

## THE GENERATION OF TRUST IN THE ONLINE SERVICES AND PRODUCT DISTRIBUTION: THE CASE OF SPANISH ELECTRONIC COMMERCE

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### ABSTRACT

Not all countries have the same level of e-commerce penetration. This could be due to the influence of cultural factors on consumer trust with regard to online purchasing. This may also explain why countries like Spain, with similar economic and technological levels to its neighbours', have a lower level of e-commerce usage. This paper examines the antecedents of trust, and, the relationship between trust and consumer commitment in Spain. The results obtained show that the factors governing the development of online trust are similar to those detected in other countries. Specifically, the results show that consumer trust is influenced by perceived website usability and reputation, by the consumer satisfaction and by the perceived privacy and security policy of the website. This paper also verifies that consumer trust has a positive effect on consumer commitment. Besides, no significant differences are observed in the research model between online services and product distribution. Finally, managerial recommendations and future research lines are suggested.

Keywords: Trust, Culture, Commitment.

### 1. Introduction

The adoption of e-commerce varies from country to country. Some authors [e.g. Aqueveque & Fernández 2004] suggest that the adoption of new technologies is determined by two types of variables:

- **Availability variables:** variables related to a country's current and potential technological, infrastructural, economic, educational and demographic conditions.
- **Cultural variables:** referring to the various trends or orientations those countries may have in terms of their beliefs or values as a society.

Aqueveque and Fernández [2004] state that a country's cultural traits affect the development of e-commerce with impact levels equal to or more than economic, market or technological factors. If we consider that the availability variables in Spain (e.g. broadband penetration, number of computers and mobiles, internet use at work) are similar to those of countries with a higher e-commerce penetration rate [Eurostat 2010], it is reasonable to suppose that the cultural factors might be hampering e-commerce growth. In fact, it is significant that Spain's online share of retail trade figures (3.0%) are similar to those of economically and culturally similar countries, such as Italy (3.3%). On the other hand, Spain's figures are a long way from those of countries such as the United Kingdom (10.7%), Germany (8.0%) and Switzerland (7.4%) [Centre for Retail Research 2011], countries with different cultural values and approaches.

The literature has shown that culture plays a fundamental role in the development of trust [Suh, Janda & Seo 1987]. Similarly the relevance of trust in the adoption of e-commerce is widely acknowledged [e.g. Jarvenpaa et al. 2000; Schlosser et al. 2006]. Trust appears in risky and vulnerable decisions and favours the reduction of perceived risk in the decision-making process, and it has been traditionally considered as a key element for the acquisition of a

long-term, stable and profitable relationship [e.g. Garbarino & Johnson 1999; Geyskens & Steenkamp 1995]. Consequently, trust has become a strategic objective for a good many players in e-commerce, since the level of consumer trust is directly related to an individual's intention to purchase [Koufaris & Hampton-Sousa 2002] and, more specifically, with the degree of commitment shown by the purchaser [Mukherjee & Nath 2003].

In view of these aspects, it is important to analyse how trust is developed, bearing in mind each country's cultural differences, since antecedent factors of trust may depend on a country's cultural characteristics. In this respect, this paper analyses the elements that determine online trust in Spain.

The article suggests a model that replicates the factors that have most often been associated with online trust. With this model we assess whether factors tested in the Spanish case differ from those usually included in the earlier literature. Secondly, the article includes an analysis of the influence of trust on the consumer's commitment, a key factor for achieving greater levels of loyalty and therefore success in e-business strategies. Finally, the study concludes with a multisample analysis with the aim of detecting differences in the generation of trust, depending on whether the website is selling products or services.

Bearing these considerations in mind, the paper is structured as follows. We first analyze the concept of online consumer trust. In the next section, we discuss the various antecedents of trust reported in literature, as well as the influence of trust on consumer commitment and the relevance of the type of purchase. After the validations of measurement scales the hypotheses are contrasted through structural modeling and multisample analysis. Finally, several conclusions and managerial recommendations are suggested.

## **2. Definition of online trust and working hypotheses**

In this paper we focus on online trust. Specifically, we are interested in online trust in the website, because the website might be viewed as a store from the perspective of building consumer trust [Bart et al. 2005]. According to these authors, the interaction with a website is similar to the interaction with a store and, as a result, consumers will develop perceptions of trust with a website based on their interactions with that site. In the following sections, we define the dimensional structure of online trust, its main antecedents and its link with consumer commitment in the online context.

### **2.1. Components and dimensions of online trust**

The concept of trust has received special attention in IS [e.g. Jarvenpaa, Tractinsky & Vitale 2000; Bhattacharjee 2002; Chen & Dhillon 2003] and marketing literature [e.g. Anderson & Narus 1990; Dwyer et al. 1987]. Traditionally, trust has been seen as being made up of two basic components: cognitive and behavioural [Schlosser et al. 2006; Moorman et al. 1992; Moorman et al. 1993]. Several authors [e.g. Anderson & Narus 1990; Mayer et al. 1995; Ganesan 1994] have proposed that the cognitive component reflects the result of the assessment that one party makes of the credibility and goodwill of the other party. The behavioural component assimilates trust with the willingness or desire to follow a particular behavioural pattern. However, the concept of trust has usually been analysed from a cognitive perspective [e.g. Ba & Pavlou 2002; Morgan & Hunt 1994; Flavián & Guinalú 2006]. Indeed, Morgan & Hunt [1994] note that the inclusion of the behavioural component may be redundant, as it is a consequence of the cognitive component, but it cannot be considered as a distinctive element of the concept of trust.

