

# ONLINE FLOW AND E-SATISFACTION IN HIGH INVOLVEMENT PURCHASING PROCESSES

## FLUXO ONLINE E E-SATISFAÇÃO EM PROCESSOS DE COMPRA DE ALTO ENVOLVIMENTO

### HARRISON BACHION CERIBELI<sup>1</sup>

Universidade Federal de Ouro Preto  
harrisonbceribeli@hotmail.com

### HELENITA RODRIGUES DA SILVA TAMASHIRO<sup>2</sup>

Universidade de São Paulo  
hrstamashiro@ibest.com.br

### EDGARD MONFORTE MERLO<sup>2</sup>

Universidade de São Paulo  
edgardmm@usp.br

#### ABSTRACT

This research aims to verify the relation between the attributes of online shopping experiences, the state of online flow, and e-satisfaction in high-involvement purchases. To reach that goal, we conducted a survey with 720 e-consumers. We adopted quotas sampling, using age distribution as criteria. To analyze the data, we used Structural Equation Modeling. From the statistical analysis, we found that there are some attributes of online shopping experiences that directly influence e-satisfaction (convenience associated with the website, exchange and return policies, and quality of delivery service), while others influence the state of flow online (perceived innovation on the website, price and aesthetics of the website), which, in turn, influences e-satisfaction. Additionally, we identified two attributes that influence both flow online and e-satisfaction: reliability attributed to the website and variety of products available for sale on the website.

**Keywords:** e-commerce, e-satisfaction, online flow, consumer involvement, online shopping experience.

#### RESUMO

Esta pesquisa teve como objetivo verificar a relação entre os atributos das experiências de compra *online*, o estado de fluxo *online* e a e-satisfação em compras de alto envolvimento. Para atingir esse objetivo, conduziu-se um levantamento de campo com 720 e-consumidores. Adotou-se a amostragem por cotas, usando como critério a distribuição etária. Para analisar os dados, utilizou-se a Modelagem de Equações Estruturais. A partir da análise estatística dos dados, foi possível identificar alguns atributos das experiências de compra *online* que influenciam diretamente a e-satisfação (conveniência associada ao *website*, políticas de trocas e devoluções e qualidade do serviço de entrega), e alguns que influenciam o estado de fluxo *online* (inovação percebida no *website*, preços e estética do *website*), o qual, por sua vez, influencia a e-satisfação. Adicionalmente, foi possível identificar dois atributos que influenciam tanto o fluxo *online* quanto a e-satisfação: a confiabilidade atribuída ao *website* e a variedade de produtos disponíveis para venda no *website*.

**Palavras-chave:** comércio eletrônico, e-satisfação, fluxo *online*, envolvimento do consumidor, experiência de compra *online*.

<sup>1</sup> Universidade Federal de Ouro Preto. Rua do Catete, 166, Centro, 35420-000, Mariana, MG, Brasil.

<sup>2</sup> Universidade de São Paulo. Av. dos Bandeirantes, 3900, 14040-900, Ribeirão Preto, SP, Brasil.

## INTRODUCTION

Internet access became easier because of improvements in the infrastructure of telecommunications (Wachter *et al.*, 2000). Consequently, the e-business moved forward and became more evident.

Electronic business, also known as e-business, can be defined through the use of communication technologies, among which stand out those related to the Internet, to interconnect and support business processes, and to communicate and collaborate within an organization and between it and its customers, suppliers, and other partners (Laudon and Laudon, 2010; O'Brien, 2004).

Among the different electronic business arrangements described by Gonçalves and Ferreira (2010), e-commerce is noteworthy due to the significant growth achieved by this business format in recent years. The growing competition in e-commerce is inducing more and more companies to seek the satisfaction of consumers, which, in turn, reflects the continuity of the relationship, in loyalty, favorable attitudes and positive word-of-mouth advertising (Rossi and Slongo, 1998).

The satisfaction of e-consumers or e-satisfaction results, according to Dholakia and Zhao (2010) e Bansal *et al.* (2004), from several factors, many of them associated with attributes of online shopping experience, which are evaluated before, during and after the finalization of the electronic purchase transaction. Those same authors argue there is no concordance between researchers about which of these attributes are more relevant to formation of e-satisfaction.

However, besides the attributes of shopping experience, there are personal and psychological aspects influencing the e-consumers behavior, including online flow, which is a state of deep immersion reached by an individual during online purchase process (Hoffman and Novak, 1996). Studies show that flow state in e-commerce increases attention, improves attitudes and increases purchase intent in a particular website (Hoffman and Novak, 2009; Van Noort *et al.*, 2011). Nevertheless, there are no studies linking the online flow to e-satisfaction yet.

