An analysis of e-business adoption and its impact on relational quality in travel agency–supplier relationships

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ABSTRACT

This study analyzes how managers of retail travel agencies perceive the antecedents and consequences of adopting e-business in their supplier relationships. A comprehensive model integrating its antecedents and relational effects is developed and empirically tested using SEM. The study surveyed 101 travel agents in Spain. Research findings indicate that customer pressure has a strong influence on e-communication practices. E-communication with the travel agency's supplier and the pressure exerted by the sector are the main antecedents for e-procurement. Effects of e-business on relational quality are contradictory. E-procurement influences negatively on trust. Conversely, e-communication has a positive impact on trust, thus having a favorable impact on perceived reciprocity and travel agent's commitment to its supplier. Main findings indicate that the use of the Internet is largely driven by normative pressures, and this coercive power has a detrimental impact on trust. To avoid such negative consequences, perceived reciprocity is a prerequisite for committed supplier relationships.

1. Introduction

The utilization of the Internet in inter-organizational relations is an important knowledge-based innovation that is of great interest to both academia and industry practitioners (Kumar & Becerra-Fernández, 2007; Stamboulis & Skayannis, 2003; Wu, Zsidisin, & Ross, 2007). The Internet is particularly powerful in certain segments of the service industry, including tourism where cyber-power has steadily gained popularity during the past two decades (Buhalis & Law, 2008). Furthermore, the analysis of e-business from the perspective of Supply Chain Management (SCM) is a hot topic in marketing and management research (Harrigan, Boyd, Ramsey, Ibbotson, & Bright, 2008; Kim, Cavusgil, & Calantone, 2006; Smart, 2008). The SCM literature is heavily dominated by tangible products, thus calling for research focusing on the service sector (Alam, 2002) and, in particular, on tourism-related services such as travel agencies (Buhalis & Law, 2008; Buhalis & Licata, 2002; Zhang, Song, & Huang, 2009).

Previous studies emphasize the importance of e-commerce in the travel and tourism industry, but empirical evidence for such effects is either lacking (Tsai, Huang, & Lin, 2005) or studies examining this phenomenon are descriptive in nature (i.e., Heung, 2003; Law, Leung, & Wong, 2004). Specifically, little attention has been paid to how managers of retail travel agencies perceive the consequences of adopting Information Technology (IT) in their relationships with their suppliers. In a recent study on tourism supply chain management, Zhang et al. (2009) state that "although a few tourism studies have addressed supply management issues, these studies are scattered and lack a clear focus" (p. 5). Although the relational behavior between wholesaler and retail travel agencies has been tested in the context of Taiwanese travel agencies (Tsaur, Yung, & Lin, 2009), there is a lack of research on the role of e-business in such relational behavior. Due to the effects of IT on supply chain relationships, more research is needed to analyze the e-business adoption and its impact on relational quality in travel agency–wholesaler relationships. To bridge that gap, this paper aims to analyze e-business adoption in the context of travel agency–supplier relationships.

The need for academic research in this setting is justified for two reasons. First, tourism is one of the fastest growing industries worldwide and, in general, the Internet continues to gain importance in the tourism sector (Buhalis, 2004; European Commission, 2006; Weaver & Lawton, 2007). Second, there is an ongoing debate regarding the competitive environment of traditional travel

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agencies with regard to the issue of dis-intermediation and re-intermediation. Dis-intermediation is usually associated with a significantly reduced role of traditional intermediaries (travel agencies and tour operators) in the tourism supply chain due to the introduction of electronic means that enable consumers to directly deal with suppliers. The re-intermediation process has also led to a new phenomenon - the emergence and the proliferation of online travel intermediaries (European Commission, 2006). Some of these operators (i.e., edreams, Expedia, Travelocity) have achieved considerable growth in recent years and consequently challenged some of established traditional intermediaries (Daniele & Frew, 2004). Some studies propose that the accessibility of online travel websites reduces the relevance of travel agencies, and this might ultimately result in travellers bypassing traditional travel agencies (Buhalis & Licata, 2002). However, others note that a key strength of traditional travel agencies is their ability to provide personal information and advice to travellers (Ryan & Cliff, 1997; Van Rekom, Teunissen, & Go, 1999). Consequently, for travel agencies that position themselves as travel advisors (Dolnicar & Laesser, 2007), the adoption and exploitation of the IT in the business processes is one of the key success factors (Huang, 2006; Suárez, Díaz, & Vázquez, 2007; Weaver & Lawton, 2007).

This paper examines and tests a model which integrates the antecedents and consequences of adopting IT in the context of travel agency–supplier relationships. Specifically, we pursue three objectives: (i) to analyze the level of IT adoption; (ii) to assess the influence of environmental factors on IT travel agencies' adoption; (iii) and to examine the implications of IT adoption for relationship quality constructs.

First, this paper analyzes e-business adoption in the context of supply relationships (Wu, Mahajan, & Balasubramanian, 2003). Only a handful of studies have used the Wu et al.'s (2003) framework, and it can be very useful in the context of travel agencies' supply chains and, in particular, when analyzing the relationships between the two e-business dimensions (online communication and e-procurement). Recent research examining e-procurement (Garrido, Gutiérrez, & San José, 2008) and e-business technologies (Johnson, Klassen, Leenders, & Awaysheh, 2007) uses a list of e-business technologies to measure the extent of e-business implementation. Wu et al. (2003) applied their research in a set of technology-related manufacturing industries (telecommunications, computer hardware, semi-conductor, manufacturing equipment industries). They analyzed e-communication (Wu & Lee, 2005) and e-procurement (Wu et al., 2007), yet research examining the joint impact of both dimensions is lacking. To bridge that gap, this study examines these two dimensions (e-communication and e-procurement) in the context of travel agencies.

Second, previous research shows the importance of environmental factors in the adoption of e-business (Joo & Kim, 2004; Srinivasan, Lilien, & Rangaswamy, 2002; Wu & Lee, 2005; Wu et al., 2003, 2007). In the context of foodservice operators, Sigala (2006) conducted an exploratory study to identify potential e-procurement adoption factors. As mentioned before, given the intense competition in the travel agency industry and the need for being travel advisors, it is important to analyze how perceived customer and normative pressures influence their e-business adoption. Previous research has been conducted in a B2C context (Suárez et al., 2007); however, there is a lack of research of the antecedents of e-business in the context of travel agencies.