From a cognitive perspective, the literature has usually suggested three types of beliefs: honesty (integrity), benevolence and competence [Mayer et al. 1995; Bhattacharjee 2002; Gefen 1997; McKnight, Choudhury & Kacmar 2002]. Honesty indicates the certainty the consumer has in the business' sincerity and the fact that it keeps its promises [Gundlach & Murphy 1993]. Benevolence is related to the consumer's belief that the company is interested in their welfare that it does not intend to show opportunistic behaviour [Larzelere & Huston 1980], and that it is motivated by the quest for joint benefit [Doney & Canon 1997]. Competence refers to the skills perceived in the other party [Mayer et al. 1995; McKnight, Cummings & Chervany 1998].

### **2.2. Antecedents of online consumer trust**

Diverse studies have analysed the possible antecedent factors of trust on the Internet [e.g. Schlosser et al. 2006; Bart et al. 2005; Cheung & Lee 2006]. Researchers have suggested a large number of variables and classifications thereof. For example, they have suggested factors such as the trust propensity [Pavlou & Gefen 2004], the quality of information [Kim, Song, Braynoy & Rao] and the presence of third party assurances [Kimery & McCord 2002] among others. As far as the categorisation of trust is concerned, Beldad et al. [2010] classify antecedent trust factors as being customer/client-based trust antecedents, website-based trust antecedents and company/organization-based trust antecedents. For their part, Gefen, Karahanna & Straub [2003] divide antecedent trust factors into the following categories: knowledge-based trust, institution-based trust, calculative-based trust, cognition-based trust and personality-based trust. In this paper, we draw on previous research and contrast the factors that have most

commonly been associated with the generation of trust on the Internet [Guinalú 2005]: usability, reputation, satisfaction, security and privacy.

#### 2.2.1. Perceived usability

Website usability reflects the perceived ease of navigating the site or making purchases through the Internet. Usability may be affected by cultural factors [Becker & Eastman 2002]. Although the concept has been considered a critical factor in the development of electronic commerce [Flavián et al. 2006], the influence of usability on trust has not been analyzed in-depth. However, from a global perspective, we can establish several arguments regarding the influence of usability on trust:

- Greater usability reduces the likelihood of error so that consumer trust levels may be improved [Muir & Moray 1996].
- Greater usability offers more self-confidence to website users. In addition, greater self-confidence might improve consumer trust in the website [Kantowitz et al. 1997].
- Greater usability offers a comfortable atmosphere that might favour a more positive consumer disposition.

In addition, greater usability simplifies the transaction process [Corritore et al. 2003] and favours a better comprehension of the contents and tasks in a website [Casaló et al. 2007].

Therefore, in line with the previous arguments, we suggest our first hypothesis:

*H1: The degree of website usability perceived by the consumer has a direct and positive influence on the degree of trust shown in that same website.*

#### 2.2.2. Reputation

The concept of reputation has often been associated with the organisation's credibility as perceived by its customers [e.g. Herbig & Milewicz 1993; Hyde & Gosschalk 2005]. In this case, reputation would be the result of the comparison between what the company promises and what it eventually fulfils. More specifically, reputation will be created in accordance with the extent to which the organisation meets its commitments to its customers and how it handles them. Similarly, in the context of e-commerce, reputation can be a consequence of a collective measure of trustworthiness based on referrals or ratings from members in a community [Josang, Ismail & Boyd 2007], such as may be found in the online feedback mechanisms of eBay [Dellarocas 2003].

In online contexts, the lack of physical contact increases the uncertainty of online relationships. In addition, the fact that many of the firms that operate through the Internet are new to the consumer generates a feeling of distrust in the individual. Therefore, in the absence of physical contact, reputation could be a good tool to diminish this greater perceived risk and increase consumer trust, since reputation would show how honest the company is and how much it cares for its customers [Doney & Cannon 1997]. That is, consumers who perceive the website to have a good reputation are more likely to trust the website. For this reason, we propose that the website's reputation is directly related to the trust placed by the consumer in the website.

*H2: Greater levels of perceived reputation are directly and positively related to greater levels of trust placed in that website.*

#### 2.2.3. Satisfaction

Satisfaction can be defined as a consumer condition that results from a global evaluation of all the aspects that make up the consumer relationship [Severt 2002] and it has been considered a key antecedent of trust [e.g. Bauer et al. 2002; Garbarino & Johnson 1999; Ganesan 1994]. In addition, some authors note that a greater buyer satisfaction can generate a greater degree of trust in the salesman. That is to say, trust in a company or product will be greater if the degree of satisfaction that this company or product provides to us is greater too. Thus, the degree of trust is a consequence of the capacity of the company to satisfy the needs of its clients [Selnes 1998].