Starting from the lack of agreement among researchers about which attributes of online shopping experience influence e-satisfaction, as well as the absence of studies linking online flow of e-satisfaction, was defined as general goal for this research verify the relation between the attributes of online shopping experiences, the state of online flow and e-satisfaction in high-involvement purchases.

The importance of this work lies in three key points: (i) the relevant expansion of e-commerce in Brazil, coupled with the trend of future growth; (ii) the issue of importance of customer satisfaction in the context of e-commerce; and (iii) the lack of scientific studies that discuss this topic associated with consumer involvement and online flow.

## LITERATURE REVIEW

### CONSUMER INVOLVEMENT IN THE PURCHASE DECISION PROCESS

According to Hanna *et al.* (2009), Blackwell *et al.* (2005), Mowen and Minor (2003), Sheth *et al.* (2001), Schiffman and Kanuk (2000), and Wells and Prensky (1996), the efforts made by consumers in the purchase process vary depending on his involvement with specific products or services. In low-involvement situations, consumer attaches little importance to the procurement process and does not believe that increasing effort to acquire the product or service significantly increases benefits. On the other hand, in situations involving high-involvement, the consumer attribute high importance to the buying process and expects significant benefits if greater effort is made to acquire products or services.

According to Mitchell (1979), involvement is a concept that expresses an emotional state awakened in the consumer for a particular product or service. Complementarily, Zaichkowsky (1985) and Petty and Cacioppo (1981) define involvement as a measure of congruence between the meanings attributed to specific products or services and the values of consumers, while Higie and Feick (1989) and Bloch *et al.* (1986) argue that the concept of involvement refers to the interest shown by consumers by specific products or services.

Mittal (1989) argues that there are two types of consumer involvement: involvement with a specific product or service, that reflects the degree of interest that individuals associate with a specific category of goods or services, and involvement with the purchase process, that reflects the level of interest and consumer concern about the acquisition of a product or service and include the care of the consumer in the search for information and evaluation of alternatives; the strong focus on making the right decision; and the concern about the possible outcomes of the choice. This author explains that the involvement with the product and the involvement with the purchase process are not identical constructs because consumers who typically do not show great interest in a specific product category may have high involvement in the process of buying a product belonging to this category.

Consumer purchasing behavior is not always the same, i.e., is not constant in all situations, and is modified according to the degree of involvement shown by individuals. At one extreme, involving low-involvement situations, the consumer tends to present a simplified behavior of purchase and reduces the efforts directed to the process of acquiring goods and services (Hanna *et al.*, 2009; Solomon, 2008; Hawkins *et al.*, 2007; Blackwell *et al.*, 2005). At the other extreme, involving situations of high-involvement, the consumer tends to have a more complex buying behavior and increases the effort expended in the purchase of products and services (Hanna *et al.*, 2009; Solomon, 2008; Hawkins *et al.*, 2007).

According to Solomon (2008), purchase behavior resulting from high consumer involvement is most common in situations characterized by a high cost of the product to be purchased and non repetition of purchase.

### ONLINE FLOW

In 1975, Csikszentmihalyi proposed the Flow Theory, which intended to explain the cognitive-emotional status achieved by individuals in different activities such as various sports and dance (Congwen *et al.*, 2010).

According to the Flow Theory, when individuals are fully engaged in the implementation of any particular task or activity, they can experience a sense of flow, when they are completely immersed and deeply absorbed in the accomplishment of the task (Congwen *et al.*, 2010). When individuals are in such a state of flow, they fail to pay attention to the time that is passing while performing the task and ignore other activities (Congwen *et al.*, 2010).

Hoffman and Novak (1996), starting from the flow theory, analyzed the state of flow experienced by consumers during their purchases in e-commerce, and confirmed that individuals can reach a state of deep immersion in these activities too. For them, the concept of flow is related to total user engagement and subsequent immersion in performing a certain activity, such as shopping online.

Also according to Hoffman and Novak (1996), the state of flow reached in online activities can be characterized by a sense of natural fun experienced by consumers. It is accompanied by the loss of self-consciousness and lack of reflection during the navigation into the website in which those are browsing. After Hoffman and Novak's work (1996), several other authors focused their studies on understanding the flow state experienced by consumers in e-commerce, among which are Chen *et al.* (1999), Novak *et al.* (2000, 2003), Huang (2003, 2006), Choi *et al.* (2007), Hoffman and Novak (2009) and Van Noort *et al.* (2011).

In her study, Huang (2006) argued that the flow state can be characterized by complete immersion of consumer in the online buying activity. This occurs when the consumer's attention is focused exclusively on the interaction with the website and his curiosity is stimulated.