Finally, this study analyzes the effects of e-business adoption in the travel agency–wholesaler relationships. Research in e-business technologies (especially in the context of manufacturing companies) has focused on the effects of e-business on performance variables (Johnson et al., 2007). Although relational quality is not a new concept, Tsaur et al. (2009) highlight the importance of

relationship quality between travel wholesalers and retailers. This study enhances our understanding of the impact of e-business on relational quality. As suggested by Zhang et al. (2009), adversarial relationships are the norm in the tourism industry (Sinclair & Stabler, 1997). To what extent does the introduction of e-business increase such adversarial relationships? Previous studies suggest that to safeguard partners from opportunist tendencies, perceived reciprocity is needed (Stanko, Bonner, & Calantone, 2007). In this study, we examine the role of perceived reciprocity in understanding supplier relationships in the travel agency industry.

In order to analyze these issues, this paper is organized as follows. Relying on e-business literature (Wu et al., 2003), we first introduce two levels of e-business adoption (i.e., online communication and e-procurement). We then propose research hypotheses regarding the antecedents and outcomes of e-business adoption by travel agencies. The paper concludes with the discussion of our findings and their implications.

2. Theoretical background and hypotheses

2.1. E-business adoption in the travel agency–supplier relationships

Travel and tourism is a fragmented, information-oriented industry, thus making it highly receptive to the benefits of the Internet (European Commission, 2006; O'Connor, 1999; Weaver & Lawton, 2007). The adoption of e-business – which can be considered a type of technological innovation (refer to Srinivasan et al., 2002) – poses both opportunities and challenges in inter-organizational relations (Lichtenthal & Eliaz, 2003; Webb, 2002) and, in general, in business strategy (Varadarajan & Yadav, 2002).

As mentioned earlier, Wu et al. (2003) examined e-business in four industries (i.e., telecommunications, computer hardware, semi-conductor and manufacturing equipment) from two perspectives: the loci of the adoption of electronic resources (within the company, relations with customers and suppliers) and their degree of implementation (communication, administrative processes, and purchase orders). The present study focuses on understanding the impact of Internet adoption in the commercial relationships between travel agencies and its suppliers (i.e., wholesaler), and specifically on the two dimensions highlighted in previous research examining supplier relationships (Wu & Lee, 2005; Wu et al., 2003, 2007): online communication practices (e-communication) and online purchases (e-procurement).

According to Wu and Lee (2005), e-communication can be defined "as the use of Internet technologies to link customers, suppliers, business partners, and employees using (a) intranets and enterprise communication portals, (b) customer service and customer relationship websites, (c) extranets and supply chain communication systems, and (d) IP electronic data interchange" (p. 8). In this research, we focus on the use of Internet technologies by the travel agency to interact with its suppliers for communication processes. E-procurement can be defined as "a B2B purchasing practice that utilizes electronic commerce to identify potential sources of supply, to purchase goods and service, to transfer payment, and to interact with suppliers" (Min & Galle, 2003, p. 3). In the context of travel agencies, we refer to the use of IT for making reservations and procuring e-tickets.

While some organizations adopt electronic business pro-actively in order to transform their business models, others only adopt support functions, such as communications (Srinivasan et al., 2002). Previous research suggests that different adoption levels exist (Lin & Lee, 2005). The first level is an initiation level in which firms begin to recognize the importance of e-business systems and prepare for website implementation. This level simply involves using Internet technology to access information and brochures. The second level

implies a considerable investment in building the company's e-business infrastructure to enable internal activities such as intranet. The third level refers to a networking level where online interactions are connected not only within a firm but also among firms and other organizations (i.e., the travel agency adopts online communications to establish contact with their main travel wholesalers and its indirect suppliers such as hotels, airlines, …). The highest level of "e-business system" refers to the integration of business processes, thus transforming the overall organizational business model.

Poon and Swatman (1999), in a study of small businesses, suggest that small businesses find e-mail useful for business communication and document transfer; however, the perception of long-term benefits and potential business opportunities is what is driving small business Internet commerce (SBIC). SBIC seems likely to continue to expand only if small firms actually experience tangible benefits in the future. A common benefit of e-communication is saving time during information search and retrieval once the company knows how to start and where to go (e.g. the URL of the information sought). In Poon and Swatman (1999) study, most of the firms felt that the Internet succeeded in providing what the telephone or fax services fail to offer – asynchronous communication, overcoming time and geographic limitations and enabling electronic document transmission.

Although we focus on two different adoption levels, online communication and e-procurement; Lin and Lee's (2005) framework clearly shows that the former is an initial step used to communicate between firms, while the latter reflects a higher integration of business processes. By definition, e-procurement is related to the latter level. Before initiating that level, companies are connected through online communications. In addition, in terms of online communications, perceived risk associated with the utilization of the Internet is greatly reduced as more and more companies adopt this practice (Weaver & Lawton, 2007). Conversely, e-procurement is somewhat riskier due to the lower number of firms using this technological innovation. For example, Huber, Sweeney, and Smyth (2004) surveyed 102 international e-marketplaces and procurement service providers, and found a "wait-and-see" attitude among firms in selecting e-marketplaces and procurement service providers. Consequently, firms who are currently using the Internet for communication processes might consolidate the perceived benefits of electronic resources and, thus adopt e-procurement into their business practices (e.g., Hunter, Kasouf, Celuch, & Curry, 2004). Accordingly, we put forth the following hypothesis.

H1. The adoption of online communication between the travel agency and its supplier will have a positive influence on the adoption of e-procurement.

2.2. Drivers of e-business in travel agency–supplier relationships

The adoption of innovation is determined not only by the characteristics of the organization itself (market orientation and technological opportunism, among others) but also by external variables or environmental factors (Joo & Kim, 2004; Srinivasan et al., 2002; Wu et al., 2003, 2007). In this study we focus on two external drivers: industry (or normative pressure), and customer pressure.

In the context of travel agencies, industry characteristics add pressure to e-business adoption. From an institutional perspective, some firms jump onto the adoption bandwagon based on how many other organizations have implemented the innovation (Abrahamson & Rosenkopf, 1993; Wu & Lee, 2005). In the tourism industry, the technological environment certainly favors the use of the Internet in commercial relationships (Buhalis, 1998; Wu & Chang, 2006). Travel agencies might adopt e-communication and e-procurement

practices to avoid being left behind or being singled out among competitors. For instance, the IATA airline members, booking system providers, and GDSs have all implemented the use of technology in their business models. Consequently, the pressure derived from the use of new technologies by the industry is an important factor influencing the adoption of innovation technology by retail travel agencies. Accordingly, we put forth the following hypotheses.