To be precise, satisfaction with previous interactions indicates equity in the relationship, which provides evidence that the other party: (1) is not taking advantage of the relationship, and (2) performs in an effective manner [Ganesan 1994]. Therefore, it is reasonable to suppose that a positive relationship can be established between satisfaction and trust in the context of the Internet. Following this, we propose our third hypothesis:

*H3: Greater user satisfaction is directly and positively related to greater trust placed in a website.*

#### 2.2.4. Security and Privacy (Security in the handling of private data)

Where the Internet is concerned, privacy affects aspects such as the obtaining, distribution or the non-authorised use of personal information [Wang et al. 1998]. As well as problems with the lack of privacy, the lack of security as perceived by online consumers is another of the main obstacles to the development of e-commerce [Furnell & Karweni 1999]. Kolsaker & Payne [2002] maintain that security reflects perceptions regarding the reliability of the means of payment used and the mechanisms of data transmission and storage.

It seems fair to say that in view of the particular aspects of the privacy and security variables, the two need to be handled as distinct concepts. However, not only the consumer, but also the company and the legislature perceive that the two concepts have a close relationship [Flavián & Guinalú 2005]. This suggests the need for the two variables

to be dimensions of a single construct. This construct, called “*perceived security in the handling of private data*” (SHPD), shows the consumer’s perception of practices regarding personal data protection carried out by the website, and the security of the information system in which these practices are to be found.

In view of the possible connection between trust and the perceived private data handling security construct, a direct relationship might be established between the two concepts. In fact, concerning the online context, some studies hint at a possible link between the low level of trust in relationships established over the Internet and the high level of concern that consumers’ privacy and security be respected [e.g. European Commission 2004]. With the aim of testing whether this connection is widespread, the following hypothesis is proposed:

*H4: Greater levels of consumers’ perception of security with regard to the handling of their personal data are directly and positively related to greater levels of trust placed in that website.*

#### 2.2.5. The influence of usability on consumer satisfaction

We may also propose a relationship between the levels of perceived usability and consumer satisfaction. Spiller & Loshe [1998] point to the influence of website design on the degree of Internet consumer satisfaction. As a consequence, we assume that though website design may not guarantee consumer satisfaction (there are other factors such as product quality or price) it does have a direct influence. Therefore our fifth hypothesis is:

*H5: Greater perceived website usability has a direct and positive influence on the degree of satisfaction of the user of that same website.*

#### 2.3. The influence of trust on commitment

Relationship commitment may be defined as the enduring desire to maintain a relationship that is considered important and valuable [Moorman et al. 1992]. Therefore, a party committed to a relationship is motivated to maintain it and will work for that purpose [Morgan & Hunt 1994].

Traditionally, literature has emphasized that greater levels of trust improve the level of commitment to a given relationship [Farrelly & Quester 2003; Achrol 1991; Moorman et al. 1992]. To be precise, a relationship in which both parties trust each other generates enough value so that the parties will be committed to the relationship [Garbarino & Johnson 1999; Molm et al. 2000; Grayson & Ambler 1999]. Broadly speaking, trust in a relationship has a positive influence on its stability and increases the willingness to cooperate and be committed to the relationship [Bauer et al. 2002].

In spite of the lack of studies analysing the trust-commitment relationship when the transaction is carried out on the Internet, it is reasonable to suppose that the relationship between the two concepts must be similar to the one found in other distribution channels [Corritore et al. 2003]. Therefore, taking into account the previous considerations, we propose our sixth hypothesis:

*H6: Greater levels of trust are directly and positively related to greater levels of commitment to a website.*

#### 2.4. The influence of the type of purchase

Several authors consider that consumer behaviour may be different depending on whether the acquisition is a product or a service, since they have different characteristics in the mind of consumers. For instance, Nilsson et al. [2001] state that service quality and product quality are clearly different due to the specific characteristics of services: (1) its inherent intangibility, (2) the inseparability of production and consumption, (3) its heterogeneity, and (4) its perishability. In addition, Murray & Schlacter [1990] found that services evoke greater perceived risk and variability than products. Therefore, the role of type of purchase (products v. services) in online trust development should be analysed in more depth.

Although the acquisition of products or services on the Internet displays distinctive aspects (e.g. in the purchase of a service, uncertainty over the delivery time is less or inexistent), according to services marketing literature [e.g. Arora & Stoner 1996], the online sale, due to its intangibility, lends itself more to service consumption than product consumption [Liu & Wei 2003]. For the online purchase of a product, customers do not have the opportunity to have first-hand experience of it (e.g. touching or smelling the product), and thus the experience of looking around, comparing alternatives and choice is similar in products and services. Thus, we suggest that consumers find no significant differences between buying a product or a service online, particularly in the early stages of the purchasing process. The interface and the processes are similar so that it is reasonable to suppose that the interactions we have proposed above do not vary. Thus we suggest the following hypothesis.

*H7: The type of purchase (product or service) has no influence on the interactions proposed in the research model.*

### 3. Data collection

Data were collected thanks to a web survey using Spanish subjects. This method of collecting data is consistent with the usual research practice in the online context [e.g. Steenkamp & Geyskens 2006]. To collect the responses several banners and posts were included on heavy-traffic online media websites, email distribution lists and well-

known electronic forums. The selection of these media was founded on: (1) the level of awareness among the Spanish-speaking community, (2) traffic level and (3) availability. To value the level of awareness and traffic we collected the opinion of four experts and the rankings offered by Google. One of the most important Spanish online newspapers was selected. Moreover, we posted in several Usenet groups and electronic forums, all of them well-known, visited frequently by the Spanish-speaking community and related to different topics, such as purchasing, leisure, social networks or professional activities. Banners were published for one month. Posts were realized twice in a month. Potential interviewees were linked to a specific website where they could obtain all the information about the research project.

