

**AN EMPIRICAL ANALYSIS OF THE RELATIONSHIP BETWEEN  
USABILITY AND ONLINE ADVERTISING EFFECTIVENESS  
THROUGH THE ONLINE CONSUMER TRUST, SATISFACTION AND  
PURCHASE INTENTIONS' LEVELS**

Jesús Cisneros  
(University of Zaragoza, Spain)  
e-mail: [cisneros@unizar.es](mailto:cisneros@unizar.es)

Carlos Flavián  
(University of Zaragoza, Spain)  
e-mail: [cflavian@unizar.es](mailto:cflavian@unizar.es)

Miguel Guinalú<sup>1</sup>  
(University of Zaragoza, Spain)  
e-mail: [guinaliu@unizar.es](mailto:guinaliu@unizar.es)

***Contact details:***

*Carlos Flavián Blanco  
Faculty of Economics and Business Studies (University of Zaragoza)  
Gran Vía 2, 50005 Zaragoza (Spain)*

*Telephone: +34 976762719  
Fax: +34 976761667*

---

# AN EMPIRICAL ANALYSIS OF THE RELATIONSHIP BETWEEN USABILITY AND ONLINE ADVERTISING EFFECTIVENESS THROUGH THE ONLINE CONSUMER TRUST, SATISFACTION AND PURCHASE INTENTIONS' LEVELS

## Abstract

*Among other aspects, literature has proposed that electronic commerce success depends on usability that consumers perceive in the website they use. However, the study of usability presents important lacks, such as its relationship with advertising effectiveness.*

*This paper proposes that usability influences on advertising effectiveness due to the significative effects of usability on consumer trust, satisfaction and purchase intentions. SEM and PLS methodologies are used to contrast that perceived usability has a direct and positive effect on customers' satisfaction. We also confirm the impact of satisfaction on consumer trust and purchase intention. Causal model stability is validated thanks to the use of two independent samples. Finally, several conclusions, managerial implications and future research lines are discussed.*

**Keywords:** *usability, satisfaction, trust, purchase intentions, Internet, advertising*

## 1. INTRODUCTION

The design of web pages affects the rate of conversion of its visitors into buyers (Geissler 2001). Likewise, it is a determining factor in the level of the individuals' satisfaction (Cox and Dale 2002). Consumers use the Internet for its convenience and speed in comparison with traditional channels (Ody 2000). Therefore, the adequate design of a web page, and particularly its easy use, are fundamental aspects. In this respect, (Donlan 1999) stands out the website's effect on the consumer's perceptions and expectancies. The website's quality design is known as usability, and the main contributions to the concept have been done by Nielsen's works (Nielsen 1994). The results of the empirical analysis developed by Flavián *et al.* (2006) confirm that as perceived usability increases so does the consumer trust and the degree of. In the same way, the authors propose that greater usability has a positive influence on user satisfaction, and this also generates greater purchase intentions.

Considering the relevance of usability and the present marketing literature state we suggest a greater effort in its study. Thus, it seems necessary to analyse how website usability could affect consumer satisfaction, online trust and PURCHASE intentions or its relationship with advertising effectiveness. We propose that online advertising effectiveness depends on satisfaction, trust and purchasing intentions showed by the consumer. When there is no trust the information provided usually is useless and more dishonest, (Smith and Brynjolfsson 2001; Fogg *et al.* 2002), which in turn may spoil advertisement. For instance, we can clearly identify word-of-mouth marketing (Sichtmann 2007) as one of the consequences of consumer trust. Similarly, satisfaction has some outcomes that can also lead to more favorable marketing communications (Luo and Homburg 2007; Brown *et al.* 2005; Anderson 1998, Bearden and Teel 1983). Finally, purchase intentions are also related to more advertising effectiveness, as both are behavioural outcomes of same variables (Maxham 2001). As seen in the model of MacKenzie and Lutz (1989) and MacKenzie, Lutz, and Belch (1986) the attitude-toward-the-advertiser is related to attitude toward the advertisement (Goldberg and Hartwick 1990).