H2a. The greater the perceived normative pressure (i.e., industry IT pressure), the greater the implementation of the Internet as a communication tool.
H2b. The greater the perceived normative pressure (i.e., industry IT pressure), the greater the adoption of e- procurement.

In addition to normative pressure, customers add another layer to use IT in the context of travel agents (Buhalis & Licata, 2002; Wu et al., 2003). Airline tickets were among the first products to be offered on the Web and an increasingly high percentage of tourists use the website to plan their holidays (Buhalis, 1998). Through the Internet, information can be provided instantly to potential customers anywhere in the world, and the customer plays a more active role in the search for information (Özturan & Roney, 2004). With rapid data transmission on the Internet, the expected response time from organizations to customers has been greatly reduced (Jeong, Oh, & Gregoire, 2003). Consumers' online buying behaviours have thus forced travel agencies to adopt IT in their business communications. Hence, we predict the following:

H3. The more power the customers have (i.e., customer IT pressure), the greater the intensity of IT adoption in the area of communications.

2.3. Relational quality effects of e-business in travel agency–supplier relationships

Introducing technological innovations is critical in managing channel relationships (Coughlan, Anderson, Stern, & El-Ansary, 2006; Osmonbekov, Bello, & Gilliand, in press; Webb, 2002). In the context of manufacturing firms, the Resource-based view (RBV) suggests that e-business enhances the effectiveness and efficiency of fulfillment activities, thus benefiting both the manufacturer and the reseller (Osmonbekov et al., in press). From a supply chain perspective, e-business may improve coordination of business-to-business relationships. As the interdependencies in supply activities are resolved more effectively with the aid of advanced e-business tools, both parties are able to act together to reach their goals (Osmonbekov et al., in press). Information Systems (IS) researchers have proposed that e-business systems adoption can be considered a technological innovation (Jackson & Harris, 2003; Patterson, Grimm, & Corsi, 2003), which offers firms opportunities to establish interactive relationships, with business partners (such as suppliers). In the context of travel agencies, real time information about travel suppliers and travel agency's activities may enable greater relationship quality in the supply chain.

Commitment, together with trust, is one of the core elements of relational quality (Cheng, Chen, & Chang, 2008). Commitment can be defined as the evaluation of the strength of a relationship (Garbarino & Johnson, 1999), thus enabling firms to build and maintain supplier relationships on a long-term basis (Anderson & Weitz, 1992). Trust, on the other hand, refers to the degree to which one partner can depend on another to protect his/her business interests (Roy, Sivakumar, & Wilkinson, 2004).

Previous research considers trust to be a behavioural intention or behavior that reflects a reliance on a partner and that involves vulnerability and uncertainty (e.g., Coleman, 1990; Moorman, Deshpandé, & Zaltman, 1993). Thus, before trust develops, some relationship mechanisms should exist. Efficient customer bonding

techniques (i.e., structural and social bonds) may serve in this direction by reducing the uncertainties of the outcome of the relationship (Cross & Smith, 1996; Gounaris, 2005). Structural bonds refer to "ties at the corporate level that, if severed, incur considerable costs for the party responsible" (Gounaris, 2005, p. 129). These ties result from economic, technical, time-based, knowledge or other similar reasons. Social bonds, on the other hand, include feelings of likeness, acceptance, friendship, etc. Although both are present in a successful relationship (Wilson, Soni, & O'Keeffe, 1995), social bonds tend to be easier to break (Gounaris, 2005). Considering that the adoption of e-business requires an investment in technology and a thorough integration of e-business processes (Lin & Lee, 2005; Srinivasan et al., 2002), its implementation forms structural bonds. Consequently, both e-business practices (i.e., online communication and e-procurement) affect the level of trust of the party involved (travel agency) with the supplier. On this basis, we investigate the following hypotheses:

H4a. The greater the intensity of IT adoption in the area of communications, the greater the degree of trust between the travel agency and its supplier.
H4b. The greater the adoption of e-procurement, the greater the degree of trust between the travel agency and its supplier.

Commitment in inter-organizational relationships is an important cornerstone in the relationship marketing literature (Morgan & Hunt, 1994; Narayandas & Rangan, 2004). Throughout the past decade, a great deal of attention has been paid to antecedents of commitment (Stanko et al., 2007) and, among these, trust has revealed itself as one of the principal components (Ganesan, 1994; Morgan & Hunt, 1994). Drawing from social exchange theory, commitments are made largely upon the consideration that the other party will not perform opportunistically (Kingshott & Pecotich, 2007). From this view point, the level of trust determines the degree to which organizations are willing to interact and focus on the long-term and, therefore, trust is expected to have a direct and positive impact on the level of commitment (Athaide, Meyers, & Wilemon, 1996; Dodgson, 1993). In the context of a travel agency–supplier relationships, the following hypothesis is suggested:

H5. The greater the trust of the travel agency with its supplier, the greater its commitment to this supplier.

Investing time, effort, and other irrecoverable resources in a relationship creates psychological bonds that encourage customers to stay in the relationship, thus creating expectations for reciprocity (Liang, Chen, & Wang, 2008; Smith & Barclay, 1997).

According to the reciprocal action theory, actions taken by one party in an exchange relationship will be reciprocated in kind by the other party (Gouldner, 1960; Lee, Jeong, Lee, & Sung, 2008). Reciprocity implies actions that are contingent on rewarding reactions from others (Gouldner, 1960). In a reciprocal relationship, exchange partners match behaviours experienced from others with actions performed for others, giving in proportion to what they receive (Carr, 2006; Cialdini, 1993). Reciprocity involves mutual exchange of favors and is characterized by mutual reinforcement and help by the two parties (Miller & Kean, 1997).

Trust exists when one party has confidence in an exchange partner's reliability and integrity. Once trust is established, firms learn that coordinated joint efforts will lead to outcomes that exceed what the firm would achieve if it acted solely in its own best interest, sometimes willing to temporarily postpone the receipt of its own benefits until some later time (Anderson & Narus, 1990). As such, trust is a working relationship, and this fact has repercussions on the firm's actions. These repercussions can be related to the perceived reciprocity, defined as the firm's belief that another company will perform actions that will result in positive outcomes for the firm, as well as not take unexpected actions that would result in negative outcomes or risks for the firm (Lancastre & Lages, 2006). In the context of travel agencies we suggest that not only trust will influence commitment to suppliers, but also travel agencies expect reciprocity in the supplier behavior. Therefore, we posit the following hypothesis:

H6. There is a positive relationship between trust and perceived reciprocity in the travel agency–supplier relationships.