Subjects had to respond to several questions about their levels of satisfaction, usability, reputation, privacy, security, honesty, benevolence and ability perceived in the website they had selected and their level of commitment. It was required that the subject had made acquisitions through the website during the previous year. The websites selected by the interviewees formed a set of well-known websites and a large variety of product and service categories.

Our volunteer sampling generated 335 valid questionnaires (atypical cases, repeated responses and incomplete questionnaires were dropped).

#### 4. Scales validation process

##### 4.1. Content and face validity

The scale development was founded on the review of the most relevant literature (see Table 1). The constructs were measured by a multi-item scale (see Appendix I). Trust and the construct “security in the handling of private data” (the so-called SHPD) were considered multidimensional. This literature review strongly supports the content validity of the measurement instruments.

Table 1: Content Validity

Variable	Adapted from
Trust	Kumar et al. [1995]; Siguaw et al. [1998]; Doney & Canon [1997] and Roy et al. [2001]
Satisfaction	Brockman [1998] ; Severt [2002] ; Janda et al. [2002] and Smith & Barclay [1997]
Reputation	Anderson & Weitz [1992]; Jarvenpaa et al. [2000]; Doney & Canon [1997] and Ganesan [1994]
Usability	Flavián et al. [2006]; Roy et al. [2001]; Lin et al. [1997] and Kirakowski et al. [1998]
Privacy	Janda et al. [2002]; O’Cass & Fenech [2003] and Cheung & Lee [2001]
Security	Ranganathan & Ganapathy [2002] and O’Cass & Fenech [2003]
Commitment	Moorman, Zaltman & Deshpandè [1992]; Anderson & Weitz [1992]; Wong & Sohal [2002] and Kumar et al. [1995]

Following the literature review an initial set of items was proposed. Due to the scarcity of valid scales adapted to electronic commerce transactions it was necessary to adapt the initial scales. Face validity is defined as the degree that respondents judge that the items are appropriate to the targeted construct [Anastasi 1988]. Face validity was tested through a variation of the Zaichkowsky method [Zaichkowsky 1985], whereby each item is qualified by a panel of experts as “clearly representative”, “somewhat representative” or “not representative of the construct of interest”. In line with Lichtenstein et al. [1990], an item was retained if a high level of consensus was observed among the experts. This process ensures the face validity of the measures.

##### 4.2. Confirmatory analysis

A confirmatory model development strategy [Hair et al. 1998] was followed to confirm the dimensional structure of the scale, as well as the level of internal consistency [Ping 2004]. We used the statistical software EQS version 6.1. We followed the criteria proposed by Jöreskog & Sörbom [1993]<sup>1</sup>.

Based on these criteria, two items -HON4 and BEN1- were eliminated in order to achieve high levels of convergence, R<sup>2</sup> and model fit (see Appendix II and Table 2).

##### 4.3. Multidimensionality evaluation

- <sup>1</sup>The weak convergence criterion [Steenkamp & Van Trijp 1991] means eliminating indicators that do not show significant factor regression coefficients ( $t$  student  $> 2.58$ ;  $p = .01$ ).
- The strong convergence criterion [Steenkamp & Van Trijp 1991] involves eliminating non-substantial indicators, that is, those whose standardised coefficients are lower than .5 [Hildebrandt 1987].
- Jöreskog and Sörbom [1993] also suggest eliminating the indicators that contribute least to the explanation of the model, taking as a cut-off point  $R^2 < .5$ .

In order to confirm the existence of multidimensionality in the trust and SHPD scales, a rival models strategy was developed [Hair et al. 1999; Anderson & Gerbing 1988]. So we compared a second order model in which various dimensions measured the multidimensional construct under consideration, with a first order model in which all the items weighed on a single factor [Steenkamp & Van Trijp 1991]. The results showed that the second order model had a much better fit than the first order model (see Table 2: models FOTRUST, SOTRUST, FOSHDP, SOSHPD). These results allow us to conclude that the trust and SHPD variables showed a multidimensional nature.

Table 2: Confirmatory Factor Analysis. Multidimensionality Analysis

	Final CFA	FOTRUST	SOTRUST	FOSHDP	SOSHPD
$\chi^2$	2555.803, 944 d.f. p<.001	493.076, 35 d.f. p<.001	288.325, 32 d.f. p<.001	1235.017, 77 d.f. p<.001	823.350, 76 d.f. p<.001
RMSEA	.071	.198	.155	.206	.167
90% Confidence Interval of RMSEA	(.068, .075)	(.182, .213)	(.138, .171)	(.196, .216)	(.156, .177)
Bentler-Bonett Normed Fit Index (NFI)	.820	.768	.864	.769	.850
Bentler-Bonett Nonnormed Fit Index (NNFI)	.871	.716	.826	.739	.831
CFI	.882	.779	.877	.779	.860
IFI	.883	.780	.877	.780	.865
Normed $\chi^2$	2.707	14.088	9.010	16.039	10.833

#### 4.4. Composite reliability

Although the Cronbach's alpha indicator is the most frequent test to assess reliability, some authors consider that it underestimates reliability [Smith 1974]. Consequently, the use of composite reliability has been suggested [Jöreskog 1971], considering a cut-off value of .6 [Nunnally & Bernstein 1994]. The results were satisfactory (see Appendix II).