According to Hoffman and Novak (1996), Novak *et al.* (2000), Huang (2003), Choi *et al.* (2007), Hoffman and Novak (2009), and Van Noort *et al.* (2011) there is relationship between website's interactivity and state of flow, the first term being antecedent of the second. Additionally, Congwen *et al.* (2010) and Agarwal and Karahanna (2000) showed that enjoyment experienced by consumers when they are navigating in a particular retail site affects the flow state, while Congwen *et al.* (2010), and Huang (2003), reported that perception of innovation that individuals associate with a particular website increased the flow of consumers when they interact online. Finally, Bridges

and Florsheim (2008), Hoffman and Novak (1996), and Novak *et al.* (2000), pointed that online telepresence increases the perception of reality of website, and consequently increases the state of flow during the online shopping experience.

According to above-mentioned authors, there are some attributes of online shopping experience, related with the website where purchases are made, that lead e-consumers to experience online flow. Based on that, it was defined the following hypothesis:

*H<sub>1</sub>: In high involvement purchases, attributes of online shopping experience influence the state of online flow of Brazilian e-consumers.*

After presenting the elements that precede the flow state experienced in online activities, next, we discuss how this cognitive state of immersion and total concentration influences buying behavior. According to Van Noort *et al.* (2011), the state of flow influences consumers in three different dimensions: cognitive, affective, and behavioral.

In the cognitive dimension, the state of flow extends the consumers' attention to informational elements of the website, including the information available about products sold and the virtual retailer itself, as well as the absorption capacity, and processing of information (Van Noort *et al.*, 2011; Hoffman and Novak, 2009; Choi *et al.*, 2007).

In the affective dimension, the state of flow influences the attitudes developed by consumers regarding the website and the online retailer's brand. In this sense, when individuals reach a significant state of immersion when browsing into a website, they tend to develop more favorable attitudes toward electronic sales environment that they are exploring (Van Noort *et al.*, 2011; Choi *et al.*, 2007; Richard and Chandra, 2005; Korzaan, 2003).

Finally, in the behavioral dimension, the state of flow impacts consumers' intentions to purchase. They intend to visit the website with intention to make present and future purchases and adopt exploratory behavior while on the website (Van Noort *et al.*, 2011; Hoffman and Novak, 2009, 1996; Huang, 2006; Richard and Chandra, 2005; Wu and Chang, 2005).

Analyzing the impacts or effects that online flow has on e-consumers in three different dimensions (cognitive, affective and behavioral), associated with the lack of studies that linking online flow and e-satisfaction and, consequently, the need to investigate this relation, was proposed the following hypothesis:

*H<sub>2</sub>: In high involvement purchases, the state of online flow influences e-satisfaction of Brazilian e-consumers.*

### ATTRIBUTES OF ONLINE SHOPPING EXPERIENCE THAT INFLUENCE E-SATISFACTION

After conducting an extensive literature review, it was possible to identify different attributes mentioned by several authors as being important for consumer satisfaction in e-

commerce, which can be divided into three categories. These categories are related to the stages in which there is evaluation by consumers: attributes evaluated during placing the purchase order, attributes evaluated after the request has been completed and before the goods have been delivered, and, finally, attributes evaluated after the products were delivered.

The attributes evaluated by the consumer during the order placement are the most numerous and include: (1) customer service, (2) customization, (3) convenience, (4) reliability, (5) aesthetic and organization of the virtual store environment, (6) reputation of the retailer, (7) information available, (8) prices, (9) website response time, and (10) variety in the retail assortment. The attributes evaluated by the consumer in the time interval between the end of the order and delivery, are: (1) the payment process, and (2) the possibility to follow the order and track the delivery. Finally, the attributes evaluated by the consumer after the products have been delivered are: (1) delivery service, (2) return and exchange policies of the company, and (3) the quality of products.

Regarding the "service" attribute, consumers expect the retailer to have a synchronous online service channel so questions can be answered quickly (Zhao and Dholakia, 2009; Holloway and Beatty, 2008). Consumers also expect that attendants present a polished and gentle posture (Fasanghari and Roudsari, 2008; Posselt and Gerstner, 2005); that the response time is efficient (Fasanghari and Roudsari, 2008); and that attendants show great knowledge about the products sold by the company, the company's business policies and the purchase transactions on the website (Fasanghari and Roudsari, 2008; Posselt and Gerstner, 2005).

Relative to attribute "customization", individuals are more satisfied when personalized offers are developed that meet their consumer habits and preferences (Lin and Sun, 2009; Lee and Kozar, 2006; Schaupp and Belanger 2005; Madu and Madu, 2002).

Another important attribute for the formation of e-satisfaction is the convenience that consumers perceive when conducting transactions in virtual environments (Eid, 2011; Lin and Sun, 2009; Evanschitzky *et al.*, 2004; Szymanski and Hise, 2000). The convenience includes, in retailing, all the elements that facilitate user navigation, the search for information and products, and the online transaction (Zhao and Dholakia, 2009; Kim *et al.*, 2009; Chung and Shin, 2008; Kim *et al.*, 2007).

