

## **Achieving customers' repurchase intention through stimuli and site attachment**

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To cite this article: Jana Prodanova, Sonia San-Martín & Nadia Jiménez (2020) Achieving customers' repurchase intention through stimuli and site attachment, *Journal of Organizational Computing and Electronic Commerce*, 30:3, 187-208, DOI: 10.1080/10919392.2020.1739395

### **Abstract**

Despite its widespread use as a purchase channel, the Internet still provokes consumer concerns when it comes to the acquisition of high-involvement services, such as travel. This study, therefore, explores customers' intentions to repeat their online travel purchases, depending on the level of attachment they develop with a website, as is driven by high- and low-task relevant website characteristics. With an innovative, electronic Stimulus–Organism–Response model that introduces a new site attachment variable, this study reveals that, among experienced online travel purchasers, service quality, security and privacy issues, and entertainment all function as stimuli to incite affective, cognitive, and social activity and thereby enhance site attachment. This site attachment, in turn, evokes beneficial customers' responses, in the form of increased intentions to purchase travel services online again. With this distinctive approach to observing customers' reactions to and interaction with websites, this study establishes several strategic implications that can help companies enhance their service features and provision, as well as ensure lasting relationships with their customers.

**Keywords:** Online purchase; repurchase intentions; attachment; SOR; second-order; service quality; security and privacy; entertainment; travel services.

## **1. Introduction**

The Internet is a fundamental tool that people use for a range of tasks, both personal and professional, ranging from simple information searches to complex online purchases. Nearly half (48%) of the world's population uses the Internet on a regular basis (ITU 2018), and in Europe, the rate is even higher (79.6%) (ITU 2018). Many of these users engage in electronic commerce (e-commerce), such that 66% of Europeans buy online (ONTSI 2017). In Spain for example, as of 2017, 85.2% of the population were considered active Internet users, and 60.8% have purchased online (ONTSI 2018). Among the most frequent online purchases by Spanish customers, travel-related services stand out in particular, including both accommodation (55.1%, most frequently purchased service online) and transportation (49%, third most frequently purchased service online) (ONTSI 2017).

Such characteristics highlight the need for research that adopts a broader perspective on consumers' behavioral responses in e-commerce contexts to provide insights for organizations in the travel sector that seek to enhance their provision of online services and boost customers' repeated purchases (Hahn et al. 2017). Travel research already has cited the urge to explicate how consumers' perceptions of travel services form their choices, decisions, and intentions for future purchases (Zhang et al. 2014). In an effort to do so, the current study applies the *Stimulus–Organism–Response (SOR)* model (Mehrabian and Russell 1974) as an integrative theoretical approach and assumes that customers' behavioral responses stem from online environment stimuli (Huang et al. 2017). Therefore, this study aims to specify how travel

service website characteristics (stimuli) affect consumers' connection to that site (organism) and then how this tie determines their behavioral intentions (response). In more detail, the stimuli in a travel purchase environment include signals (e.g., service quality, security and privacy issues, and entertainment from signaling theory) that inform decision-making processes (Akerlof 2002). *Site attachment* in turn provides the focal organism, which comprises three dimensions: identity, or customers' emotional connection to the travel website where they purchase travel-related services; dependence, or the functional value consumers assign to the travel website's characteristics; and social bond with the website, as defined by customers' activities (Williams and Roggenbuck 1989; Williams and Vaske 2003; Kyle et al. 2005; Galvagno 2011). Finally, an intention to repeat the online travel purchase constitutes consumers' response.

By adopting the well-established SOR model to study responses triggered by signals, through site attachment in an electronic context, this article moves beyond prior literature that applies the SOR model more narrowly. In particular, the incorporation of site attachment distinguishes the current research from extant literature that focuses primarily on consumers' emotional perspectives (Yoon 2012; Kim and Johnson 2016) and integrates cognitive and conative aspects. This study, therefore, helps reveal how consumers establish full, sustained connections with travel providers, due to various environmental features and the personal bond that develops between the parties. Such insights go beyond approach or avoidance behaviors, as cited in previous studies (Lee et al. 2010; Lo and Lin 2013; Wu, Lee, Fu, and Wang 2014). Finally, the explicit consideration of an electronic SOR (e-SOR) model of the sustained online relationship between customers and companies adds further value to this research.

## **2. Research background**

Appealing, exciting travel services can provide substantial social, psychological, and economic benefits (Uysal et al. 2012), and accordingly, travel-related services have attracted notable marketing and management research attention. Relevant topics include customers' perceptions of companies' activities and their decision-making behavior (Mi Ju et al. 2016). Thus studies reveal that travel-related consumer behavior depends on perceived website characteristics, the purchasing environment, and offer conditions, allowing travel companies to communicate to their customers a favorable atmosphere for making a decision (Gao and Bai 2014).

However, the precise influences of these characteristics and conditions remain unclear, especially due to the uncertainty that customers perceive in association with online purchases of travel services (Kah et al. 2016). This uncertainty affects customers' evaluations, choices, decision making, and behaviors (Zhang et al. 2014). Accordingly, to comprehend the relationship between consumers and online providers of travel services, this study focuses on security and privacy issues, service quality (Chung and Shin 2010; Lee and Cranage 2011), and perceived entertainment (Cyr et al. 2006) as decisive factors for predicting customers' online purchases of travel services. However, the complex dynamism of experiences associated with travel-related services also implies the need to attend to the potential effects of relational factors (Lindberg et al. 2014). In response, this study investigates customers' attachment to the travel website, as a summary measure of the affective, cognitive, and conative (social) aspects of such business-to-consumer (B2C) relationships. This expansive approach can establish a clearer understanding of how the characteristics of the online environment affect customers' behavior, in terms of repurchasing travel services online.

According to a review of previous investigations of online purchases of travel services (Amaro and Duarte 2013), approaches mainly have been limited to the theory of reasoned action (Fishbein and Ajzen 1975), theory of planned behavior (Ajzen 1991), technology

acceptance model (Davis 1989), and unified theory of acceptance and use of technology (Venkatesh et al. 2003), sometimes with considerations of channel or product characteristic variables. The SOR model has not been applied extensively in travel-related service contexts, and in the limited research that uses it, the focus is predominantly on customers' emotional reactions or simple cognitive evaluations that determine approach and avoidance behaviors toward a focal company (Lee et al. 2010; Kim and Johnson 2016). A more exhaustive view of customers' relationship with the company instead might result from a distinguishable version of the SOR that offers more complex observations of customers' behavioral responses.