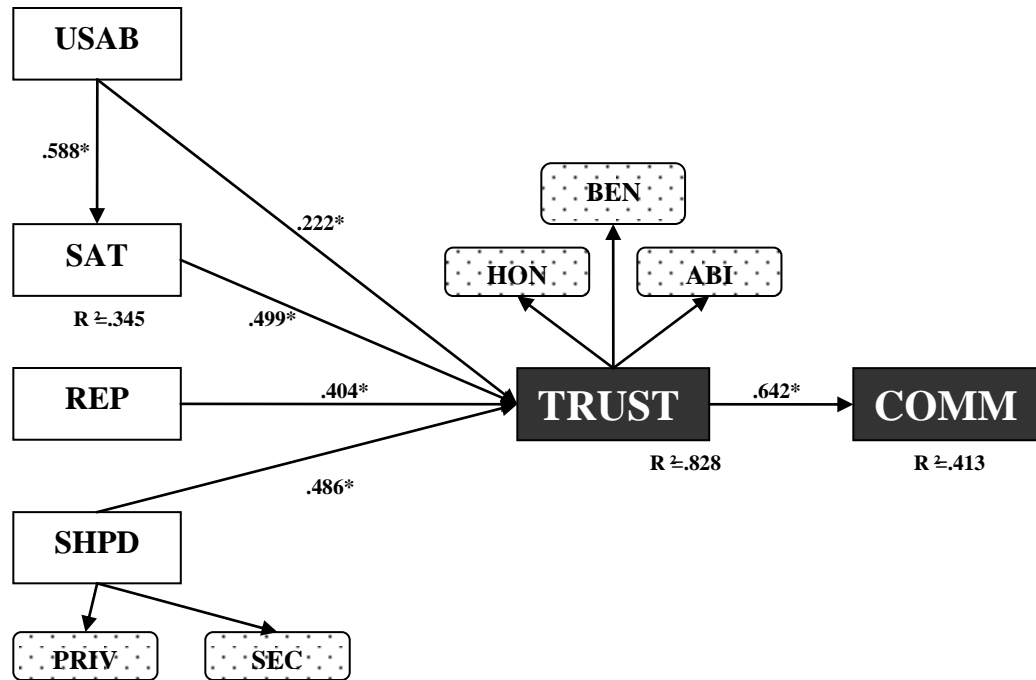
#### 4.5. Construct validity

Finally, construct validity was assessed considering two types of criteria: convergent and discriminatory validity.

- Convergent validity. This was tested by checking that the factor loadings of the confirmatory model were statistically significant (level of .01) and higher than .5 points [Sanzo et al. 2003]. In addition, we used the Average Variance Extracted (AVE) to contrast convergent validity [Ping 2004]. Fornell & Larcker [1981] suggested adequately convergent valid measures should contain less than 50% error variance (AVE should be .5 or above). Results were satisfactory (see Appendix II).
- Discriminatory validity. We tested that the correlation between the variables in the confirmatory model were not much higher than .8 points [Bagozzi 1994]. Secondly, we checked that the value 1 did not appear in the confidence interval of the correlations between the different variables. The results showed an acceptable level of discrimination (see Appendix II).

### 5. Structural model analysis

To test the structural model each one of the dimensions corresponding to trust (honesty, benevolence and ability) and SHPD (security and privacy) was replaced by its arithmetical mean (method of parcelling). It is a common practice among researchers [e.g. Roberts et al. 2003; Flavián et al. 2005], which can only be done when a sufficient fit of a second order factorial model has been checked (see Table 2). As can be seen in Figure 1, hypotheses 1 to 6 were accepted to a level .01. In addition, model fit was satisfactory [Chi-Square, 754.932 d.f. 202 p<.001; Bollen (IFI) Fit Index, .904; Comparative Fit Index (CFI), .903; Root Mean Sq. Error of App. (RMSEA), .091; 90% Confidence Interval of RMSEA, (.084,.097); NFI, .873; NNFI, .889; Chi-Square/d.f., 3.737].



Note: “\*” coefficients significant to a level of .01

Figure 1: Structural Equation Model

We also notice the high level of  $R^2$  achieved for online consumer trust (.828). Indeed, according to the standardized estimates, we may say that trust is clearly explained by the positive influence of the security in handling personal data ( $\beta = .499$ ), consumer satisfaction ( $\beta = .486$ ), reputation ( $\beta = .404$ ) and, to a lesser extent, by perceived website usability ( $\beta = .222$ ), which also exerts a positive effect on consumer satisfaction ( $\beta = .588$ ). At the same time, consumer commitment in the online context was partially explained ( $R^2 = .413$ ) by: (1) the strong, positive and direct effect of trust on commitment ( $\beta = .682$ ), and (2) the indirect effect of website usability, reputation, satisfaction and security in the handling of private data on commitment through consumer trust.

## 6. Multisample analysis

To test hypothesis 7, we divided the total sample into two groups according to a variable which measured whether the consumer had bought a product or a service on the website. The first group was formed by 125 cases representing the product buyers. The second group was formed by 210 services buyers.