According to arguments presented above, advertising effectiveness might be increased thanks to an adequate management of the levels of satisfaction, trust and purchase intentions of the consumers. Thus the

proposal of new factors that can improve satisfaction, trust or purchase intentions is an important topic for marketing science and practitioners. In online environments, usability might offer a serious management tool. However there is a lack of marketing papers which analyze the role of usability in these terms.

This paper offers a new vision of advertising management through the study of the influence of usability on satisfaction, trust and purchase intentions. The paper has the following structure: Firstly, we carry out an in-depth review of the specialised and relevant literature concerning the variables included in the study and their possible relationships. Secondly, we formalize the hypotheses according to the previous theory. Thirdly, we explain the process of data collection and measures validation. Finally, we present the results and conclusions of the study, and outline possibilities for future research, managerial implications and point out possible limitations of the research.

## **2. LITERATURE REVIEW**

### **2.1 Usability**

Usability can be defined as the amount of effort required to use an information system interface, such as a website or software. According with this definition, Nielsen (1994) suggests that website usability concerns several aspects, such as the easiness of learning the information system structure, the easiness of memorising their basic functions, the grade of web design efficiency, the degree of error avoidance and the general user satisfaction. As a result, greater levels of usability are usually associated to lower levels of difficulty to manage information system functionalities (Davis 1989). Usability has traditionally been considered a good predictor of intentions to use a system (Teo *et al* 2003) and a key factor on the development of Internet commerce (Flavián *et al.* 2006). In sum, the concept of web site usability considers the following factors:

- The ease of understanding the structure of a system, its functions, interface and the contents that can be observed by the user;
- simplicity of use of the website in its initial stages;
- the speed to find what is looking for;
- the perceived ease of site navigation in terms of time required and action necessary in order to obtain the desired results; and
- the ability to control what is doing at any given moment.

### **2.2. Satisfaction**

Satisfaction is as an affective consumer condition that results from a global evaluation of all the aspects that make up a consumer relationship (Severt 2002). It can be defined as the degree to which expectations generated on previous occasions have been met, as suggested by the Disconfirmation of Expectations Model (Spreng and Chiou 2000). This complex concept can be split up into two distinct perspectives (Geyskens *et al.* 1999). The first perspective considers satisfaction as an affective predisposition proved by economic conditions, such as the sales volume or ROI's levels obtained. On the other hand, the second vision –non economic satisfaction- considers the concept by using psychological factors, such as a partner promises fulfilling.

Consumer's satisfaction is not the result of a specific transaction but that of a global evaluation of the relationship history between the parties. That is, satisfaction is built up over time (Oliver, 1999). Therefore, the individuals' perception is fed by new information in every transaction. As a result, this new information determines the level of satisfaction at any given time.

In our study we will concentrate more on the attitudinal and psychological perspective (Shankar *et al.* 2003) since this component of satisfaction is more likely to promote loyalty behaviors, such as positive word-of-mouth and repurchase (Gustafsson *et al.* 2005).

### **2.3. Trust**

Trust is a key aspect in to improve online transactions' performance (McKnight and Chervany 2001), and is usually associated to the achievement of long-term and profitable relationships (Flavián *et al.* 2006) or online communication improvement (Casaló *et al.* 2007).

Classical marketing literature (e.g. Moorman *et al.* 1992; Moorman *et al.* 1993) proposes that trust can be analysed from two basic perspectives: cognitive and behavioural. Thus authors (e.g. Anderson and Narus

1990; Mayer *et al.* 1995) 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. On the other hand behavioural component assimilates trust with the willingness or desire to follow a particular risky behavioural pattern.

However, the concept of trust has been usually analyzed from a cognitive perspective (e.g. Flavián and Guinalú 2006). Indeed, Morgan and Hunt (1994) note that the inclusion of the behavioural component may be redundant, cause behavioural component would be a mere consequence of the cognitive component.

From a cognitive point of view, it has been usually suggested that in high perceived risk contexts, such as the Internet, trust may be defined by a threefold of beliefs which refers to the levels of competence, honesty and benevolence (Flavián and Guinalú 2006). Concretely, *competence* refers to the consumer's perceptions of the seller's knowledge and skills to complete the relationship and satisfy the needs of their clients (Coulter and Coulter 2002). *Honesty* is the belief that the other party will keep their word, fulfil their promises and be sincere (Gundlach and Murphy 1993; Doney and Cannon 1997). Finally, *benevolence* reflects the belief that one of the parties is interested in the well-being of the other. So a benevolent attitude is expected to condition the behaviour of the other party in the case of unforeseen circumstances (Ganesan 1994).