With the passing of time, partners that interact with each other can develop joint objectives and relational standards that are supportive and reciprocal (Coleman, 1988; Dwyer, Schurr, & Oh, 1987). The degree of harmony between the partners is related to long-term orientation (Jap & Ganesan, 2000) and it influences the formation of governing mechanisms that make it possible to safeguard the partners from opportunist tendencies (Heide & John, 1992). The buyer–seller relationships that show high levels of reciprocity will reduce the fear of opportunistic behaviours, which will lead to a greater degree of commitment towards the other party (Stanko et al., 2007). Consequently, we propose the following reciprocity hypothesis:

H7. Perceived reciprocity will have a positive impact on the travel agent's commitment to its supplier.

Fig. 1 shows our conceptual model and graphically presents our research hypotheses.
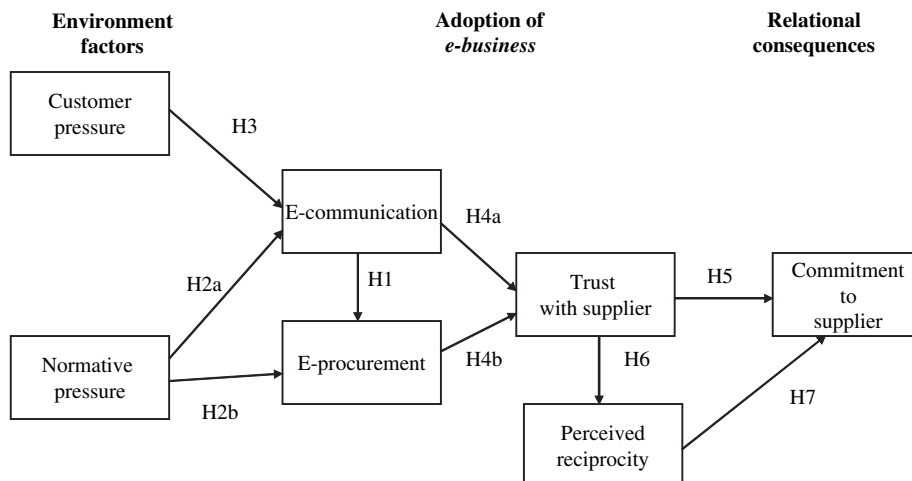

Fig. 1. Conceptual model.

3. Research methodology

3.1. Sample and data collection

To test our hypotheses, we conducted an e-mail survey among managers of traditional Spanish travel agencies. Prior to the development of the questionnaire, we conducted in-depth interviews with managers of travel associations, travel agents and tour operator managers in order to further understand the competitive environment and the constructs underlying this research.

The population of retail travel agencies in Spain is 2733. Nearly half of them belong to AEDAVE, the Spanish National Association of Travel Agents, which includes 1332 travel agencies. All of them have e-commerce experience. The website of this association contains information about e-commerce. Since 2000, AEDAVE is warning about the threats of IT for travel agencies, as well as the opportunities that can be derived and, specially, this association encourages the use of e-commerce through seminars and white papers.

In 2006, between November and December, we sent the questionnaire randomly to 600 travel agencies, using the following criteria. First, we selected independent travel agencies that had a central retail agency (277). We sent the questionnaire to every retail travel agent of the central offices. The main reason is that only the director of the central office has responsibilities in the commercial relationship of the travel supplier. Second, we sent the questionnaire to 323 retail travel agencies that, although were part of a medium or large travel agency-retail chains, according to the in-depth interviews with travel managers, commercial decisions regarding travel suppliers are made independently in each agency. The selection of these retail travel agencies was made taking into account the number of offices of each group and, within them, the selection criteria was based on those which had more than three years and were located in major Spanish cities. One hundred and five questionnaires were received, and 101 were considered suitable for analysis.

The original survey instrument was pre-tested with 10 travel agency managers. The survey asked respondents to focus on their key-input travel supplier or tour operator (i.e., the one with the highest sales) during the peak holiday season (summer). The questionnaire covered not only the main variables that are used in this research (e-business, customer and normative pressures, relational quality) but also variables related to the profile of the travel agency (sales, number of employees) and their main travel suppliers. In addition, in order to analyze the technological context of the travel agencies in their relationships with their main travel suppliers, the questionnaire asked the main communication tools that travel agencies use in their commercial relationships with the travel suppliers.

The profile of the respondents is characteristic of Spanish travel agencies, with a strong predominance of small and mid-sized businesses (Suárez et al., 2007). As far as turnover was concerned, 7.8% were invoicing less than 100 000 euros, 42.2% between 100 000 to 499 999 euros, 28.1% between 500 000 and 1 million euros, and 21.9% more than 1 million euros. At the same time, more than 72% had fewer than 6 employees. This sample and the travel agency sector show a similar structure.

Although the survey did not ask the specific name of the travel supplier in order to keep confidentiality, travel agencies indicated: the type of products that was offered by the travel supplier, their previous experience with this supplier, the percentage of sales with this supplier in relation to the overall sales, and the percentage of sales that was made by using Internet.

- Regarding the type of products, travel suppliers commercialized mainly products from large wholesalers. Main supplier' tour packages were to destinations like Balearic and Canary Islands (72%), Caribbean (71%), and Europe (74%) and, in a minor degree, "Long-distance destinations" (48%), North Africa (47%) and Cruising (46%).
- On average, the typical travel agency in our sample has been in business with their main travel supplier for an extended period of time. Specifically, 35% of the travel agencies were clients of the travel supplier for more than 10 years; 39% between 4 and 10 years; and 24% between 1 and 3 years.
- The percentage of sales with this supplier in relation to the overall sales (within the reference period, i.e., the summer) had the following distribution: less than 10% (12.1% of the travel agencies), between 10% and 29% (45.5%), between 30% and 60% (37.4%), and more than 60% (5%).
- The percentage of sales by Internet was distributed as follows: less than 10% (25.7% of the travel agencies), between 10% and 29% (5.9%), between 30% and 60% (12.9%), between 61% and 80% (27.7%) and between 81% and 100% (27.7%).