Firstly, multisample analysis generated an individual structural solution for each group (see Table 3). All hypotheses were accepted to a level of .01 except the influence of usability on trust for the group of products buyers ( $t$ -value = 1.672) which could be accepted to a level of .1. Multisample model fit was relatively satisfactory [Chi-Square, 1049.316; d.f. 404,  $p < .001$ ; Comparative Fit Index (CFI), .890; NFI, .834].

Secondly, multisample analysis offers information about the significance of the differences between the coefficients of the two models. To assess these differences we use the LMTTest. This contrast analyses the variation of the Chi-squared when the constraint of equalising one of the coefficients is eliminated. Thus LMTTest assesses if the elimination of this constraint supposes a significant change in the Chi-squared, and as a consequence a significant improvement in the model fit. Table 4 suggests that there were no significant differences between the groups to a level of .05, so that hypothesis 7 was also confirmed.

Table 3. Multisample Analysis: Structural Solution

Products n= 125	Estimated coefficients	t-value	R <sup>2</sup>	Services n= 210	Estimated coefficients	t-value	R <sup>2</sup>
H1. USAB -> TRUST	.074	1.672	.746	H1. USAB -> TRUST	.154	3.973	.817
H2. REP -> TRUST	.194	4.583		H2. REP -> TRUST	.196	5.657	
H3. SAT -> TRUST	.211	5.048		H3. SAT -> TRUST	.241	5.992	
H4. SHPD -> TRUST	.200	4.610		H4. SHPD -> TRUST	.302	7.630	
H5. USAB -> SAT	.794	7.121	.376	H5. USAB -> SAT	.548	7.829	.313
H6. TRUST -> COMMIT	1.128	4.214	.341	H6. TRUST -> COMMIT	.996	5.502	.475

Table 4. Multisample Analysis: Constraints Analysis

UNIVARIATE TEST STATISTICS	d.f.	Chi-square Difference	Probability
Constraints Released:			
USAB -> SAT	1	.120	.912
SAT -> TRUST	1	.012	.912
USAB -> TRUST	1	1.174	.279
REP -> TRUST	1	0.015	.902
SHPD -> TRUST	1	1.341	.247

## 7. Conclusions and managerial implications

The trust construct has an important place in e-business strategies, and this importance is even greater today due to the arrival of new forms of negotiation and communication between the consumer and firms. In fact, the risk perceived by consumers in electronic transactions is higher than in physical acquisitions [Harris & Goode 2004] and, as a consequence, the relevance of the presence of consumer trust in the online relationships is also high. However, businesses have to address not only the specific aspects of the online channel, but also other elements that may affect the behaviour of consumers, particularly the generation of trust. It is paradoxical that certain countries display levels of e-commerce that are much lower than those of economically and technologically similar countries. The explanation for this phenomenon probably lies in the influence of the country's culture. This might explain why the rate of online sales in countries such as Spain and Italy is different to that of others such the UK or the USA.

A country's culture may affect not only trust levels but also factors related therewith. This paper has taken as its reference factors commonly associated with online trust, to examine how far these factors differ when applied to the context of Spain. Specifically, the paper has examined some key antecedent factors of consumer trust in online relationships, as well as the influence of trust on the level of consumer commitment with a website. The results obtained show that the factors governing the development of online trust in Spain are similar to those detected in other countries. Thus, although the idea that culture affects online sales cannot be ruled out, it is reasonable to conclude that the factors influencing the development of trust are not affected by culture.

Thus, consumer trust is influenced by perceived usability in the website. So, higher levels of usability might lead to higher levels of trust in the website. Moreover the reputation variable has a direct and positive influence on consumer trust with a website. The fulfillment of expectations, that is, the level of satisfaction, also influences online consumer trust in a positive way. In addition, satisfaction is positively influenced by perceived usability. Privacy and security, which are represented in this work by a single construct, the security in the handling of private data, have a significant effect on consumer trust. These findings have allowed us to clearly describe consumer trust in a website ( $R^2 = .828$ ), which represents a greater portion of the explained variance in the trust construct than other studies in online trust [e.g. Bart et al. 2005; Schlosser et al. 2006]. This paper has also verified that consumer trust has a direct and positive influence on consumer commitment in the online Spanish context. Finally, the paper has assessed whether there are differences in previous interactions depending on the type of purchase [product or service]. As expected, we have observed that there are no differences, as the purchasing processes are found to be very similar.

### 7.1. Managerial implications

This paper offers interesting lessons for companies that market their products via the Internet in the Spanish market. In order to formulate a successful e-business strategy, firms need to understand in-depth how online trust is developed and how it affects consumer behaviour in the online context [Bart et al. 2005]. In this respect, several recommendations may be made for practicing managers from the obtained results in order to improve the trust levels in a website, which will also influence the levels of consumer commitment to that website.

Firstly, marketers must emphasize ease-of-use in website development. Greater perceived usability favours improved comprehension of the contents and tasks which are required and offers a more comfortable atmosphere to website users. Thus, usability increases the level of trust and satisfaction of the website users.



Secondly, marketers must consider the website image in their strategies, in terms of perceived reputation by the clients and prospects. To improve corporate image, the marketer has several tools at his disposal [e.g. establishing relationships with reliable organisations with regard to the environment or human rights].