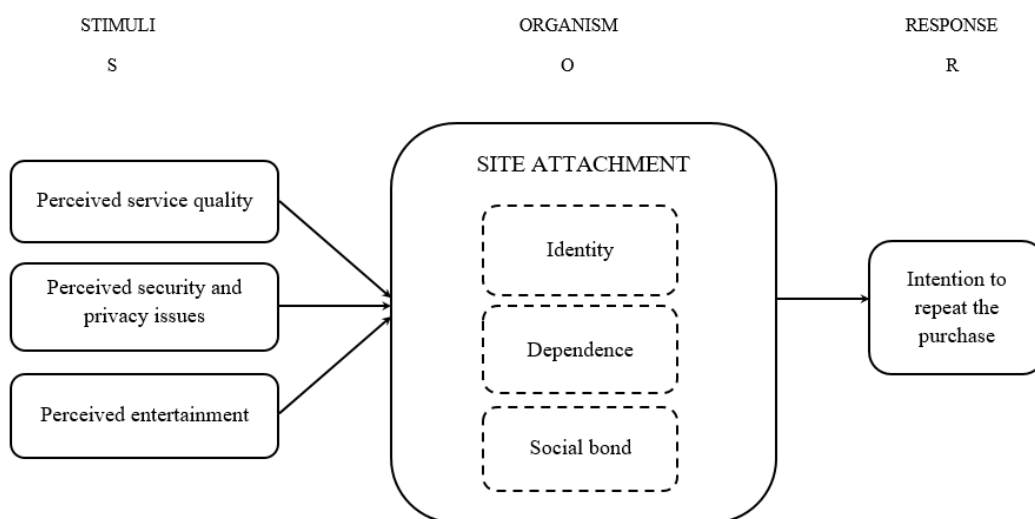
### *2.1. The SOR model*

The SOR model originated in psychology (Mehrabian and Russell 1974), developed to explain the effects of the environment on human behavior. But it also has been used to study offline purchases (Brown et al. 2007; Lin and Kuo 2016) and the online shopping context (Yoon 2012; Wu, Lee, Fu, and Wang 2014). The literature review in Appendix 1 outlines some of the diverse variables contemplated as part of this theory. Consistently though, this theory predicts that the stimuli (S) that customers perceive lead them to engage in actions, manifested through the organism (O), which constitutes their response (R). Stimuli refer to “something that rouses or incites to action or increased action” (Sherman et al. 1997, p. 365); an organism reflects “cognitive and affective intermediary states and processes that mediate the relationships between the stimulus and the individual's responses” (Chang and Chen 2008, p. 820), and the response refers to “a behavioral reaction of a customer shopping experience” (Zimmerman 2012, p. 5). In online travel purchase contexts, the stimuli would refer to the characteristics of the travel service provided, the organism would denote customers' actions incited by those perceived characteristics while purchasing the travel service online, and the response would entail consumers' actions, in the form of their behavioral intentions toward the

travel website. Consequently, SOR is found to be the most appropriate approach for this research since it focuses exactly on the enticements of the environment where customers act and on the effects on customers' responses.

In most prior applications of SOR theory to purchasing behavior (Wu, Li and Chiu 2014; Jani and Han 2015; Huang et al. 2017), the focus has been on the emotional aspects, rather than cognitive or social aspects that also might exert influences. In particular, no prior research has studied customers' site attachment in an e-commerce context or as part of the SOR model. Yet site attachment is a relevant organism, as a manifestation of the connection that customers create with the purchase channel (travel website), beyond their emotional arousal toward it. With a broader reflection on the SOR model, it becomes possible not only to encourage consumers to repurchase but also to establish a relationship that can fulfill their affective, cognitive, and social needs. Accordingly, the proposed integrative framework in Figure 1, based on an e-SOR model, includes site attachment and seeks to account for consumers' exposure to website stimuli, as well as their behavioral reactions.

**Figure 1. Proposed integrative e-SOR model**



## 2.2. *Stimuli: Website characteristics*

According to signaling theory, consumers use company signals to deduce service characteristics when they face incomplete or asymmetric market information (Guo and Wu 2016). Signals provide information in more detail than a simple message (Park et al. 2012) and determine customers' decision-making processes (Akerlof 2002). With regard to online purchase behavior, the stimuli that people perceive and process while shopping, such as the website's environmental elements, affect their purchasing behaviors (Liu et al. 2013), because they provide signals of service quality (Chen et al. 2010), which then provide a basis for generating a link to the website.

Eroglu et al. (2001) define the environmental stimuli of a website according to two general dimensions: high-task relevant and low-task relevant. The former pertain to features that can help customers achieve their goals and support the easy execution of a task, such as a service description, price, sales terms, or delivery and return policies. The latter instead involve atmospheric cues that are not directly related to the purchase goal, though they might make the environment more pleasant, interesting, or pleasurable, such as graphic design characteristics and entertaining elements. Among the website characteristics that strongly inform assessments of the quality of the service offered and influence customers' cognition-based behavior (high-task relevant) when they purchase online, service quality and security and privacy issues are paramount. First, good service quality implies continuous adaptations to customers' needs, which should evoke loyalty intentions (Chiou et al. 2009), especially in sectors such as travel-related services, where consumers' needs and preferences vary widely. Second, despite ongoing improvements to security and privacy protections, such that transactions generally are secure, hackers still attempt to steal data, and security breaches still plague payment systems, so customers' concerns remain salient (Ozturk et al. 2017).

For this study, *service quality* reflects customers' overall perception of the service and evaluation of previous interactions with a particular service provider, which is critical for travel-related services (Kuo et al. 2009). This process- or delivery-related feature stems from the interaction between the customer and the website (Hahn et al. 2017) and comprises information, communication, and transaction effectiveness associated with the travel service purchase (Li et al. 2015). In turn, *security and privacy issues* depend on attributes that reassure online customers when making their choices and act as evidence of the likelihood of an appropriate provision of travel services (Gupta 2014). Perceived security and privacy in the online travel purchase reflect customers' belief that their confidential information will not be disclosed and that the online transaction is secure, which further implies the reliability of the travel website (Ponte et al. 2015).