In addition to the attributes shown above, another important attribute in the formation of online satisfaction is the reliability assigned to a particular retailer, which includes the consumer's perception about the privacy and security of the virtual store, as well as how much the retailer's behavior is ethical (Kassim and Abdullah, 2010; Liu *et al.*, 2008; Martin and Camarero, 2008; Cheung and Lee, 2005).

Relative to attribute "website design", consumers value that visual elements of the website are attractive and organized to facilitate navigation; with this, the e-satisfaction tends

to be higher (Wang *et al.*, 2011, 2010; Kim *et al.*, 2009; Cyr, 2008; Liu *et al.*, 2008; Martin and Camarero, 2008; Lee and Lin, 2005; Shankar *et al.*, 2003; Szymanski and Hise, 2000). It should be noted that, according to Chen *et al.* (2008), there is a theoretical gap in studies on e-satisfaction, consequence of the lack of discussion about innovation of website design.

In addition, another important attribute for the formation of e-satisfaction is the website's brand. Lee and Kozar (2006) argue that the brand reputation of a retailer is a factor of attraction, retention, and customer satisfaction. Brands arouse greater consumer confidence, reduce the perception of risk associated with e-commerce, and increase online satisfaction (Rose *et al.*, 2011).

Besides the attributes cited earlier, another attribute that influences e-satisfaction is the quality of information made available by the electronic retailer, which is evaluated based on criteria such as accuracy, relevance, and clarity (Eid, 2011; Cyr, 2008; Chung and Shin, 2008; Jun and Chung, 2006; Lee and Kozar, 2006; Cheung and Lee, 2005; Madu and Madu, 2002).

Customer satisfaction in e-commerce is also influenced by the prices charged by retailers. When individuals perceive that are saving money and paying fair prices, they feel more contentment after finishing the purchase (Martin and Camarero, 2008; Lee and Kozar, 2006; Shun and Yunjie, 2006).

Another attribute that influences e-satisfaction is response time of website, which refers to aspects such as the loading time of the information requested by individuals and speed of navigation (Chung and Shin, 2008; Cheung and Lee, 2005; Evanschitzky *et al.*, 2004; Madu and Madu, 2002).

According to Dholakia and Zhao (2010), Fasanghari and Roudsari (2008), Holloway and Beatty (2008), Liu *et al.* (2008), Evanschitzky *et al.* (2004) and Szymanski and Hise (2000), e-satisfaction is also influenced by the individual's perception about the variety of products available, because consumers tend to be more satisfied when they realize they have choices. In addition, besides the range of products available, consumers also evaluate the quality of the products purchased. After receiving the products, consumers evaluate whether the specifications of the delivered products meet specifications informed by the retailer on their website (Holloway and Beatty, 2008; Shun and Yunjie, 2006).

Another important attribute for the formation of e-satisfaction is the payment process. More forms and payment options available by the virtual store contribute to a greater perception of control by the consumer; consequently, the greater the satisfaction level (Liu *et al.*, 2008). Moreover, the complexity involved in the payment process also influences the online satisfaction: consumers feel less uncomfortable when the process is simpler and faster (Zhao and Dholakia, 2009; Holloway and Beatty, 2008).

Besides the payment process, the possibility for consumers to follow the progress of their order and track the delivery also influences e-satisfaction (Dholakia and Zhao,

2010; Kim *et al.*, 2009; Holloway and Beatty, 2008; Schaupp and Belanger, 2005).

Fasanghari and Roudsari (2008) argue that consumers also attach great importance to the services provided by organizations working in e-commerce, such as the delivery of products. The assessment that consumers make about a retailer delivery service involves different aspects such as compliance with the informed term (Fasanghari and Roudsari, 2008; Collier and Bienstock, 2006; Schaupp and Belanger, 2005; Wang and Huarng, 2002), delivery of correct products (Holloway and Beatty, 2008; Collier and Bienstock, 2006), appropriate product packaging and conditions of delivered products (Dholakia and Zhao, 2010; Liu *et al.*, 2008; Posselt and Gerstner, 2005).

Finally, exchange and return policies of goods are another attribute that influences the e-satisfaction because they reduce the discomfort and consumer distrust (Wang and Huarng, 2002). Holloway and Beatty (2008), Martín and Camarero (2008), and Cheung and Lee (2005) argue that these policies influence the confidence that consumers deposit in transactions made online as well as satisfaction, because ensure return of products that do not meet expectations or exchange, if a problem occurs with the product.