Thirdly, satisfaction influences consumer trust in a positive and direct way, so that this variable must be a key element in the development of an e-business strategy. In this respect, usability has appeared to be a highly relevant factor in determining online consumer satisfaction. However, other factors must also be considered, such as shipping costs or product quality.

Fourthly, privacy and security have also emerged as important antecedents of online consumer trust. This result means that marketers must respect and safeguard the private data of the consumer in terms of good practices and compliance with the law. Likewise, robust and reliable communication systems are required so that data security may be guaranteed.

Finally, it should be noted that these managerial suggestions pertain equally to online product and services distribution alike.

## 7.2. Future research

The main line of research that can arise from this paper is the examination in greater detail of the role of culture in the generation of trust as well as online consumer behaviour [Pavlou & Chai 2002]. The factors which may be affecting the development of online trust need to be assessed in greater detail and in other cultural contexts [e.g. Eid 2011]. It might also be useful to assess the influence of these cultural contexts, not only in the generation of trust but also in distrust, since as certain authors have pointed out [e.g. Cho 2006], these are distinct concepts.

Moreover, the Internet has revealed to be not only a new distribution channel, but also a useful medium to promote knowledge exchange. For example, consumers are increasingly turning to computer-mediated communication in order to get information on which to make their decisions [Kozinets 2002]. In fact, consumers have formed social groups to share ideas and contact other consumers who are seen as more objective information sources [Kozinets 2002]. These social groups have been traditionally called virtual communities [Rheingold 1993; Yap 2002] and they are increasing in importance since they can: [1] influence their members' behaviour [Muniz & O Guinn 2001], and [2] help to identify the needs and desires of particular individuals or groups of people [Kozinets 2002].

However, according to Wasko & Faraj [2005], it seems difficult to understand why people actively participate in virtual communities and help other members. Broadly speaking, consumers spend their time and effort on the community whereas there is no immediate benefit to their contribution. Therefore, due to the fact that trust has been found to be a major antecedent of consumer commitment in the online context, an interesting route to extend this work would be to analyse the role of trust in determining consumer participation and commitment to these online communities.

On the one hand, trust favours cooperation and coordination among individuals [Putnam 1995]. That is, in the context of virtual communities, trust may help to favour integration of members and to increase interactions among them [Ridings et al. 2002]. On the other hand, trust is a crucial factor when individuals face relationships without having complete information regarding the other party [Hawes et al. 1989], as may be the case with virtual communities [Ridings et al. 2002]. In these cases, trust serves to decrease the degree of information asymmetry that exists between partners [Batt 2003]. More specifically, trust serves to diminish the perceived risk of the relationship when there is no sufficient guarantee that others will behave as they are expected to. Bearing these considerations in mind, the analysis of trust in a virtual community and in its members is especially relevant since it may be a main precursor of consumer participation in virtual community activities and a crucial aspect for developing sustainable communities in the long-term.

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**Appendix I: Measurement Scales**

<b>USABILITY</b>	
USAB1	In this website everything is easy to understand
USAB2	This website is simple to use, even when using it for the first time.
USAB3	It is easy to find the information I need from this website.
USAB4	The structure and contents of this website are easy to understand.
USAB5	It is easy to move within this website.
USAB6	When I am navigating this site, I feel that I am in control of what I can do.
<b>REPUTATION</b>	
REP1	This website has a good reputation
REP2	This website has a good reputation compared to other rival websites
REP3	This website has a reputation for offering good products and services
REP4	This website has a reputation for being fair in its relationship with its users
<b>SATISFACTION</b>	
SAT1	I think that I made the correct decision to use this website.
SAT2	The experience that I have had with this website has been satisfactory
SAT3	In general terms, I am satisfied with the way that this website has carried out transactions
SAT4	In general, I am satisfied with the service I have received from the website.
<b>TRUST (HONESTY, BENEVOLENCE AND ABILITY)</b>	
HON1	I think that this website usually fulfils the commitments it assumes
HON2	I think that the information offered by this site is sincere and honest
HON3	I think I can have confidence in the promises that this website makes.
<i>HON4</i>	<i>This website does not make false statements.</i>
HON5	This website is characterised by the frankness and clarity of the services that it offers to the consumer
<i>BEN1</i>	<i>I think that the advice and recommendations given on this website are made in search of mutual benefit.</i>
BEN2	I think that this website is concerned with the present and future interests of its users.
BEN3	I think that this website takes into account the repercussions that their actions could have on the consumer.
BEN4	I think that this website is receptive to the needs of its users.
ABI1	I think that this website has the necessary abilities to carry out its work
ABI2	I think that this website has sufficient experience in the marketing of the products and services that it offers
ABI3	I think that this website has the necessary resources to successfully carry out its activities.
<b>SECURITY IN THE HANDLING OF PRIVATE DATA (PRIVACY AND SECURITY)</b>	
PRIV1	I think this website shows concern for the privacy of its users
PRIV2	I feel safe when I send personal information to this website
PRIV3	I think this website abides by personal data protection laws
PRIV4	I think this website only collects user personal data that are necessary for its activity
PRIV5	I think this website respects the user's rights when obtaining personal information
PRIV6	I think that this website will not provide my personal information to other companies without my consent
SEC1	I think this website has mechanisms to ensure the safe transmission of its users' information
SEC2	I think this website shows great concern for the security of any transactions
SEC3	I think this website has sufficient technical capacity to ensure that no other organization will supplant its identity on the Internet
SEC4	I am sure of the identity of this website when I establish contact via the Internet
SEC5	When I send data to this website, I am sure that they will not be intercepted by unauthorized third parties
SEC6	I think this website has sufficient technical capacity to ensure that the data I send will not be intercepted by hackers
SEC7	When I send data to this website, I am sure they cannot be modified by a third party
SEC8	I think this website has sufficient technical capacity to ensure that the data I send cannot be modified by a third party
<b>COMMITMENT</b>	
COMM1	I will recommend the use of this website.
COMM2	I will emphasize the positive aspects of this website if somebody criticized it.
COMM3	Although new alternatives arise, I believe that I will continue using this website since I maintain a very satisfactory relationship with it.