Furthermore, many customers use technologies not just for high-task relevant purposes (i.e. calls, e-mail or payments) but also for fun, so low-task relevant motives also determine website attractiveness. In particular, *entertainment* can enhance customers' positive experiences and positive emotions, as well as reduce the distance between the service provider and its consumers (Li et al. 2017). In an online setting, entertainment provides a relevant signal, strengthening consumers' sense that they made the right choice in visiting a specific website (Abarbanel et al. 2015) and driving their usage of the Internet and travel websites (San-Martín et al. 2015; Li et al. 2017). For travel purchases, entertainment likely is crucial for customers' interest in the travel website and its activity, because it can meet the hedonic needs that shape their purchase behaviours in this sector (Huang et al. 2017).

Finally, B2C relationships grow stronger when consumers' evaluation of the service improves, which encourages them to continue the relationship; such improved evaluations require that the characteristics of the service and the environment provide the expected quality. Thus, it is relevant to consider how consumers evaluate perceived website characteristics



(stimuli), through their affective, cognitive, and social activity (organism/site attachment), so that the later repurchase intentions could be determined (response).

### 2.3. *Organism: Site attachment*

To extend understanding of the organism beyond a simple definition as cognitive and affective states that result from the interaction with the environment (Chang and Chen 2008), this study takes the wider perspective of consumers involved in online travel purchases and therefore adapts existing store attachment concepts (Williams and Roggenbuck 1989). That is, store attachment, in an offline context, implies a strong relationship between the customer and the store, reflecting the phenomenon of human–place bonding (Kyle et al. 2005). It is usually represented as an emotional connection (Huang et al. 2017; Lo and Lin 2013). In contrast, the proposed organism of site attachment reflects the potentially positive link between a person and a virtual site, and it refers to the overall activity of consumers exposed to travel website stimuli.

Specifically, site attachment emerges when a person gets to know the online setting of the travel purchase, and it consists of three dimensions: site identity, site dependence, and social bond (Kyle et al. 2005; Galvagno 2011). *Site identity* is the affective element, comprised of customers' affection, emotions, and feelings. These personality elements prompt consumers to assign importance to website cues that encourage their relationship intentions (Williams and Vaske 2003; Kyle et al. 2005). It reflects the emotional attachment that customers create with the travel website. *Site dependence* instead refers to the cognitive bond between the customer and the website, a more rational element that encompasses customers' thoughts, knowledge, and beliefs. It indicates the functional value that involved consumers assign to the travel website features and conditions that support their goal achievement (Williams and Vaske 2003; Kyle et al. 2005). *Social bond* specifies consumers' social practices with the website providing

the travel service, including activities to share their travel-related experiences with family, friends, or a wider community (Scannell and Gifford 2010). This dimension reflects customers' feeling of sincere fondness for the travel website (Galvagno 2011). All three dimensions should increase consumers' feelings of belonging to a website (Hosany et al. 2016) and desire to maintain an enduring relationship with it (Williams and Vaske 2003). For example, when consumers recognize a connection with a website (identity), they might create a profile on the site, which prompts them to return to that site (e.g. booking an accommodation) each time they think about traveling, to the extent that they might never switch (dependence), because they are happy (bond) buying through this site.

#### *2.4. Response: Intention to repeat online purchases*

Determining customers' behavior is vital when they communicate with a company through technology since in this way companies can tailor marketing strategies that will ensure the continuity and stability of the B2C relationship (Rajaobelina et al. 2013).

Customers' desire to maintain a relationship with a seller gets expressed in their decision to purchase repeatedly (Mpinganjira 2014), defined as the "probability that a customer will continue to purchase a product from the same online seller" (Chiu et al. 2014, p. 5). If applied to travel, the repetition of a purchase refers to a repeat visitor to a tourist destination and is of deep interest to tourism providers, to support their development and growth.

Consistent with the assumption that stimuli cause customers to develop an evaluation, which induces their behavioral response (Kwek et al. 2015), customers' approach behavior would likely be manifested as a repetition of the online travel purchase. Thus, the stimuli that customers perceive in the environment in which they complete the purchase should influence their affective, cognitive, and social activity. Then they may develop site attachment, prompting a response i.e., customers' intention to repeat the travel purchase.

### **3. Hypotheses proposition**

#### *3.1. Stimuli-Organism relationship*

Among the service and website attributes that affect customers' perceptions of their relationship with the online provider of travel-related services, relevant research on website environmental cues (Brown et al. 2007; Yoon 2012) indicates that high-task relevant security and privacy issues and service quality, as well as low-task relevant entertainment, strongly influence customers' connection with the website (Sun et al. 2007) and induce positive responses to the intangible environment of the travel services provision (Ali et al. 2016). First, high-quality services are considered to be critical for decision making and stimulate consumers to create connections with the travel website (Cui et al. 2015), because they differentiate the company's offer and also help customers communicate with the website and establish a link with it (Rai and Sambamurthy 2006; Tsai 2017). In online purchase contexts, the perceived quality of the travel service is especially important, because it enhances interaction and association with the website (Hahn et al. 2017). According to signaling theory, website characteristics can enhance customers' closeness with the website that provides the travel service (Mavlanova et al. 2012).

*H1: The perceived service quality of a travel website positively affects customers' site attachment.*

Second, website security and privacy provide noteworthy benefits in B2C online interactions (Thaichon and Jebarajakirthy 2016) and strongly determine online purchase decisions for travel-related services (Ukpabi and Karjaluo 2017). If customers do not perceive the online transaction as reliable, in the sense that it guarantees security and privacy

in the online travel purchase, they are unlikely to create any connection with the travel website (Ponte et al. 2015). Security and privacy signals issued by the travel service provider could stimulate purchasers to generate more positive perceptions of the website and a favorable B2C linkage (Chung and Shin 2010). Therefore, travel services provided with high security and privacy might evoke ties with the travel website (Sreejesh and Abhilash 2017).

*H2: Perceived website security and privacy of the travel website positively affect customers' site attachment.*

Third, the seller's website provides a primary means of communication with the company, and while the content is important, its presentation—using color, music, action, pictures, videos, and interactivity—also is fundamental (Richard et al. 2010; Aljukhadar and Senecal 2015). Website's entertainment attributes influence customers' perceptions, thoughts, feelings, and attitudes toward the website (Jing et al. 2015); they also generate customers' dependence on and attention to the service provider (Carlson and O'Cass 2011). In a travel services setting, entertainment offers the hedonic inducement of customers' bond with the website (Huang et al. 2017). Accordingly, it could be considered as one of the vital signals affecting the connection that customers create with the travel website (Craig-Lees et al. 2013).