Taking into account the previous considerations and following recent studies (e.g. Flavián *et al.* 2006), we propose that the concept of trust placed in an online commerce environment must be considered as a construct formed by three different dimensions: honesty, benevolence and competence.

## **2.4. Purchase intentions**

Purchase intentions are a key concept in traditional marketing, since it is more costly to retain existing customers than prospecting new ones (Spreng *et al.* 1995). In this way, the aim is to retain valuable customers and increase their intention purchase as it will mean the future and profitability of the business. Following the Theory of Planned Behavior (Ajzen 1985), attitude toward a behavior and subjective norm are immediate determinants of intention to perform a behavior. This means that the Theory of Planned Behavior proposes that intention to perform a behavior is the proximal cause of such a behavior.

The purchase decision process starts when they the customers wish to satisfy a need by acquiring certain products or services. It follows an information search process in order to compare the alternatives and make the best purchase decision.

In the online marketing literature, purchase intentions have received great attention. In general it has been stated how that these purchase intentions are influenced by aspects such online trust (Yoon 2002; Pavlou 2003; Gefen and Straub 2004) and how past online purchase experiences may have a direct impact on online purchase intentions, (e.g. Eastlick 1996). Thus, Internet purchasing intentions may be both directly and indirectly affected by consumers' prior Internet experiences and are seen as a vital variable (Maxham 2001).

## **3. FORMULATION OF HYPOTHESES**

Website usability is one of the most important variables for determining the quality of a website (Loiacono *et al.* 2000; Aladwania and Palvia 2002; Yang and Fang 2004; Yang *et al.* 2005). Aspects, such the availability of up-to-date information, influence the levels of satisfaction and loyalty (Wolfenbarger *et al.* 2001). Furthermore, website usability helps to make information transparent, favors communication and interaction between the parties, simplifies the transaction process, and allows users to find what they are looking for at any given moment in a simple manner (Corritore, Kracher and Wiedenbeck 2003).

Greater usability can diminish searching costs (e.g. Bakos 1997) and suppose better comprehension of the contents and tasks in a website. As a consequence, we assume it has got a direct and positive influence (Spiller and Loshe 1998). So we propose our first hypothesis as follow:

*H1. Website usability has a direct and positive influence on consumer's satisfaction.*

As stated by the Disconfirmation of Expectations Model (e.g. Spreng and Chiou 2000), satisfaction reflects the degree to which expectations generated previously have been met.

In the case of a commercial online interaction we can focus our attention on how this satisfaction has been generated. The first stage implies an initial creation of expectations about website trustworthiness. The

individual then values if the expectations are met or not. If these expectances are met, the individual will feel satisfied or even delighted, since he will feel that the firm is trustworthy and capable of meeting its commitments. Following this, we propose our second hypothesis:

*H2: Greater user satisfaction is direct and positively related to greater trust placed in a website.*

Overall satisfaction is a good predictor of user intentions (Olsen and Johnson 2003). In fact, it has been stated that satisfaction with prior use is the strongest predictor of users' continuance intention in online contexts (Bhattacharjee's 2001). In the same line, Devaraj *et al.* (2002) measure satisfaction in electronic commerce and offer an empirical support for customer satisfaction as a determinant of channel preference. Lin *et al.* (2005) found that satisfaction has positive effects on the use of an Internet portal. Concretely, trust is related to willingness of on-line consumers to use the Internet for economic transactions (Grabner-Kräuter *et al.* 2003). Thus, we propose our third hypothesis:

*H3: Greater online consumer's satisfaction is direct and positively related to website PURCHASE intentions.*

#### 4. MEASUREMENT MODEL'S VALIDATION

Data were obtained through a web-survey among two different and independent groups of Spanish consumers of two different well-known online books stores. Concretely, subjects had to respond to several questions about their levels of perceived usability, website satisfaction, online trust and purchase intentions. All questions were measured on a 7-points Likert scale (see Annex I). 224 valid questionnaires (atypical cases, repeated responses and incomplete questionnaires were controlled) were collected. This meant 68 valid questionnaires for a sample (sample A in advance) and 156 for the second one (sample B). Both samples were similar in terms of age, gender, experience with the Internet and frequency of use.