Note: Items in italics were eliminated in the refinement process

**Appendix II: Convergent and Discriminatory Validity**

	Std. Factor Loadings	t-values	Item R <sup>2</sup>		Std. Factor Loadings	t-values	Item R <sup>2</sup>
USAB1	.826	13.657	.683	ABI1	.839	12.067	.704
USAB2	.750	12.540	.563	ABI2	.842	13.361	.709
USAB3	.863	17.744	.745	ABI3	.789	10.899	.622
USAB4	.888	17.336	.789	PRIV1	.806	13.206	.650
USAB5	.861	15.107	.742	PRIV2	.842	16.404	.708
USAB6	.757	14.920	.573	PRIV3	.861	13.090	.741
REP1	.819	14.241	.670	PRIV4	.837	15.279	.700
REP2	.770	15.498	.593	PRIV5	.893	16.471	.798
REP3	.870	16.514	.756	PRIV6	.768	15.902	.589
REP4	.784	14.797	.615	SEC1	.795	14.857	.632
SAT1	.810	11.497	.656	SEC2	.779	14.517	.606
SAT2	.921	14.787	.849	SEC3	.844	16.500	.712
SAT3	.933	14.241	.871	SEC4	.802	13.686	.643
SAT4	.939	14.439	.882	SEC5	.867	21.868	.752
HON2	.883	15.335	.779	SEC6	.898	23.875	.806
HON3	.900	17.780	.811	SEC7	.903	22.855	.815
HON4	.766	14.987	.586	SEC8	.888	20.956	.788
HON5	.830	17.188	.689	COMM1	.741	14.265	.549
BEN2	.878	17.536	.770	COMM2	.816	14.432	.666
BEN3	.784	16.763	.615	COMM3	.767	15.738	.589
BEN4	.719	12.529	.518				
	Composite Reliability Coefficient	Average Variance Extracted		Composite Reliability Coefficient	Average Variance Extracted		
Usability	.87	.52	Ability	.78	.55		
Reputation	.80	.52	Privacy	.88	.56		
Satisfaction	.88	.69	Security	.92	.58		
Honesty	.84	.53	Commitment	.72	.50		
Benevolence	.85	.50					

Note: Factor Loadings, t-values and R<sup>2</sup> correspond to the final confirmatory factorial analysis

	Correlation	95% Confidence Interval			Correlation	95% Confidence Interval	
USAB-SAT	.586*	.47232	.69968	SAT-COMM	.644*	USAB-SAT	.586*
USAB-HON	.551*	.43928	.66272	HON-BEN	.766*	USAB-HON	.551*
USAB-BEN	.540*	.4322	.64780	HON-ABI	.664*	USAB-BEN	.540*
USAB-ABI	.568*	.44452	.69148	HON-PRIV	.606*	USAB-ABI	.568*
USAB-PRIV	.413*	.28560	.54040	HON-SEC	.515*	USAB-PRIV	.413*
USAB-COMM	.472*	.35048	.59352	HON-COMM	.577*	USAB-COMM	.472*
REP-USAB	.427*	.28784	.56616	BEN-ABI	.750*	REP-USAB	.427*
REP-SAT	.628*	.51628	.73972	BEN-PRIV	.613*	REP-SAT	.628*
REP-HON	.618*	.51412	.72188	BEN-SEC	.542*	REP-HON	.618*
REP-BEN	.636*	.54780	.72420	BEN-COMM	.585*	REP-BEN	.636*
REP-ABI	.607*	.49528	.71872	ABI-PRIV	.601*	REP-ABI	.607*
REP-PRIV	.444*	.31464	.57336	ABI-SEC	.530*	REP-PRIV	.444*
REP-SEC	.348*	.22844	.46756	ABI-COMM	.479*	REP-SEC	.348*
REP-COMM	.493*	.35972	.62628	PRIV-SEC	.815*	REP-COMM	.493*
SAT-HON	.752*	.68340	.82060	PRIV-COMM	.483*	SAT-HON	.752*
SAT-BEN	.623*	.53088	.71512	SEC-COMM	.509*	SAT-BEN	.623*
SAT-ABI	.550*	.41868	.68132			SAT-ABI	.550*
SAT-PRIV	.525*	.40348	.64652			SAT-PRIV	.525*
SAT-SEC	.451*	.33732	.56468			SAT-SEC	.451*
USAB-SEC	.397*	.28724	.50676			USAB-SEC	.397*

Note: “\*” coefficients significant to a level of .01