*H3: Perceived entertainment at the travel website positively affects customers' site attachment.*

### *3.2. Organism-Response relationship*

Individuals' association with the environment plays a significant role in their attachment to a website (Kyle et al. 2005). Environmental characteristics stimulate customers to maintain contact with companies, by underpinning communication and interaction, so that they preserve the established relationships (Confos and Davis 2016). Thus the link between customers' views

of the company and its travel service provision (organism) and their attitudes and decisions (response) is considered crucial (Martin-Fuentes 2016). For companies to strengthen their relationship with customers, they should move customers to a state in which they can create identification-based attachment, feel a sense of dependence, and perceive companies' social actions (Fullerton 2014), through their interactions, communication, and exploration in the travel purchase setting. When consumers purchasing a travel service online feel more connected to the provider (site attachment), they would likely generate stronger intentions to engage in repeated purchases, reflecting their identification and social connection with the website (Chung and Han 2017). Overall then, website characteristics should stimulate customers' site attachment, through affective, cognitive, and social aspects, which can directly condition customers' intentions to repeat their purchases through the same travel website.

*H4: Customers' site attachment to the travel website positively affects their intention to repeat the travel purchase.*

## **4. Research methodology**

### *4.1. Methodology*

In questionnaire's creation, the scales were derived from different prior studies to measure site attachment (Williams and Roggenbuck 1989; Williams and Vaske 2003; Kyle et al. 2005; Galvagno 2011), perceived service quality (Montoya-Weiss et al. 2003; Harris and Goode 2004; Ramus and Nielsen 2005; Al Karim 2013), perceived website security and privacy issues (Montoya-Weiss et al. 2003; Harris and Goode 2004; Kim et al. 2011), perceived entertainment (Cyr et al. 2006; Bigné et al. 2008), and intentions to repeat the purchase (Shimp and Kavas 1984; Bauer et al. 2005). All items were adapted to the context of online purchases of travel, with the help of experts and customers in a pre-test phase. To ensure readability and clarity

(Brislin 1980), the translation and the back-translation procedures were completed by three English native speakers who also are Spanish language professors. Next, five professionals reviewed the survey and pointed out some relevant travel-related services marketing and management insights. Finally, 20 experienced online travel purchasers verified the clarity and precision of the survey questions. Their feedback helped improve the questionnaire and guarantee that the survey objectives were met. To avoid different interpretations of the purchase context, before starting the questionnaire a clear statement was provided to respondents of what this study meant by “travel/trip” (Meng 2010), such that it might include a travel package or independent tour, and customers could indicate if their last purchased travel involve accommodation, transportation,<sup>1</sup> or both.

The non-probabilistic, purposeful sampling method employed is an appropriate technique for this investigation of a specific, predefined group of respondents (Tashakkori and Teddlie 2010), namely, online travel consumers. The survey was conducted at airports, bus and train stations, and travel agencies and asked participants to refer to their last online purchase of travel and about the probability to repeat the purchase. The data collection procedure, using personal questionnaires as a method of data gathering, produced surveys from 220 Spanish online travel consumers. After confirming that they had bought a travel online, all contacted individuals answered the questionnaire. Only 2 questionnaires were not valid, due to their null answers to key question items; the final valid sample size was 218. Procedural remedies helped minimize non-response bias, including the rich interviewing techniques, concise questionnaire, detailed explanation of the survey’s purpose, and adequate date frame and location, so a high response rate was reached (99.09%) (Bhattacharjee 2012). The sampling error was  $\pm 6.64\%$ , at a 95% confidence level for the case of maximum uncertainty.

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<sup>1</sup>The transportation measure also specified the type of transport: airplane, bus, train, or boat ticket.

A *post hoc* test of the appropriateness of the sample size obtained for the study of the proposed model (Faul et al. 2007; Iacobucci 2010) relied on a power analysis with G\*Power software (GPowerWin\_3.1.9.2). The power of 99.6%, for a sample of  $N = 218$ , at a standard level of significance  $\alpha = 0.05$ , effect size  $f^2 = 0.15$ , and six predictors, exceeds the recommended 80% power level (Cohen 1988), indicating a satisfactory sample size.

In addition, following guidance from prior literature (Chin 1998; Gefen et al. 2000; Wilson, 2010, Hair et al. 2011, Hair et al. 2014; Sarstedt et al. 2016) partial least squares–structural equation modeling (PLS-SEM) was employed for the data treatment, because it matches the criteria for which PLS-SEM is recommended: (1) when formative constructs are part of the structural model; (2) when latent variable scores need to be used in subsequent analyses; (3) when the sample size is not large<sup>2</sup>; (4) when data normality could not be assumed. In order to describe data distribution, summary statistics were further analyzed. As Appendix 2 reveals, the normality of the data could not be assumed (Pallant 2013). Although in some cases, the sample size and data distribution might be considered insufficient for the application of PLS-SEM (Westland 2014), the data set and research model exhibit other characteristics that support the use of a PLS-SEM approach for the model estimation. In turn, the PLS method reduces the hierarchical component model complexity and increases parsimony (Henseler et al. 2016, Hair et al. 2018). Accordingly, the SmartPLS3 software (Ringle et al. 2015) was employed.

#### *4.2. Sample characteristics*

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<sup>2</sup> Specifically, the “PLS-SEM minimum sample size should be equal to the larger of the following: (1) ten times the largest number of formative indicators used to measure one construct or (2) ten times the largest number of structural paths directed at a particular latent construct in the structural model” (Hair et al. 2011, p. 144; Hair et al. 2014). The data for this research fulfill this requirement.

Table 1 contains the demographic and socioeconomic characteristics of the sample. The majority of the online purchasers of travel are women. The most common age range is from 25 to 44 years (73.9%), their average education is at a university level (43.1%), and the predominant monthly home income is between 1201 and 3000€ (52.3%). Most customers purchase travel once to three times in the previous year (69.3%). These characteristics are similar to those of average Spanish purchasers of travel online, namely, young people between 25 and 44 years of age, with incomes above 1600€ per month, who have bought travel-related services in the past 12 months (INE 2016).