The process of validation included the following stages:

##### 4.1. Content and face validity

Scale development was based on the review of the most relevant literature on e-marketing. An initial set of items was proposed after reviewing the relevant literature. However in some cases it was necessary to adapt the initial scales. This adaptation had the objective of guaranteeing the face validity of the measurement instruments. Face validity is defined as the degree that respondents judge that the items are appropriate to the targeted construct and is usually confused with content validity. However, content validity is the degree to which items correctly represent the theoretical content of the construct and it is guaranteed by an in-depth literature review (see Table 1). In order to test face validity a variation of the Zaichkowsky's method (Zaichkowsky 1985) was used. This method implies that each item is qualified by an experts panel as "clearly representative", "somewhat representative" or "not representative" of the construct of interest. In line with Lichtenstein *et al.* (1990) each item was retained if a high level of consensus was observed among the experts.

**Table 1. Content Validity**

Variable	Adapted from
<i>Usability</i>	Flavián <i>et al.</i> (2006b); Roy <i>et al.</i> (2001); Lin <i>et al.</i> (1997) and Kirakowski <i>et al.</i> (1998)
<i>Satisfaction</i>	Brockman (1998) ; Severt (2002) ; Janda <i>et al.</i> (2002) and Smith and Barclay (1997)
<i>Trust</i>	Kumar <i>et al.</i> (1995); Siguaw <i>et al.</i> (1998); Doney and Cannon (1997); Verhoef <i>et al.</i> (2002); and Roy <i>et al.</i> (2001)
<i>Purchase intention</i>	Pavlou (2003); Gefen and Straub (2004); Shim <i>et al.</i> (2001)

##### 4.2. Exploratory analysis of reliability and uni-dimensionality

The validation measuring process started with an initial exploratory analysis of reliability and dimensionality (Churchill 1979; Anderson and Gerbing 1988). The Cronbach alpha indicator was used to assess the initial reliability of the scales, considering a minimum value of .7 (Cronbach 1970; Nunnally 1978). The item-total correlation was used to improve the levels of the Cronbach alpha, considering a minimum value of .3 (Nurosis 1993). For these initial tasks we used statistical software SPSS v.14.0. All items were adjusted to the required levels or were eliminated. All analysis was separately performed for the A and B samples.

Secondly, we proceeded to evaluate the uni-dimensionality of the scales proposed by carrying out a principal components analysis. Factor extraction was based on the existence of eigen-values higher than 1.

Moreover, it was required that factorial loadings were higher than .5 points and a significant total explained variance (Hair *et al.* 1998). Only one factor was extracted from each of the six scales: usability, satisfaction, honesty, benevolence, competence and purchase intention.

### 4.3. Confirmatory factor and multi-dimensionality analysis

In order to confirm the measurement model, a Confirmatory Factor Analysis (CFO) was performed (Steenkamp and Geyskens 2006). Sample A and B were separately analysed. Each CFO included the six constructs in a single confirmatory factor model. Statistical software EQS version 6.1. was used. The estimation method selected was Robust Maximum Likelihood since it affords more security in samples which might not present multivariate normality. Items' retention was based on the criteria proposed by Jöreskog and Sörbom (1993):

- The weak convergence criterion means eliminating indicators that do not show significant factor regression coefficients ( $t\text{-student} > 2.58; p = .01$ ).
- The strong convergence criterion involves eliminating non-substantial indicators, that is, those indicators whose standardized coefficients are lower than .5.
- Finally, we also eliminated the indicators with least contribution to the explanation of the model, taking  $R^2 < .3$  as a cut-off point.

These recommendations allow us to obtain acceptable levels of convergence,  $R^2$  and model fit in each sample.

Finally, in order to confirm the multi-dimensional structure of trust (honesty, benevolence and competence dimensions), a *rival-models strategy* (Hair *et al.* 1998) was developed in samples A and B. So, a comparison was established between a second-order model (SO Model in advance) -three dimensions measured trust construct-, with a first-order model (FO Model in advance) in which all the trust items weighed on a single factor (Steenkamp and Van Trijp 1991). The results showed that the second order model had a much better fit than the first-order model for both samples (see Table 2). These results allow us to conclude that online consumer trust showed a multi-dimensional structure.