With regard to the use of communication tools in the travel agency–retail relationships, the questionnaire included the following question: "In your commercial relationship with the main wholesaler, to what extent did you use the following communication tools last summer?" As the following Table 1 shows, the main communication tools are traditional paper-based catalogs (mean: 4.12), followed by the wholesaler website (4.04) and telephone (3.21).

3.2. Measurement

A structured questionnaire was developed based on existing scales from the literature with minor modifications to fit the context of the study. Scale and measurement items are provided in the Appendix. All items used a five-point Likert scale (1 = very strongly disagree, 5 = very strongly agree).

Confirmatory Factor Analysis (CFA) was used to purify scales with the goal of improving their measurement properties (Anderson & Gerbing, 1988). A 23-item, 7-dimension confirmatory factor model was estimated using EQS 6.1 (Bentler, 1995). The indices of chi-square, comparative fit index (CFI), Bentler–Bonnet not normed fit index (BBNNFI) and root mean square residual (RMSEA) were assessed to evaluate overall fit. Criteria were established for fit indices based on a review of empirical research (Hu & Bentler, 1999). Specific cutoffs were (CFI, BBNNFI) $>.90$ and RMSEA $<.06$.

Convergent validity was assessed by examining the confirmatory factor loadings of each item with its intended construct. The CFA indicated that some modification was needed. Specifically, two items were removed from the customer pressure scale, two from

Table 1
Communication tools used by the travel agency to interact with the travel supplier.

Communication tools	Mean	Standard deviation
Paper-based catalog	4.12	1.013
Travel supplier website	4.04	1.261
Telephone	3.21	1.181
E-mail	2.85	1.334
Intranet	2.73	1.714
Personal visits	2.24	1.137
Electronic based-catalog	2.23	1.303
Fax	2.15	1.237

Note: 1, not at all; 5, very much.

the normative pressure scale, one from the e-communication scale and one more from the trust scale due in all cases to a low item loading (lower than .50 or not significant *t*-value). The final 17 items in the 7-dimension scale (see Table 2) had a good model fit: S-Bχ^2 = 125.75(df = 98, *p* = .03); BBNFI = .800; BBNNFI = .919; CFI = .941; IFI = .946; RMSEA = .057, providing support for convergent validity. All robust *t*-value loadings were statistically significant (Steenkamp & van Trijp, 1991) with average factor loadings around .70, as recommended by Hair, Anderson, Tatham, and Black (1998).

Regarding the model's measurement reliability, Table 2 provides the composite reliability for each construct. All seven scales demonstrated acceptable levels of composite reliability, with coefficients in excess of .70. Table 2 also demonstrates the high internal consistency of the constructs. In each case, Cronbach's alpha exceeded Nunnally and Bernstein (1994) recommendation of .70. Composite reliability represents the shared variance among a set of observed variables measuring an underlying construct (Fornell & Larcker, 1981). Generally, a composite reliability of at least .60 is considered desirable (Bagozzi & Yi, 1988). This requirement is met for every factor. Average variance extracted (AVE) was also calculated for each construct, resulting in AVEs greater than .50 (Fornell & Larcker, 1981). Discriminant validity is demonstrated when different instruments are used to measure different constructs and the correlations of these different constructs are relatively weak (Hatcher, 1994). Evidence for discriminant validity of the measures was provided in two ways (Table 3). First, none of the 95 per cent confidence intervals of the individual elements of the latent factor correlation matrix contained a value of 1.0 (Anderson & Gerbing, 1988). Second, the shared variance between pairs of constructs was always less than the corresponding AVE (Fornell & Larcker, 1981).

CFA results show that it is not reasonable to expect that all indicators load on a single factor, what can be considered a Harman's single factor test (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) that corroborates the absence of common method bias.

After analyzing the psychometric properties of the measurement model, Table 4 shows descriptive statistics, with means, standard deviations and correlations among the research constructs. In the next section we analyze the antecedents and consequences of e-business adoption and its impact on supplier relationships using structural equation modeling (SEM).

4. Research findings

4.1. E-business adoption in travel agency–supplier relationships

The results of the path analysis are shown in Table 5. As predicted in H1, the greater the adoption of Internet in the online communication with the principal supplier (wholesaler), the greater the utilization of the Internet. An examination of the mean ratings (see Table 4) indicates that e-procurement had relatively high means (4.4) with minimal variation (.9). This level of e-procurement adoption in travel agencies coincides with the European Commission (2006) study, which highlights that "travel agencies and tour operators are rather strong adopters of e-procurement" (p. 75). These results might reflect some special characteristics of the travel industry. Many wholesalers employ incentives (commissions) and prizes to induce travel agencies to contract services via the Internet.

4.2. Environmental antecedents of e-business adoption in travel agency–supplier relationships

An analysis of the antecedents of the adoption of innovation technology also reveals some interesting findings. As shown in Table 5, the fact that competitors have embraced the Net has a positive impact on e-procurement (H2b); however, this pressure does not seem to extend to online communications. Looking at the descriptive analysis regarding communication tools (Table 1), it seems that wholesalers' physical brochures (paper-based catalogs) are used intensively (mean of 4.12), followed by the supplier's website (mean of 4.04). According to previous research (Buhalis, 1998; Wu & Chang, 2006) the high level of use on supplier' website confirms that the technological environment certainly favors the use of the Internet in commercial relationships. However, on the contrary, the use of electronic catalogs is still low (mean of 2.23). These findings are in accordance with our in-depth interviews with travel agencies, which suggest that, in the Spanish context, there is

Table 2
Internal consistency and convergent validity of the theoretical construct measures.

Variable	Item	Factor loading	Robust *t*-value	Loading average	Cronbach's alpha	Composite reliability	AVE
Customer pressure	CUPR1	.87	9.20	.83	.81	.82	.69
	CUPR2	.79	8.65				
Normative pressure	NPR3	.70	4.78	.76	.73	.81	.58
	NPR4	.75	5.62				
	NPR5	.83	6.27				
E-communication	ECOM2	.85	8.96	.77	.76	..74	.59
	ECOM3	.68	6.55				
E-procurement	EPRO1	.82	7.52	.77	.72	.74	.59
	EPRO2	.72	6.57				
Commitment to supplier	COMM1	.79	8.23	.77	.83	.82	.60
	COMM2	.76	8.56				
	COMM3	.77	7.53				
Trust with supplier	TRUST2	.77	7.27	.79	.81	.83	.63
	TRUST3	.85	9.09				
	TRUST4	.74	6.22				
Perceived reciprocity	PERECI1	.85	9.44	.86	.84	.75	.73
	PERECI2	.86	8.14				

S-Bχ^2(df = 98) = 125.75 *p* = .03; BBNFI = .800; BBNNFI = .919; CFI = .941; IFI = .946; RMSEA = .057.
Note: AVE = Average Variance Extracted; **$p <$ .01; *$p <$ .05; *n* = 101.