**Table 1. Sample characteristics**

<b>Demographic characteristics</b>		<b>%</b>
<b>Gender</b>	Men	<b>45.9</b>
	Women	<b>54.1</b>
<b>Age</b>	18-24	<b>10.1</b>
	25-34	<b>52.3</b>
	35-44	<b>21.6</b>
	45-54	<b>12.4</b>
	55-64	<b>3.1</b>
	> 64	<b>0.5</b>
<b>Education</b>	Basic studies	<b>1.8</b>
	High school/Associate degree	<b>17</b>
	University degree	<b>43.1</b>
	Postgraduate	<b>38.1</b>
<b>Monthly Home Income</b>	≤ 900€	<b>16.5</b>
	901 to 1200€	<b>12.9</b>
	1201 to 1500€	<b>16.1</b>
	1501 to 2000€	<b>17.9</b>
	2001 to 3000€	<b>18.3</b>
	3001 to 4000€	<b>9.6</b>
	> 4000€	<b>8.7</b>
<b>Purchase (times/last year)</b>	1-3	<b>69.3</b>
	4-7	<b>16.5</b>
	8-10	<b>5</b>
	> 10	<b>9.2</b>
<b>Type of travel</b>	Transport	<b>50.4</b>
	Accommodation	<b>17.9</b>
	Both	<b>31.7</b>
<b>Travel planned in advance</b>	Yes	<b>79.4</b>
	No	<b>20.6</b>



#### 4.3. Analyses and results

Estimating the model in Figure 1 requires proceeding in two phases, because site attachment is a second-order construct with three dimensions (dependence, identity, and social bonds). Therefore, it was necessary to measure the direct relations among site identity, site dependence, and social bonds as site attachment dimensions (first-order model) (Hair et al. 2014), as presented in Table 2. The Cronbach's alpha ( $\alpha > 0.7$ ) and composite reliability (CR  $> 0.6$ ) coefficients corroborated the reliability and internal consistency of the scales (Bagozzi and Yi 1988). The global quantity of variance for each item explained by the latent constructs was checked with the average variance extracted (AVE  $> 0.5$ ) (Bagozzi and Yi 1988); it confirmed convergent validity (Table 2).

**Table 2. First-order measurement model for site attachment estimation**

Variable	Dimensions	Loadings $\lambda$ (t Value)	$\alpha$	CR	AVE	
Site attachment	Identity	This website for buying travels is part of me.	.875 (39.234)*	.879	.918	.738
		I identify a lot with this website for buying travels.	.915 (66.181)*			
		I'm very attached to this website for buying travels.	.904 (67.323)*			
		This website for buying travels is very close to who I am.	.730 (22.002)*			
	Dependence	This website for buying travels is the best among those of the same kind.	.872 (42.087)*	.835	.901	.752
		Visiting this website for buying travels satisfies me more than visiting any other website.	.890 (61.361)*			
		I would not change this website for buying travels for another.	.839 (36.462)*			
	Social bond	Buying travels from this website makes me feel good.	.874 (43.882)*	.893	.926	.758
		I have a lot of fond memories about this website for buying travels.	.909 (64.621)*			
		Buying travels from this website makes me happy.	.888 (55.584)*			
		I show this website for buying travels to others.	.807 (31.390)*			

Note: \*  $p < 0.01$

Next, site attachment was incorporated as a second-order construct in the second-order measurement model (Ulaga and Eggert 2005). After refining the scales and deleting one item from the perceived security and privacy issues scale, due to its non-significant weight, it was confirmed that both reflective (intention to repeat the purchase) and formative (perceived service quality, perceived security and privacy issues, perceived entertainment, site attachment) constructs show significant values at a 95% confidence level ( $t > 1.96$ ) (Table 3), for all the coefficients of their corresponding items. The Cronbach's alpha ( $>0.7$ ) and CR ( $>0.6$ ) values affirmed the reliability and validity of the relationship scales, and the AVE ( $>0.5$ ) values confirmed convergent validity. Models that include formative constructs require measures of the Variance Inflation Factor ( $VIF < 5$ ) and the Tolerance Value ( $IT > 0.1$ ), to rule out multicollinearity (Diamantopoulos and Winklhofer 2001; Hair et al. 2014).

**Table 3. Second-order measurement model estimation**

Variable	Dimensions	Weights w (t Value)	VIF	IT
SA	Identity	.191 (1.977)**	2.278	.439
	Dependence	.888 (22.670)*	3.212	.311
	Social bond	.669 (5.161)*	3.889	.257
Perceived service quality	Wide and detailed information on travels is provided by this website.	.567 (4.994)*	1.914	.522
	This website fulfils the promised quality conditions.	.741 (7.560)*	1.991	.502
	On this website good value-money relation is offered.	.740 (7.444)*	1.676	.597
	On this website personalised services to the customer are offered.	.591 (3.954)*	1.442	.693
	This website offers a great variety of travels.	.521 (3.439)*	1.231	.812
Perceived security and privacy issues	This website is secure and has a privacy policy regarding the clients' data.	.628 (3.872)*	1.626	.615
	This website informs about their security and privacy policy.	Deleted	/	/
	I feel secure when I send personal information through this website.	.722 (4.930)*	2.460	.406
	My rights regarding data protection are respected.	.783 (6.215)*	3.254	.307
	My data is not provided to other companies or used for sending me not approved advertising.	.826 (3.068)*	2.589	.386
	This website guarantees the secure transmission of their clients' information.	.747 (5.690)*	2.368	.422

Perceived entertainment	Purchasing a trip on this website helps me relax.	.535 (4.175)*	1.938	.516	
	Purchasing a trip on this website helps me entertain.	.823 (12.322)*	2.830	.353	
	Purchasing a trip on this website provides me with something to do when I am alone.	.561 (4.273)*	1.995	.501	
<b>Variable</b>	<b>Dimensions</b>	<b>Loadings <math>\lambda</math> (t Value)</b>	<b><math>\alpha</math></b>	<b>CR</b>	<b>AVE</b>
Intention to repeat the purchase	My general intention to purchase again a trip online is very high.	.880 (40.384)*			
	I will use the service of this website for buying travels, again.	.899 (48.797)*	.861	.914	.780
	Next time I purchase a trip, I will use this website.	.870 (54.384)*			

Note: SA=Site Attachment; \* p<0.01; \*\* p<0.05

According to the Fornell-Larcker criterion (Fornell and Larcker 1981), the discriminant validity of all constructs was confirmed (Table 4), because the AVE for each construct is greater than its squared correlations with any other constructs. Finally, to account for potential common method variance, Harman's single-factor test was employed (Chang et al. 2010). After loading all the items on one factor in the principal components factor analysis, the unique factor explained only 31.4% of the variance. The cumulative variance explained by all the factors in the model is 72.5%. Thus common method variance does not appear to be a concern for the proposed model.