**Table 2. Multidimensionality test**

	<b>SAMPLE A-FO MODEL</b>	<b>SAMPLE A-SO MODEL</b>	<b>SAMPLE B-FO MODEL</b>	<b>SAMPLE B-SO MODEL</b>
<b>NFI</b>	.770	.807	.880	.910
<b>NNFI</b>	.788	.807	.898	.912
<b>CFI</b>	.830	.862	.918	.943
<b>IFI</b>	.834	.867	.919	.944

### 4.4. Composite reliability (CR)

Although the Cronbach alpha indicator is the most frequent test to assess reliability, some authors consider that it underestimates reliability (e.g. Smith 1974). In this regard, the use of composite reliability (CR) has been suggested (Jöreskog 1971), using a cut-off value of .65 (Steenkamp and Geyskens 2006). The results were mostly satisfactory. Only honesty offered CR levels below .65. However seeing the results as a whole we decided to maintain the measurement model of this construct (see in Table 3).

**Table 3. Composite Reliability**

	<b>CR-Sample A</b>	<b>CR-Sample B</b>
<b>Usability</b>	.89	.89
<b>Satisfaction</b>	.78	.87
<b>Honesty</b>	.58	.62
<b>Benevolence</b>	.78	.85
<b>Competente</b>	.72	.82
<b>Purchase intention</b>	.84	.80

### 4.5. Construct Validity

Construct validity was assessed by considering two types of criteria: convergent and discriminatory validity:

*Convergent validity* shows if the items that compose a determined scale converge on only one construct. This was tested by checking that the factor loadings of the CFO model were statistically significant (level of .01) and higher than .5 points (Sanzo *et al.* 2003). Results providing evidence of convergent validity of the measures (see Table 5).

**Table 5. Convergent Validity**

Items	Factor loadings Sample A	Factor loadings Sample B
USAB1	.844*	.820*
USAB2	.778*	.746*
USAB3	.854*	.826*
USAB4	.902*	.881*
USAB5	.893*	.872*
USAB6	.721*	.694*
USAB7	.708*	.684*
SAT1	.747*	.764*
SAT2	.856*	.868*
SAT3	.839*	.851*
SAT4	.909*	.917*
HON1	.831*	.797*
HON5	.863*	.808*
BENEV1	.780*	.817*
BENEV2	.843*	.890*
BENEV3	.787*	.819*
BENEV5	.825*	.789*
BENEV6	.800*	.767*
COM1	.914*	.880*
COM2	.914*	.945*
COM3	.737*	.750*
USE1	.847*	.827*
USE3	.880*	.860*
USE4	.812*	.796*

Note: "\*" Significance factor loadings to a .01 level

*Discriminatory validity* verifies if a determined construct is significantly distinct from other constructs. We tested discriminatory validity in two different ways. Firstly, we checked that the correlations between the variables in the CFO model were not higher than .8 points (Bagozzi 1994). Secondly, we checked that the value of the unity did not appear in the confidence interval of the correlations between the different constructs. Results showed an acceptable level of discrimination since all pairs of constructs mostly satisfied both criteria (see Table 6).

**Table 6. Discriminatory Validity**

Discriminatory validity (Sample A)			
	Correlation	Lower Interval	Higher Interval
USAB-SAT	.841	.78024	.90176
USAB-HON	.677	.58292	.77108
USAB-BENEV	.651	.55300	.74900
USAB-COM	.701	.60496	.79704
USAB-USE	.471	.33576	.60624
SAT-HON	.791	.67536	.90664
SAT-BENEV	.742	.64792	.83608
SAT-COM	.777	.66724	.88676
SAT-PURCHASE	.629	.49376	.76424
HON-BENEV	.877	.80056	.95344
HON-COMP	.812	.71204	.91196
HON-	.556	.38744	.72456