Table 3
Discriminant validity of the theoretical construct measures.

	1	2	3	4	5	6	7
1. Customer pressure	**.69**	.11	.17	.15	.03	.03	.00
2. Normative pressure	[.25;.43]	**.58**	.02	.25	.01	.01	.01
3. E-Communication	[.28;.55]	[.05;.23]	**.59**	.24	.08	.02	.01
4. E-Procurement	[.26;.51]	[.35;.65]	[.39;.59]	**.59**	.01	.09	.01
5. Commitment to supplier	[.03;.31]	[−.04;.20]	[.15;.43]	[−.01;.19]	**.60**	.02	.24
6. Trust with supplier	[−.30;−.04]	[−.06;.26]	[.04;.28]	[−.41;−.18]	[−.01;.31]	**.63**	.29
7. Perceived reciprocity	[−.09;.19]	[−.19;.04]	[−.02;.23]	[−.20;.03]	[.38;.61]	[.45;.64]	**.73**

Note: The diagonal represents the average variance extracted; while above the diagonal the shared variance (squared correlations) is represented. Below the diagonal the 95% confidence interval for the estimated factors correlations is provided; $n = 101$.

no pressure from the industry (suppliers) to substitute the paper-based catalogs by an electronic version. Traditional paper-based catalogs can be used not only as a communication tool between the travel agency and the travel supplier, but also they can be used to communicate to the final consumers. This dual-purpose use (with travel suppliers and final customers) clearly compensates for the traditional catalogs' higher cost in relation to virtual catalogs and subsequently explains why suppliers are not forcing the substitution issue. These arguments provide a potential explanation for the non-significant effect of normative pressure on e-communication (failure to support H2a).

As for the power of the online customer, there is a direct effect on electronic communications and an indirect effect on e-procurement (H3). The adoption of new technologies, such as the Internet, is often reactive rather than proactive in nature (Ramsey, Ibbotson, Bell, & Gray, 2003). Coercion can be a driver when a leading organization creates an entry barrier via e-procurement systems (Min & Galle, 2003). In other words, it is the dominant player in the supply chain that stipulates e-procurement as a prerequisite for doing business. In the context of travel agencies, the power of wholesalers is the key external force in implementing e-procurement.

4.3. Relational effects of e-business adoption in travel agency–supplier relationships

Consistent with H4a, the results indicate that the greater the utilization of the Internet in electronic communication, the greater the trust towards the supplier (wholesaler). Conversely, and unexpectedly, in terms of e-procurement, the influence on trust is negative. As mentioned earlier, the use of the Net is imposed by normative pressures, and this coercive power might have a negative impact on trust. However, the adoption of online communication has a positive effect on trust and this, in turn, has a favorable impact on perceived reciprocity (H6).

In this research, the relationship between trust and commitment is insignificant. Industry characteristics might offer some insight into this finding. The retail travel agency sector is highly

Table 4
Factor descriptive statistics and correlation.

Factor	Media (σ)	Correlation matrix					
		1	2	3	4	5	6
1. Customer pressure	3.1 (1.1)	–					
2. Normative pressure	4.4 (.7)	.34**	–				
3. E-Communication	2.9 (1.1)	.41**	.14**	–			
4. E-Procurement	4.4 (.9)	.39**	.49**	.49**	–		
5. Commitment to supplier	3.0 (1.0)	.17**	.08**	.29**	.09**	–	
6. Trust with supplier	3.6 (.8)	−.17**	.10**	.16**	−.30**	.15**	–
7. Perceived reciprocity	3,4 (.9)	.05**	−.08**	.11**	−.09**	.49**	.54**

**p < .01.

fragmented with a strong predominance of small and mid-sized businesses (Suárez et al., 2007) while the power is largely held by wholesalers. As we mentioned in the hypothesis development section, the social exchange theory suggests that commitments are made largely upon the consideration that the other party will not perform opportunistically (Kingshott & Pecotich, 2007). Under this condition, trust is expected to influence positively on the level of commitment (Athaide et al., 1996). Trust refers to the degree to which one partner can depend on another to protect his/her business interests (Roy et al., 2004) and, it also reflects a reliance on a partner (Moorman et al., 1993). In the context of travel agency–wholesaler relationships, trust is related to the travel agency' perceived professionalism of its main wholesaler as well as the perception of how this wholesaler protects the travel agency' interests.

As suggested in previous studies (Lancastre & Lages, 2006), trust is a working relationship. In the study context, travel agencies expect that its partner (main wholesaler) will perform its tasks professionally, but also that the partner performs actions that will result in positive outcomes for the travel agency (perceived reciprocity). In the Spanish context of high wholesaler' power, due to a reduced number of wholesalers and the small travel agency size, trust in the technical professionalism of the wholesaler may be not enough to induce commitment, provoking a non-significant effect of trust on commitment (failure to support H5). A close examination of trust measurement shows that only 'trust in professionalism' items remain, while the item TRUST1 'the supplier is concerned about our welfare' failed to load significantly on the trust factor.

Under these circumstances, travel agencies need additional evidence of non-opportunistic behavior to be committed to the supplier. In the context of travel agency–wholesaler relationships, perceived reciprocity scale incorporates the supplier's attention towards the travel agency's welfare (for instance, item PERECI2: 'adapting to the needs of the agency'). Therefore, perceived reciprocity provides that additional evidence, as trust is related to commitment through its significant relation with perceived reciprocity, as proposed in H7 (see Fig. 2). Consequently, as an extension of the "relational quality" framework, research findings suggest the important role of perceived reciprocity. Trust in the wholesaler professionalism is not enough to impact on commitment to supplier.

5. Discussion and conclusions

This study focused on two different adoption levels of e-business (i.e., online communication and e-procurement). Based on Lin and Lee (2005) framework, the former is an initial step used to communicate between firms, while e-procurement reflects a higher integration of business processes. In the context of travel agency–supplier relationships, our results indicate that the adoption of online communication has a positive influence on

Table 5
Antecedents and effects of e-business: hypotheses and path coefficients.