**Table 4. Correlation matrix of the second-order model**

	ENT	IRP	SA	SP	SQ
ENT	1.000				
IRP	.260	1.000			
SA	.611	.521	1.000		
SP	.128	.341	.324	1.000	
SQ	.217	.375	.454	.378	1.000

Note: ENT=Entertainment, IRP=Intention to repeat the purchase, SA=Site Attachment, SP=Security and privacy issues, SQ=service quality.

Having validated the second-order measurement model, PLS-SEM estimated the global e-SOR model (website stimuli–site attachment–intention to repeat the purchase) and confirmed the proposed hypotheses (Table 5). The  $R^2$  of the dependent variables exceeded 0.1 before

entering all the hypotheses (Falk and Miller 1992). In particular, the  $R^2$  values are 0.501 for site attachment and 0.272 for intention to repeat the purchase. Moreover, the changes in the  $R^2$  can determine the influence that exogenous latent variables have on endogenous dependent constructs (Wong 2013). Thus, Cohen's  $f^2$  also was measured (Cohen 1988). The results show that perceived entertainment ( $f^2 = 0.537$ ) has a strong impact on site attachment, compared with the rest of the exogenous variables (service quality  $f^2 = 0.133$ ; perceived security and privacy issues  $f^2 = 0.038$ ). Furthermore, site attachment exerts a large effect on intention to repeat the purchase, with  $f^2 = 0.373$ .

**Table 5. Estimation of the causal model**

Hypothesized relations	Coefficient $\beta$ (t Value)	Result
H1: Perceived Service Quality $\rightarrow$ SA	.283 (5.123)*	Supported
H2: Perceived Security and Privacy Issues $\rightarrow$ SA	.149 (2.746)*	Supported
H3: Perceived Entertainment $\rightarrow$ SA	.531 (11.586)*	Supported
H4: SA $\rightarrow$ Intention to Repeat the Purchase	.521 (10.781)*	Supported

Note: SA=Site Attachment; \*  $p < 0.01$ ; \*\*  $p < 0.05$

As Table 5 indicates, all the proposed hypotheses were supported at a 99% confidence level ( $t > 2.58$ ). These results confirm that perceived service quality, website security and privacy issues, and entertainment all positively affect customers' site attachment, reflecting their identification, dependence, and social bond with the website. Site attachment also enhances customers' intentions to repeat their travel purchases on the same website where they bought their last travel. The variable that has the greatest effect on customers' site attachment to the travel website is perceived entertainment.

## 5. Conclusions and implication

The goal of this research was to study the influence of website stimuli on site attachment and then site attachment's effect on customers' intentions to repeat their purchase of travel

online, offering an innovative e-SOR model. It contributes to theory by providing a different observation of several customer behavior and decision-making concepts, applying them to the online purchase of travel. The findings suggest that customers' site attachment, influenced by website signals, determines their repurchase intentions. This evidence underlines the importance of establishing appealing travel services and website environmental conditions, which ultimately predict and strengthen the company's relationship with its customers.

Most online environmental research takes a holistic approach; most applications of the SOR model focus on customers' emotional responses and approach or avoidance behaviors (Yoon 2012; Wu, Lee, Fu, and Wang 2014). Travel-related services are different, in that the decision-making process is complex, comprising personal experience, knowledge, beliefs, emotional reactions, and specific behavioral responses related to the travel, its provider, and the destination (Zhang et al. 2014). Therefore, site attachment represents a novel organism in the e-SOR model for online travel purchases; this conceptualization, to the extent of the authors' knowledge, has not been explored previously. The resulting expanded perspective on consumers' interactions with websites thus provides a clearer reflection of individual activity.

In particular, site attachment, as developed by online buyers of travel services, appears vital for explaining the continuance of B2C relationships, in the form of repeat purchase intentions. The stimuli that prompt this bond come from the website itself, where organizations detail their offers and services. Environmental incentives, related to security and privacy, service quality, and entertainment, help mitigate the uncertainties that consumers identify in relation to purchase complexity and benefit their decision-making process with regard to travel services purchases online.

### *5.1. Academic implications*

This study and the proposed e-SOR model, addressing the electronic provision of travel-related services, contribute to e-commerce literature. First, it identifies and validates dimensions that can portray customers' attachment to travel websites. By spanning affective, cognitive, and social aspects of the organism, this study offers unique insights, moving beyond SOR studies that generally focus on aspects such as value, pleasure, arousal, or flow experiences that lead to customer satisfaction or purchase intentions (Chiu et al. 2014; Kim and Johnson 2016; Huang et al. 2017). It also identifies site attachment as a broader dimension that may influence manifestations of relationship constancy, such as repurchase intentions. Confirming the second-order structure of customers' activity as an organism also constitutes an enriching contribution of this study.

Second, this research distinguishes high-task relevant and low-task relevant website characteristics as stimuli that enhance site attachment, which then influences customers' responses and thereby confirms the interrelationships of measures that describe the online environment and customers' activity. Service quality, security and privacy, and entertainment all can enhance consumers' site attachment in online purchase processes, contributing to a stronger relationship with the company. Consumers who perceive the presence and quality of these environmental cues enjoy higher identification, dependence, and social bonds with the website.

Third, the site attachment that customers create with the website is an incentive for them to repeat their purchase from the same website (Eastlick et al. 2006). This confirmatory evidence of the direct, positive effect of site attachment on customers' intentions to stay in the relationship helps reveal which conditions enable companies to achieve durable customer relationships. As previous literature had stated, B2C relationships represent a sort of bridge, between the service features and the actual affective, intellectual, or behavioral experience that customers have with the service provider (Rezaei et al. 2017). Therefore, in the travel sector,

featuring high-involvement services and meaningful customer relationships with service providers and the surrounding environment (No and Kim 2015), the inclusion of site attachment in the e-SOR model provides a wider view of consumer behaviors. This novel observation and empirical confirmation of the proposed e-SOR model delineates the impact of stimuli on consumers' behaviors with regard to online travel purchase. In this sense, the e-SOR model offers a good foundation for studying electronic environment characteristics as stimuli and the affective, cognitive, and social conditions of customers as means to enhance their attachment to the travel website.