<b>PURCHASE</b>			
<b>BENEV-COMP</b>	.846	.77544	.91656
<b>BENEV-PURCHASE</b>	.624	.48484	.76316
<b>COMP-PURCHASE</b>	.557	.39824	.71576
<b>Discriminatory validity (Sample B)</b>			
<b>USAB-SAT</b>	.800	.71964	.88036
<b>USAB-HON</b>	.525	.40936	.64064
<b>USAB-BENEV</b>	.284	.18796	.38004
<b>USAB-COM</b>	.550	.44416	.65584
<b>USAB-PURCHASE</b>	.330	.16928	.49072
<b>SAT-HON</b>	.670	.54652	.79348
<b>SAT-BENEV</b>	.397	.30096	.49304
<b>SAT-COM</b>	.584	.46248	.70552
<b>SAT-PURCHASE</b>	.520	.35144	.68856
<b>HON-BENEV</b>	.741	.65476	.82724
<b>HON-COM</b>	.395	.29112	.49888
<b>HON-PURCHASE</b>	.455	.23940	.67060
<b>BENEV-COM</b>	.481	.33008	.63192
<b>BENEV-PURCHASE</b>	.244	.06760	.42040
<b>COMP-PURCHASE</b>	.574	.37800	.77000

## 5. RESULTS

With the aim of testing the proposed hypothesis in both samples we developed a structural equations model. In order to analyze the data we chose the “Partial Least Squares” technique, which uses a principal component-based approach (Brown and Chin 2004). For this task, we used PLS-Graph software version 3.00. We evaluate the structural equation model by examining the  $R^2$  levels and the size of the path coefficients (Johnson *et al.* 2006). Lastly, to check the stability of the parameters, we used the t-statistics obtained from a bootstrap test. In this technique, a great number of random samples are generated from the original dataset by sampling with replacement (Brown and Chin 2004). Thus, path coefficients are re-estimated with each random sample and, at the end, mean parameter estimates and standard errors are calculated considering the total number of samples (Brown and Chin 2004). The election of PLS for the analysis was based on three major aspects (Brown and Chin 2004): (1) this study has a predictive nature, which is a crucial aspect when using the PLS technique (Chin and Newsted 1999; Joreskog and Wold 1982); (2) PLS requires fewer statistical specifications and constrains than the covariance-based techniques (EQS, LISREL, and AMOS); and (3) PLS is a robust technique for small to moderate sample sizes (Cassel *et al.* 2000).

According to the results (see Table 7 and Figure 1), trust and purchase intention are positive and significantly influenced by satisfaction in both groups. Secondly, usability has a positive influence on satisfaction. As a consequence, we have found support for the hypotheses included in our research model. High  $R^2$  levels are obtained. Finally, the accomplishment of all hypotheses and the use of two different samples allow us to guarantee the stability of the behavioural model proposed.

**Table 5. Path estimates and explained variance**

<b>Sample A</b>				
<b>Hypotheses</b>	<b>Path coefficients</b>	<b>t-value (bootstrap)</b>	<b>Relationships</b>	<b>R<sup>2</sup></b>
H1	.714*	10.9886	Usability-Satisfaction	.510
H2	.679*	9.8683	Satisfaction-Trust	.461
H3	.470*	4.9213	Satisfaction-Purchase Intention	.221
<b>Sample B</b>				
<b>Hypotheses</b>	<b>Path coefficients</b>	<b>t-value (bootstrap)</b>	<b>Relationships</b>	<b>R<sup>2</sup></b>

H1	.793*	26.3674	Usability-Satisfaction	.629
H2	.851*	42.5099	Satisfaction-Trust	.725
H3	.461*	9.9885	Satisfaction-Purchase Intention	.370

Note: "\*" Significance to a .01 level

## 6. CONCLUSIONS, MANAGERIAL IMPLICATIONS, FUTURE RESEARCH LINES AND LIMITATIONS

This paper focuses its attention on the important role that usability may play in online advertising effectiveness management. It is proposed that usability influences on advertising effectiveness due to the significant effects of usability on consumer trust, satisfaction and purchase intentions. SEM and PLS methodologies have been used to contrast that perceived usability has a direct and positive effect on customers' satisfaction. We have also confirmed the impact of satisfaction on consumer trust and purchase intention.

