlmutter, H. (2000). Learning and protection of proprietary assets in strategic alliances: building relational capital. *Strategic Management Journal*, 21, 217-317.
35. Edmondson, A. (1999). Psychological Safety and Learning Behavior in Work Teams. *Administrative Sciences Quarterly*, 44, 350-383.
36. Gilbert, D.C., & Morris, L. (1995). The Relative Importance of Hotels and Airlines to the Business. *International Journal of Contemporary Hospitality Management*, 7(6), 19-23.
37. Hair, J.F., Anderson, R.E., Tatham, R.L., & Black, W.C. (1999). *Análisis Multivariante*. Madrid: Prentice Hall.
38. Bollen, K.A. (1989). *Structural Equations with Latent Variables*. USA: Wiley-Interscience Publication.
39. Anderson, J.C., & Gerbin D.W. (1988) Structural Equation Modelling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103, 411-423.
40. Matthing, J., Kristensson, P., Gustafsson, A., & Parasuraman, A. (2006). Developing Successful Technology-based Services: The Issue of Identifying and Involving Innovative Users. *Journal of Services Marketing*, 20(5), 288–297.

Acknowledgements.

We would like to acknowledge the financial support of the P08-SEJ-04057 project from Junta de Andalucía and the project ECO2009-09241 from the Ministry of Innovation in Spain.