### *5.2. Managerial implications*

The outcomes of this study also offer several managerial implications, especially for organizations competing in the online travel services sector. In particular, to maintain their customer relationships, firms must develop websites that create links with the customer in the initial purchase stage. If the website content communicates service quality, provides information about security and privacy policies, and enables entertainment, customers will likely feel attached to the website. Such attachment will not only reduce customers' switching intentions but also can strengthen an already established relationship, as long as the firm provides good quality-price deals and maintains the promised quality conditions. Thus, by enhancing information quantity, availability and precision, personalizing the offer, and delivering a variety of travel-related services, companies can encourage beneficial site attachment among consumers. Such companies might employ virtual reality tools to allow travelers to engage in virtual sightseeing of a potential destination or list complementary guidelines regarding transport or accommodation issues. They also might work to improve their customization of the purchased travel service or additional services offered at the moment of consumption. As such they can continue to offer services, while customers are enjoying their

trip, granting them easy access to updated information about activities or places to visit at the precise moment they are seeking to enhance their travel (e.g., nearby monuments, restaurant offerings, theme park schedules, traffic rush hours, alternative routes).

Furthermore, plentiful, accurate information about security and privacy, together with secure data transmissions, are necessary to enable customers to feel identified with and close to the website. Travel-related service providers must protect personal information, payment card data, and purchasing arrangements in general to guarantee service, information, and website safety. An electronic certificate can help increase perceptions of security and privacy. Providing detailed information about data protection laws and updates, using keys to disguise personal information, allowing customers to choose how their data are used, and constantly upgrading the payment system, all can lead to greater perceptions of the website security and privacy. In addition, instructions and tutorials on the travel website should detail how the organization handles customers' data and implements privacy and security settings to avoid data privacy breaches, payment fraud, or identity theft (e.g., simplify the implementation of the General Data Protection Regulation 2016/679). Thus customers gain greater awareness and knowledge regarding these issues.

Finally, travel websites should be entertaining. New technology-mediated settings grant companies the possibility to deliver content in diverse forms, and they should exploit it to create an encouraging environment that makes customers have fun, feel relaxed, and feel comfortable when continuing to use the travel website. An exciting website design, content, or navigation can encourage greater interactivity with the travel website or service, which in turn should link the service provider with something unique and fun (e.g., discount vouchers, social media shares). Entertained consumers likely express positive attitudes toward the travel website and available services. Therefore, companies could introduce gamification elements in the browsing process to make time spent on the website more pleasant and entice future purchases.



Challenges or contests that promise customers the chance to win a prize for their next travel likewise might be an entertaining option.

All of these activities are important for encouraging customers' attachment to the travel website, which in turn can ensure client retention and create links of dependence, affection, and social connection with the company's website. Having accomplished this connection, the travel service provider likely can count on customers to repeat their online travel purchase on the same website.

### *5.3. Limitations and future research*

This study included only three website cues as stimuli that drive changes in the organism; other influential characteristics might arise in online environments though, such as effectiveness or interactivity. Moreover, the results apply specifically to the online travel sector. Depending on the nature of the service, customers' involvement can be higher or lower, so their responses likely differ in other sectors. Further research should investigate other services to determine if the proposed e-SOR model applies in those sectors, as well as in mobile commerce contexts. Another line of research might specify the individual effects of the site attachment dimensions. In this way, it can be likewise studied the consequence of these and other website attributes on identity, dependence, and social bond, as separate variables. Finally, an issue that has to be addressed in the forthcoming research is to consider the costs involved in following up with non-respondents and obtain further information from them.

### **Acknowledgments**

The authors thank the Ministry of Economy and Competitiveness, Spain for its support of this research through the project ECO2017-82107-R.

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## Appendix 1. Previous research on SOR in offline and electronic contexts

Offline context			
Authors	Stimuli	Organism	Response
<b>Buckley (1991)</b>	Physical item characteristics and physical store attributes.	Perceived item characteristics, customer characteristics and perceived store attributes.	Purchase of an item and store patronage.
<b>Donovan <i>et al.</i> (1994)</b>	Store environment (colour and music).	Pleasure and arousal.	Money and time spending.
<b>Turley and Milliman (2000)</b>	Atmospheric stimuli (exterior, general interior, store layout, interior displays and human variables).	Employees' and customers' characteristics.	Employees' and customers' behaviour.
<b>Thang and Tan (2003)</b>	Store images (merchandising, store atmosphere, in-store service, accessibility, reputation, promotion, facilities and post-transaction).	Customer perception.	Preference for stores.
<b>Spangenberg <i>et al.</i> (2006)</b>	Ambient scents that are gender-congruent or incongruent with product offerings.	Internal customer activity.	Approach or avoidance behaviour.
<b>Kim <i>et al.</i> (2009)</b>	Appearance-oriented comments (types of appearance and specific attributes of appearance) and evaluative comments.	Emotion (positive and negative emotions) and cognition (store image).	Purchase behaviour.
<b>Vieira (2013)</b>	Colour, temperature and information rate regarding spatial and temporal relationships among the stimulus components.	Pleasure, arousal and dominance.	Behavioural responses of approach or avoidance (physical approach, exploration, affiliation and performance or other verbal and non-verbal communications of preference).
<b>Kumar and Kim (2014)</b>	Social, design, ambient and merchandise cues of the store.	Affective and cognitive evaluations towards the store and the merchandising.	Approach or avoidance behaviours.
<b>Jani and Han (2015)</b>	Ambience.	Positive and negative emotional response.	Customers' loyalty.
<b>Lin and Kuo (2016)</b>	External stimuli (sensory, affective behavioural, intellectual and relational experience).	Internal stimuli (flow and positive emotion).	Internal responses (perceived value and satisfaction) and external responses (intention to recommend or revisit the destination).