Analyzing the authors consulted, it was possible to conclude that different attributes of online shopping experiences influence e-satisfaction. In this sense, the following hypothesis was defined:

*H<sub>3</sub>: In high involvement purchases, attributes of online shopping experience influence e-satisfaction of Brazilian e-consumers.*

## METHODOLOGICAL ASPECTS

To achieve the research goal, we collected quantitative primary data by conducting a field survey. A structured questionnaire was used, composed with questions in a structured scale format. The elaboration of the questionnaire was based on the research hypotheses.

At the beginning of questionnaire, was included a solicitation to respondents answer the questions thinking in a purchase of high involvement and a brief explanation of what was considered a high-involvement purchase. It was adopted the perspective of Solomon (2008), that high involvement of consumer is most common in situations characterized by a high cost of the product to be purchased and non repetition of purchase.

The questionnaire was divided in three parts. First, theoretical constructs identified in the literature review as antecedents of e-satisfaction (attributes that are part of the online shopping experience and influence e-satisfaction) gave rise to a set of one to four questions or statements which were included in the questionnaire, which can be explained by the fact that they are multidimensional and include more than one aspect. Second, the construct "online flow" gave

rise to three statements, which also can be explained from its multidimensionality. Finally, the construct "e-satisfaction" gave rise to five statements, considering five complementary theoretical perspectives were identified that can be used to measure it (Ceribeli, 2015).

The scale used to structure the questionnaire was Likert seven-point, whose extremities were "totally disagree" and "totally agree". We chose a scale of seven points, considering that respondents tend to avoid extremes, i.e., five-point scales can become, in practice, three-point scales (Hair Junior *et al.*, 2005).

Before proceeding to data collection, it was conducted a pretest with 10 individuals in order to identify and correct ambiguities and other problems in the drafting of the questions. Based on the results obtained, two questions were rephrased. After that, a new pretest was conducted and no additional problems were pointed.

The questionnaire was circulated on social networks by researchers. To increase the response rate, some individuals were selected to disseminate the questionnaire at the same time as researchers (these individuals agreed to publish the link to questionnaire every two days during the period of one month. Thus, disclosure of the questionnaires was repeated 15 times in the aforementioned period, both on Facebook and Linked In.

For this research, the target population was defined as all inhabitants of the states of São Paulo and Espírito Santo, between 18 and 49 years, who carry out Internet purchases. Choosing the States of São Paulo and Espírito Santo reflects the researcher's ease of access to sample units. We opted for non-probabilistic sampling by quotas, which considers the existence of subgroups in the target population and is based on distribution of these subgroups (Hair Junior *et al.*, 2005). To implement the sampling quotas in this study, the target population was stratified using as criteria the age group of consumers.

The percentage of each group of e-consumers in the research sample was defined from data of E-Commerce (2013) transformed to the base 100. To ensure that the population strata were represented in compliance with the defined percentage, when the pre-stipulated amount of answers to specific stratum was reached new responses for the same stratum were excluded.

To set the sample size, we followed the recommendations of Hair Junior *et al.* (2009), who suggested that when we adopted multivariate statistical techniques to analyze the data collected, the sample size should be 10 to 20 times the number of variables included in the survey.

The questionnaire includes 42 questions (research variables), so research sample consisted of 720 respondents, of which 10 were excluded due to errors in filling out the questionnaire. Thus, 710 responses were validated, which represents approximately 98.6% of the responses collected.

In data analysis, we used Structural Equation Modeling (SEM), merging the approaches Pathway Analysis and Confirma-

tory Factor Analysis. The choice for SEM is justified based on the existence of more than one dependent variable (online flow and e-satisfaction). The results obtained from the SEM were analyzed as follows: first, we examined for the existence of transgressive estimates (negative variances of error, surplus standardized coefficients or very close to 1.0, or standard errors very large); then we analyzed the overall fit of the model obtained using absolute fit measures, incremental and parsimonious; finally, we interpreted the coefficients obtained based on the theory previously consulted to validate or refute the research hypothesis.

## RESULTS PRESENTATION AND DISCUSSION

In order to facilitate analyses, each variable received a label, as shown in Chart 1.

After carrying out a Skewness and Kurtosis analysis, it was found that only the variable CUSTOM stands out by presenting an asymmetrical behavior and a kurtosis higher than the recommended value, which may indicate the absence of normality. To confirm the existence of normality or not, we made the LM test proposed by Jarque and Bera (1987). From the results of LM tests for each variable, it was possible to confirm the analysis of skewness and kurtosis made earlier, i.e., only the variable CUSTOM did not follow a normal distribution; the other variables met the assumption of normality. Therefore, we opted to exclude the CUSTOM variable.