	Hypothesized relationship	Stand. estimates	t-value	Conclusion
H1	E-communication → E-procurement	.43**	2.90	Supported
H2a	Normative pressure → E-communication	.01**	.01	Not supported
H2b	Normative pressure → E-procurement	.38**	2.98	Supported
H3	Customer pressure → E-communication	.43**	2.97	Supported
H4a	E-communication → Trust with supplier	.33**	1.97	Supported
H4b	E-procurement → Trust with supplier	−.42**	−2.45	Not supported
H5	Trust with supplier → Commitment to supplier	−.16**	−.84	Not supported
H6	Trust with supplier → Perceived reciprocity	.54**	3.77	Supported
H7	Perceived reciprocity → Commitment to supplier	.57**	3.17	Supported

Note: Fit indices: S-Bχ^2 = 143.18 (df = 109) p = .02; NNFI = .910; CFI = .928; IFI = .932; RMSEA = .06.
*$p < .05$; **$p < .01$.

using the Internet for making reservations and procuring e-tickets.

This research also analyzes external drives that enhance e-business adoption in travel agency–supplier relationships. Our findings highlight the importance of two main external factors: perceived customer and normative pressures. As hypothesized, online enabled customers are the main antecedent of online communications. Travel agents surveyed in this study indicated that their customers expect them to employ e-business practices in supplier relationships. If travel agencies do not implement e-business for communication with their suppliers, they could not be able to offer some services to their clients (i.e., online tickets, booking codes, etc.) and, therefore, consumers may prefer other providers.

Conversely, normative pressures are the main driver of e-procurement. Retail travel agents are largely forced into using the Net for e-procurement. According to the 2006 e-Business Survey (European Commission, 2006), travel agencies and tour operators are 'heavy' users of e-procurement compared to other tourism sub-sectors such as lodging. Most travel agents seem to adopt e-procurement in order to avoid isolation from their suppliers.

Consistent with previous research (Cross & Smith, 1996; Gounaris, 2005), investment in technology for communication and e-procurement may generate structural bonds among partners, thus enhancing relational quality (trust and commitment). Our results show a direct relationship between e-communication adoption and trust towards the travel supplier. Similar to an online banking context (Mukherjee & Nath, 2003), the adoption of Internet for communication with travel suppliers is a valuable resource for promoting trust. However, our findings indicate that

the influence of e-procurement on trust is negative. As mentioned earlier, the use of the Net is imposed by normative pressures, and this coercive power might have a negative impact on trust. Due to the fragmented nature of the industry and competition among travel agencies, the adoption of e-procurement is largely driven by pressure from the suppliers. This dependency might lead to a perceived loss of control from the travel agent's perspective. Perceived loss of control has a negative effect on user satisfaction (Lee & Park, 2008), thus shedding some light into the negative relationship between e-procurement and trust.

Although previous research considers trust as one of the main antecedents of commitment, this relationship was insignificant in the present study. Drawing from social exchange theory, commitment is based on an assumption that the other party will not perform opportunistically (Kingshott & Pecotich, 2007). However, consistent with previous research findings, a coercive atmosphere (i.e., the use of the Internet imposed by normative pressures) may explain the lack of direct relationship between trust and commitment. For example, Lee and Park (2008) show, in the context of alcoholic beverage wholesaler, that under mandatory adoption, the perceived loss of control has a negative effect on user satisfaction with the relationship.

Finally, our results demonstrate the need to increase the level of perceived reciprocity in enhancing supplier relationships. In the context of travel agency–wholesaler relationships, trust in the wholesaler professionalism is not enough to impact on commitment to the travel supplier (wholesaler). Our findings indicate an indirect relationship between trust and commitment through perceived reciprocity.
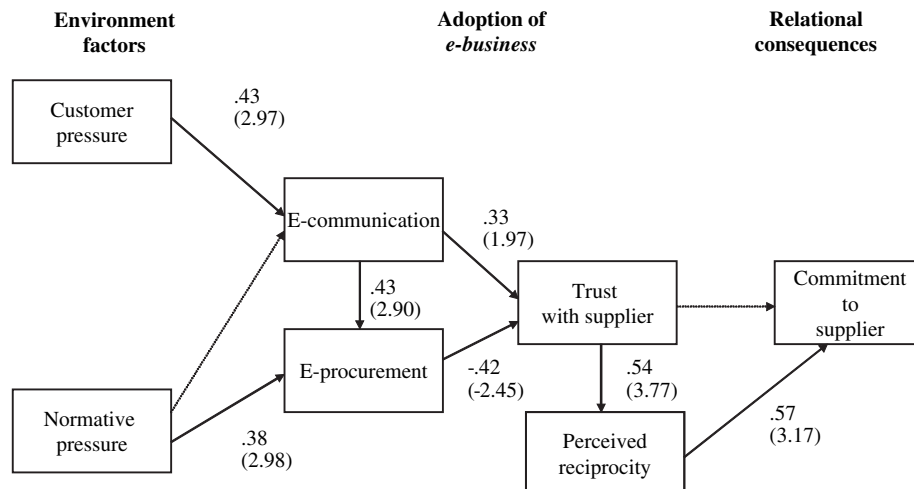

Fig. 2. Antecedents and effects of e-business in travel agencies. Note: S-Bχ^2 = 143.18 (df = 109) p = .02; NNFI = .910; CFI = .928; IFI = .932; RMSEA = .06.

6. Managerial implications

Differently from the Internet, travel agencies that act as consultants can interact with their customers, provoking emotions and satisfaction, in contrast to the rationality that the use of virtual travel agencies involves. The personal interaction of the traditional (physical) travel agencies leads to a higher level of customer knowledge – not only about their preferences, but also about the context in which the customer will travel, thus facilitating the offering of products that generate higher customer satisfaction. Therefore, traditional travel agencies still have an important role in the tourism distribution system. However, due to the competitive environment of traditional travel agencies (Buhalis & Law, 2008; Buhalis & Licata, 2002), they have been forced to integrate new technologies in their business processes, but also wholesalers' physical brochures (paper-based catalogs) are still used intensively, sharing its key role with the travel supplier website. In the context of Spanish travel agencies, findings show that there is no perceived pressure to substitute website communication with the travel supplier instead of using physical brochures. In other words, travel suppliers are not forcing paper-based catalogs to be substituted thus explaining the non-significant effect of normative pressure on e-communication. However, due to environmental issues and the current economic downturn, these catalogs contain less information and they refer to the website.