## Appendix 1. Previous research on SOR in offline and electronic contexts (cont.)

Electronic context			
Authors	Stimuli	Organism	Response
<b>Eroglu <i>et al.</i> (2001)</b>	Website atmosphere.	Affective and cognitive internal states.	Approach or avoidance to shopping.
<b>Richard (2005)</b>	Internet atmospheric cues: central (structure, organisation, informativeness, effectiveness and navigational characteristics) and peripheral (entertainment).	Website attitudes, website involvement and exploratory behaviour (information-search or exploration through purchasing).	Purchase intentions and involvement in purchase decisions.
<b>Brown <i>et al.</i> (2007)</b>	Characteristics of electronic store environment.	Shopper emotional states.	Shopping outcomes and behaviours.
<b>Lee <i>et al.</i> (2010)</b>	Image interactivity technology of a website.	Consumers' affective (shopping enjoyment) and cognitive (perceived risk) shopping experiences.	Approach responses toward the website.
<b>Yoon (2012)</b>	Website design, image interactivity technology, e-trust and customisation.	Hedonic and utilitarian attitudes.	Satisfaction and purchase intention.
<b>Lo and Lin (2013)</b>	Virtual layout, colour contrast and webpage complexity.	Pleasantness and arousal.	Impulse buying behaviour.
<b>Wu, Li and Chiu (2014)</b>	Layout design and atmosphere.	Emotional arousal (pleasure arousal) and attitude toward the website.	Purchase intention.
<b>Grace <i>et al.</i> (2015)</b>	Interaction, anonymity, usage volition, risk regarding social and personal identity.	Sociability, shyness, self-disclosure, susceptibility to interpersonal influence and concern for privacy.	Adoption or avoidance of social network usage.
<b>Kim and Johnson (2016)</b>	Physical atmospheric factors or informational stimuli.	Pleasure, arousal and perceived information quality.	Immediate behavioural responses (information pass-along and impulse buying) and latent behavioural responses (future-purchase intention and brand engagement) in social network usage.
<b>Huang <i>et al.</i> (2017)</b>	E-servicescape (aesthetic appeal, layout and functionality and financial security).	Flow experience and positive affect.	Intention to use online hotel booking website for purchase, repurchase and recommendation to others.

## Appendix 2. Summary statistics review

Observable variable	<i>N</i>	<i>Mean</i>	<i>Std. Error of Mean</i>	<i>Median</i>	<i>Mode</i>	<i>Std. Deviation</i>	<i>Variance</i>	<i>Skewness</i>	<i>Std. Error of Skewness</i>	<i>Kurtosis</i>	<i>Std. Error of Kurtosis</i>	<i>Range</i>	<i>Minimum</i>	<i>Maximum</i>
SP1	218	4.11	0.060	4.00	4	0.883	0.780	-0.905	0.165	0.620	0.328	4	1	5
SP2	218	4.14	0.062	4.00	5	0.917	0.841	-1.154	0.165	1.359	0.328	4	1	5
SP3	218	3.80	0.069	4.00	4	1.023	1.047	-0.655	0.165	-0.039	0.328	4	1	5
SP4	218	3.87	0.064	4.00	4	0.939	0.881	-0.541	0.165	-0.237	0.328	4	1	5
SP5	218	3.74	0.070	4.00	4	1.033	1.067	-0.505	0.165	-0.371	0.328	4	1	5
SP6	218	4.00	0.056	4.00	4	0.826	0.682	-0.347	0.165	-0.679	0.328	3	2	5
SQ1	218	3.98	0.059	4.00	4	0.866	0.751	-0.513	0.165	-0.419	0.328	3	2	5
SQ2	218	3.89	0.058	4.00	4	0.860	0.740	-0.452	0.165	-0.186	0.328	4	1	5
SQ3	218	4.04	0.059	4.00	4	0.866	0.749	-0.553	0.165	-0.055	0.328	4	1	5
SQ4	218	3.38	0.078	4.00	4	1.159	1.343	-0.406	0.165	-0.594	0.328	4	1	5
SQ5	218	4.00	0.073	4.00	5	1.071	1.147	-1.012	0.165	0.384	0.328	4	1	5
E1	218	2.77	0.088	3.00	3	1.301	1.692	0.062	0.165	-1.099	0.328	4	1	5
E2	218	2.73	0.088	3.00	3	1.293	1.671	0.120	0.165	-1.016	0.328	4	1	5
E3	218	2.32	0.087	2.00	1	1.287	1.657	0.572	0.165	-0.846	0.328	4	1	5
I1	218	2.18	0.081	2.00	1	1.203	1.447	0.677	0.165	-0.528	0.328	4	1	5
I2	218	2.17	0.077	2.00	1	1.131	1.278	0.637	0.165	-0.434	0.328	4	1	5
I3	218	2.17	0.083	2.00	1	1.231	1.515	0.750	0.165	-0.511	0.328	4	1	5
I4	218	3.02	0.076	3.00	3	1.124	1.262	-0.115	0.165	-0.580	0.328	4	1	5
D1	218	3.21	0.075	3.00	4	1.102	1.215	-0.313	0.165	-0.567	0.328	4	1	5
D2	218	2.85	0.083	3.00	3	1.221	1.490	-0.054	0.165	-0.870	0.328	4	1	5
D3	218	2.44	0.081	2.00	1	1.198	1.436	0.437	0.165	-0.734	0.328	4	1	5
SB1	218	2.64	0.081	3.00	3	1.199	1.438	0.218	0.165	-0.823	0.328	4	1	5
SB2	218	2.70	0.088	3.00	3	1.305	1.703	0.191	0.165	-1.025	0.328	4	1	5
SB3	218	2.52	0.087	2.00	1	1.278	1.633	0.346	0.165	-0.983	0.328	4	1	5
SB4	218	3.23	0.084	3.00	4	1.239	1.535	-0.204	0.165	-0.940	0.328	4	1	5
IRP1	218	3.98	0.075	4.00	5	1.107	1.225	-1.013	0.165	0.491	0.328	4	1	5
IRP2	218	4.03	0.064	4.00	5	0.943	0.888	-0.698	0.165	0.007	0.328	4	1	5
IRP3	218	3.54	0.070	3.00	3	1.030	1.060	-0.189	0.165	-0.504	0.328	4	1	5

Note: SP=Security and privacy issues; SQ=service quality; ENT=Entertainment; I=Identity; D=Dependence; SB=Social bond; IRP=Intention to repeat the purchase.