After the analysis of the data normality, the assumptions of homoscedasticity, linearity, and absence of autocorrelation, were tested. First, we used graphic analysis of the standardized residuals versus the predicted dependent values, as recommended by Hair Junior *et al.* (2009) and Gujarati (2006). To complement the graphical analysis, we used the test *d* of Durbin-Watson and Pesaran-Pesaran test. After testing basic assumptions for multivariate analysis, we decided to delete three of the 42 original variables of the study due to lack of linearity (SERV1, TRUST2 and VARIE2).

For statistical analysis of data, we used Structural Equation Modeling (SEM) combining Pathways Analysis and Confirmatory Factor Analysis. Confirmatory Factor Analysis was used to group the observed variables of the survey, resulting in a smaller number of latent variables. In turn, Pathways Analysis was used to analyze the relationship between the variables that measured online shopping experience and the latent variables "online flow" and "e-satisfaction" as well as the relationship between these two variables.

Whereas the Confirmatory Factor Analysis creates latent variables from the original variables, it was necessary to verify, prior to analysis, whether it would be appropriate to aggregate the original variables or not. For this, we used Bartlett's test of sphericity, associated with the KMO (Kaiser Meyer Olkin) and Cronbach's Alpha.

Simultaneously analyzing the KMO coefficients, the calculated values of Cronbach's Alpha, and the *p*-values of

Bartlett's test of sphericity, we identified only three sets of variables that could effectively be grouped by Confirmatory Factor Analysis, resulting in three latent variables (INNOV1 and INNOVA2; FLOW1, FLOW2 and FLOW3; SATIS1, SATIS2, SATIS3, SATIS4 and SATIS5). The remaining variables (all of them representing different attributes of online shopping experience) were placed on Structural Equation Modeling individually.

After defining which variables were grouped by Confirmatory Factor Analysis, we structured through AMOS software, a first structural equation model, which included three latent variables (INNOV, FLOW and SATIS), being two endogenous (FLOW and SATIS) and one exogenous (INNOV), and twenty-eight observed exogenous variables. It should be mentioned that the decision to include observed variables related with attributes of online shopping experience instead of a unique latent variable to represent this construct is justified by the possibility of identify specifically which attributes influence the state of flow and which influence e-satisfaction.

For our estimation procedure, we opted initially to use the method of Generalized Least Squares, commonly used in Structural Equation Modeling. However, when a Mardia coefficient was obtained that went beyond the acceptable upper limit of 1.96, indicating possible absence of multivariate normality, we opted for the Asymptotically Distribution-Free method, due to the fact that this does not seem sensitive to absence of multivariate normality of data (Hair Junior *et al.*, 2009). This first model had generated problem identification, i.e., the AMOS software identified that the structured model had no ability to generate single estimates.

To solve the identification problem encountered, we developed a simpler model (with only three variables: INNOV, FLOW and SATIS), which was used as a starting point to perform various tests and gradually include the twenty-eight observed exogenous variables. At the end of testing process, we maintained the three latent variables (being two endogenous and one exogenous) and only fourteen observed exogenous variables.

The quality of fit obtained was examined through three measurements. The root mean square error of approximation or RMSEA was 0.056, lower than borderline recommended of 0.08 (Garson, 2012; Arbuckle, 2010; Hair Junior *et al.*, 2009). The adjusted goodness-of-fit index or AGFI was 0.813, close to 1.0, that is the value that points perfect adjusts (Garson, 2012; Arbuckle, 2010; Hair Junior *et al.*, 2009). Finally, the normed Chi-square was 3.247, lower than the borderline recommended of 5 (Schumacker and Lomax, 2004; Joreskog, 1970).

After validating the quality of the fit of the proposed model, we validated latent variables included in the structural equation model. After validating the latent variables created, we analyze the regression coefficients of the relationship between latent endogenous variables FLOW and SATIS and the exogenous variables. These coefficients are presented in Table 1. The structural equation model was able to explain

Chart 1. Labels of research variables.