### 6.1. Managerial implications

Communication among consumers and organizations can be improved thanks to the use of the Internet (Pitta *et al.* 2005; Joergensen and Blythe 2003), especially when it is compared to less interactive media (Dahlen *et al.* 2004), such as television (Stern 1995). However, online advertising faces several traits, such the decisions' consumer disturbance that some of the online advertising formats can generate (Edwards *et al.* 2002). In the past, has been contrasted the negative effects that interruption exerts on the flow of consumer activities (Brehm y Brehm 1981). Focusing on online communications, these interruptions may negatively affect to some key variables in online commerce, such as usability (Corritore, Kracher and Wiedenbeck 2003).

Website usability should not be hindered by a wrong advertising. Concretely, some online advertising formats are seen as intrusive, defined as "*the degree to which advertisements in a media vehicle interrupt the flow of editorial unit*" (Ha 1996). As a result, and according to the theory of psychological reactance (Brehm 1966), that states how a perceived loss of freedom in a certain environment can generate resistance, these forms can be seen as opposed to usability as this noise affects "*the availability, cost or value of the desired content*" (Speck and Elliott 1997). Examples of these formats are the pop-ups (Edwards 2002).

Following our research, we can state that is preferable to avoid those forms of advertising in order to achieve higher levels of usability, and as a consequence, higher levels of satisfaction, trust and purchase intentions to promote advertisement effectiveness and word-of-mouth positive communication (Brown *et al.* 2005; Anderson 1998; Bearden and Teel 1983; Bailey 2004).

### 6.1. Future research lines and limitations

First of all, it is important to note that the survey was answered exclusively by Spanish-speaking members of two well-know book websites. Thus, in order to generalize the results of this research, we should repeat the study using a wider sample of consumers and represent a greater diversity of nationalities. Besides, other kind of websites should be analysed in order to make a generalization in terms of product category. Secondly, it would be interesting to examine the role played by customer characteristics in our model, due to the possible influence on variables as satisfaction (Srinivasan 2002). Similarly, it would be a good idea to investigate these aspects in the new Internet access methods (e.g. mobile phone, digital TV, etc.). Finally, although we found support for our hypotheses and we obtained good  $R^2$  levels the model can be seen as simple. For this reason, it may be possible to increase the levels of  $R^2$  obtained in the study by using a more complex model.

## ANNEX I: MEASUREMENT SCALES

USABILITY	
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.
SATISFACTION	
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

<b>SAT3</b>	In general terms, I am satisfied with the way that this website has carried out transactions
<b>SAT4</b>	In general, I am satisfied with the service I have received from the website.
<b>TRUST (HONESTY, BENEVOLENCE AND COMPETENCE)</b>	
<b>HON1</b>	I think that this website usually fulfils the commitments it assumes
<b>HON2</b>	<i>I think that the information offered by this site is sincere and honest</i>
<b>HON3</b>	<i>I think I can have confidence in the promises that this website makes.</i>
<b>HON4</b>	<i>This website does not make false statements.</i>
<b>HON5</b>	This website is characterised by the frankness and clarity of the services that it offers to the consumer
<b>BEN1</b>	I think that the advice and recommendations given on this website are made in search of mutual benefit.
<b>BEN2</b>	I think that this website is concerned with the present and future interests of its users.
<b>BEN3</b>	I think that this website takes into account the repercussions that their actions could have on the consumer.
<b>BEN4</b>	<i>I think that this website would not do anything that can damage its users</i>
<b>BEN5</b>	I think that when the services of this website were designed, they kept in mind the users needs and desires.
<b>BEN6</b>	I think that this website is receptive to the needs of its users.
<b>COM1</b>	I think that this website has the necessary abilities to carry out its work
<b>COM2</b>	I think that this website has sufficient experience in the marketing of the products and services that it offers
<b>COM3</b>	I think that this website has the necessary resources to successfully carry out its activities.
<b>COM4</b>	<i>I think that this website has enough knowledge about users so can offer customized products and services</i>
<b>PURCHASE INTENTION</b>	
<b>USE1</b>	I have a high PURCHASE intention regarding the services offered by this website
<b>USE2</b>	<i>There is a high probability that I will recommend this website</i>
<b>USE3</b>	The odds of using again this website are high
<b>USE4</b>	If I had to use again this website, I wouldn't doubt about it.

## REFERENCES