From a managerial perspective, this research demonstrates that the use of the Internet for communication purposes enhances the adoption of e-procurement. Due to the perishable nature of tourism products, the adoption of online communication (i.e., real time information) has a positive influence on travel agents' propensity to use IT for making reservations and procuring tickets online.

As mentioned earlier, the Internet is gaining importance in the tourism sector with important effects in the competitive environment of traditional travel agencies, i.e., dis-intermediation and re-intermediation issues (European Commission, 2006). In this research our findings show that consumers' online buying behaviours have forced travel agencies to adopt IT in their business communications. Although the advance of IT has certainly empowered the end customer (e.g., online purchasing of airline tickets, hotel rooms and rental cars), the adoption of IT can provide significant opportunities for travel intermediaries. For instance, an efficient use of IT might increase the ability of a travel agency to build and sustain relationships with its customers and, based on their needs, to communicate the specific requirements in real time, increasing their consumers' perceived benefits (Suárez et al., 2007). Recently, traditional travel agencies have invested on e-business processes to allow customers not only to receive information but also to book directly from the travel agency's website.

In addition to perceived customer pressure, we analyzed the influence of industry pressures. Our findings show that travel agencies adopt e-procurement practices in a reactive manner. In other words, fear of being left behind seems to drive travel agents' decisions to adopt IT. These normative pressures may create perceived coercive power, which in turn might have a negative impact on commitment in travel–supplier relationships. Consequently, travel agencies need to constantly adopt innovative technologies in order to be perceived as a cutting-edge businesses. Taken together, our study findings indicate a need to integrate new technologies in the travel agency–wholesaler supply chain, not only due to perceived customer pressures but also due to intense competition in the marketplace.

Although travel agencies need to be aware of the high level of competition and the threat of dis-intermediation and re-intermediation, the adoption of Internet may help travel agencies to strengthen their relationships with suppliers. Our research findings provide evidence of the positive impact of online communication on travel agents' trust with their suppliers. Yet, it is important to note that trust does not necessarily lead to commitment. Our results show that reciprocity is a prerequisite for committed supplier relationships.

Specifically, trust with the supplier has a positive effect on perceived reciprocity (i.e., the travel agent's belief that its supplier will perform actions that will result in positive outcomes for the travel agency, as well as not take unexpected actions that would result in negative outcomes or risks) and, in turn, perceived reciprocity is an antecedent of commitment with the supplier. By means of perceived reciprocity, trust has a positive impact on commitment. Commitment is one of the core elements of relational quality (Cheng et al., 2008) and it enables travel agencies to build and maintain supplier relationships on a long-term basis. From a managerial perspective, the adoption of e-business in travel agency–supplier relationships has favorable consequences on relational quality. However, managers should integrate IT in the communication process. This level of e-business adoption is fundamental not only due to its direct impact on trust with the supplier, but also because the use of online communication in specifying the final customers' needs will help to enhance service quality. As suggested by Huntley (2006), a cooperative customer focus seems to be a necessary ingredient for excellence in business relationships.

7. Limitations and further research

This study has certain limitations that need to be addressed in future research. This study is cross-sectional and hence a longitudinal perspective could be used to better understand the development of relationship processes (Narayandas & Rangan, 2004).

Although trust has emerged as an important factor in inter-organizational relationships (Seppänen, Blomqvist, & Sundqvist, 2007), there are still major conceptual and methodological challenges to study this complex concept. In this research, we measured trust with one dimension, as a global measure. Further studies could analyze the impact of e-business using multi-dimensional measures (e.g., credibility and benevolence).

Additionally, in the validation process of the scale measures, customer pressure, online communication, normative pressure and trust resulted in a deletion of some items. In two constructs – customer pressure and online communication – the deletion of an item left the construct with two indicators. However, as these indicators were content-redundant, deleting such items did not affect the content validity of these constructs.

Future research could also study e-business supply chains with a network approach. For example, how do travel agents handle their supplier relationships with other partners such as hotels and airlines.

Appendix. Summary of scales measures

Customer pressure (adapted from Wu & Lee, 2005; Wu et al., 2003)	
CUPR1	Many of our customers are keen that our travel agency should implement e-business practices with their suppliers
CUPR2	Our relationship with our major customers would have suffered if we had not implemented e-business practices
CUPR3	Our customers may consider us to be forward if we implement e-business initiatives (*)
CUPR4	Our customers demand that we establish e-business relationships with them (*)
Normative pressure (adapted from Wu & Lee, 2005; Wu et al., 2003)	
NPR1	A large number of our competitors have already adopted e-business practices (*)
NPR2	We would be considered technology-deficient if we did not implement e-business practices (*)

Appendix (*continued*)

NPR3	In the travel agency industry, firms that do not readily adopt new technologies (Internet) will be left behind
NPR4	It is important that we are seen as a cutting-edge business that adopts innovative technologies
NPR5	In our industry, most travel agencies will ultimately end up adopting a wide range of e-business practices
E-Communication (adapted from Wu et al., 2003)	
ECOM1	Use online communication to ask for travel booklets (*)
ECOM2	Provide specific online information about product specifications that our travel suppliers must meet
ECOM3	Share product and planning information with our travel suppliers
E-Procurement (adapted from Wu et al., 2003)	
EPRO1	Track orders with suppliers electronically (i.e., online order placement)
EPRO2	Make your reservations and procure your e-tickets
Commitment to supplier (Anderson & Weitz, 1992; Ganesan, 1994; Walter, Müller, Helfert, & Ritter, 2003)	
COMM1	We focus on medium/long-term goals in our relationship with the travel supplier
COMM2	Your agency invests time and other necessary resources in the commercial relationship with the wholesaler
COMM3	We put the long-term cooperation with this supplier before our short-term profit
Trust of the travel agency with its supplier (adapted from Walter et al., 2003)	
TRUST1	When making important decisions, the supplier is concerned about our welfare (*)
TRUST2	I can trust in the wholesaler when I share important information with them
TRUST3	When we have important reservations in the agency, we receive the support of this wholesaler
TRUST4	We are convinced that the supplier performs its tasks professionally
Perceived reciprocity (developed for this study based on Anderson & Weitz, 1992; Walter et al., 2003)	
PERECI1	In general, the wholesaler invests the necessary time and resources in our commercial relationship
PERECI2	This wholesaler adapts himself to the needs of our agency

Note: (*) Deleted items based on the validation process; 1 = very strongly disagree, 5 = very strongly agree.

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