Research variables	Labels
The customer attendance service channels made available by the company (telephone, online chat, email, etc.) were appropriate.	SERV1
The service provided on the website was appropriate.	SERV2
The website offered personalized offers according to my profile.	CUSTOM
It was very easy to buy using the website chosen.	CONV1
On the website where I did my shopping, I quickly found what I was looking for.	CONV2
I am sure my financial data were not defrauded by the company.	TRUST1
I am sure that my personal details were not disclosed by the company.	TRUST2
I am sure that the company would never act to harm their clients.	TRUST3
The website was visually attractive.	ESTHE1
The website was divided into specific sections (e.g., male, female, child, etc.).	ESTHE2
The website where I made a purchase has a good reputation.	BRAND1
I have great familiarity with the brand of website where I made a purchase.	BRAND2
That website conveys trust to me.	BRAND3
In addition to the website, the company also has reliable physical stores.	BRAND4
I found all the information I needed to make my purchase decision on the website.	INFO1
The information provided by the website was easy to understand.	INFO2
I found fair prices on the website where I made my purchase.	PRICE1
Prices on the website where I bought were lower than at other stores (other websites or physical stores).	PRICE2
The website loaded information quickly.	TIME
The website offered lots of different products.	VARIE1
The website offered lots of different brands.	VARIE2
The delivered product corresponded to the information provided by the website.	QUALI
The process of payment of the website was safe.	PAYOUT1
The payment methods provided by the website were appropriate.	PAYOUT2
I could follow the status of my request on the website.	TRACK1
I could track the delivery process of my request.	TRACK2
The company offered different channels so I could make contact after purchase.	RESPON
The company accomplished the deadline for delivery promised.	DELIVER1
The company delivered the right product at the first time.	DELIVER2
The delivered product was in perfect conditions.	DELIVER3
The policy of exchanges and returns was fair.	POLIT1
The company could provide adequate support for the consumer to make an exchange or return.	POLIT2
The website where I made a purchase had a very innovative design.	INNOV1
The website where I made a purchase was very different than the others I know.	INNOV2
The website where I made a purchase awakened in me high curiosity while surfing.	FLOW1
During the times I spent on that website, I lost consciousness of time.	FLOW2
I naturally enjoyed myself a lot while doing my shopping on the website.	FLOW3
The company has met all my expectations.	SATIS1
The website where I shopped proved to be an excellent choice for an electronics store.	SATIS2
I do not think that would have made a better deal at another store (physical or virtual).	SATIS3
I do not regret having made a purchase on that website.	SATIS4
I felt happy after finishing the buying process.	SATIS5

26.6% of the variation in the latent variable FLOW and 50% of the variation in the latent variable SATIS, showing moderate explanatory power by the exogenous variables incorporated into the modeling.

To check the statistical significance of the regression coefficients, we tested the null hypothesis of beta is equal to zero for each of the proposed relationship between endogenous and exogenous variables of the model. At a significance level of 0.05, we rejected the null hypothesis for the proposed relations between the following variables: INNOV and FLOW ( $\beta = 0,408$ ), TRUST3 and FLOW ( $\beta = 0,199$ ), VARIE1 and FLOW ( $\beta = 0,140$ ), ESTHE2 and FLOW ( $\beta = 0,127$ ), PRICE2 and FLOW ( $\beta = 0,113$ ), FLOW and SATIS ( $\beta = 0,688$ ), CONV1 and SATIS ( $\beta = 0,231$ ), VARIE1 and SATIS ( $\beta = 0,190$ ), TRUST3 and SATIS ( $\beta = 0,119$ ), DELIVER1 and SATIS ( $\beta = 0,105$ ), and POLIT1 and SATIS ( $\beta = 0,077$ ).

From the performed hypotheses tests and beta coefficients analyzed, we found that the variables which positively

influence the state of online flow of consumers in high involvement purchases are: (1) the innovation of website, (2) the reliability assigned to the electronic retailer, (3) the variety of the assortment available on the website, (4) the aesthetics of the virtual environment, and (5) the prices charged by the company.

Furthermore, we found that the variables which positively influence online consumer satisfaction in high involvement purchases are: (1) online flow state, (2) the convenience associated with the website navigation, (3) the variety of assortment available on the website, (4) the reliability attributed to the electronic retailer, (5) the fulfillment of delivery deadlines, and (6) the existence of exchange and return policies perceived as fair.

Based on these results, a model was proposed to explain online flow and e-satisfaction in high-involvement purchases, shown in Figure 1.

First analyses of the state of online flow in high involvement contexts highlights the importance of consumer percep-

Table 1. Regression coefficients of the proposed structural equation model.

Endogenous Variable	Exogenous Variable	Regression coefficients	P-value or sig.
FLOW	CONV1	-0.084	0.104
FLOW	INFO2	0.012	0.828
FLOW	SERV2	0.055	0.296
FLOW	INNOV	0.408	0.011
FLOW	TRUST3	0.199	0.000
FLOW	ESTHE1	-0.046	0.388
FLOW	ESTHE2	0.127	0.045
FLOW	VARIE1	0.140	0.007
FLOW	PRICE2	0.113	0.027
SATIS	FLOW	0.688	0.000
SATIS	INFO2	-0.089	0.081
SATIS	TRACK2	0.027	0.609
SATIS	POLIT2	0.049	0.233
SATIS	INNOV	-0.105	0.322
SATIS	ESTHE1	-0.012	0.811
SATIS	ESTHE2	-0.075	0.201
SATIS	VARIE1	0.190	0.000
SATIS	POLIT1	0.077	0.041
SATIS	PRICE2	0.041	0.451
SATIS	SERV2	0.075	0.133
SATIS	CONV1	0.231	0.000
SATIS	TRACK1	0.035	0.380
SATIS	DELIVER1	0.105	0.014
SATIS	TRUST3	0.119	0.021

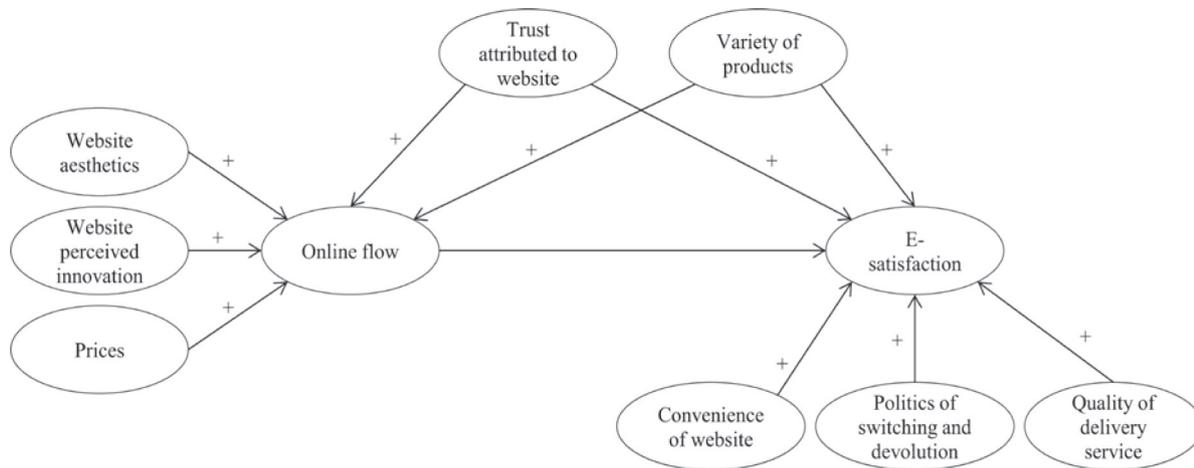


Figure 1. Model of e-satisfaction and online flow in high involvement purchasing.

tion that the website design is innovative and differentiated in relation to others, corroborating the results of studies conducted by Congwen *et al.* (2010) and Huang (2003).

The relationship between the website innovation and online flow can be explained by one dimension of online flow proposed by Huang (2006) and Congwen *et al.* (2010): the consumer curiosity during navigation. If website is different and innovative, naturally curious and engaged the consumer will be. Besides, if innovation it's seen in the website, the consumer will explore it with more concentration. Both behaviors are pointed out by Van Noort *et al.* (2011) as a characteristic behavior of consumers who have hit the state of online flow.

Regarding the influence that the level of reliability assigned to the website has on the state of flow, we identify that when a individual feels that a certain electronic retailer is reliable and believes he would not act in bad faith with his customers, there is a higher possibility of this individual entering into a state of flow, i.e., favorable attitudes of consumers towards a particular electronic retailer increases the chances of they experience greater immersion when browsing that website.

This finding can be understood in a more coherent way when considering that one of the obstacles to achieving a state of online flow can be the insecurity experienced by consumers while they browse on a website. Following this line of thought, when consumers feel that the company is reliable, they maintain a less defensive posture regarding the website and have the possibility of experiencing more fun and deep engagement during navigation.

Continuing with the discussion of the features of online shopping experiences that precede the online state of flow, with respect to the influence that variety of products available at website has on online flow, we identify that consumers may feel more curious when viewing a website with greater options. Furthermore, the availability of a wide assortment by the electronic retailer can maintain consumers interested and

without consciousness of time while evaluating the alternatives that are available, going into a state of flow.

In addition, when exploring the relationship between online flow and website aesthetics, it appears that consumers can feel more encouraged to navigate when they are required to use less effort to understand the structure of the website. In this sense, websites that present a logical organization of its products (e.g., section of male, female, and children's items), making navigation of consumers easier, can awaken greater interest, contributing to consumer immersion during the online purchase process.

Finally, exploring the relationship between online flow and prices, we hypothesized that the perception of consumers that a website has lower prices than those charged by other physical or electronic retailers exerts a "relaxing" effect, reduces anxiety during navigation and increases interest in the website. Thus, the perception that prices are lower can increase the immersion of consumers while browsing, because they feel that don't need to pay attention to monetary matters and, consequently, start to perceive other website elements (such as range of products, information available, website aesthetics, etc.), experiencing a more complete online shopping experience, which leads them to attain online flow.

Having addressed the elements associated with online shopping experiences that exert relevant influence on the online flow state, we next discuss the elements that influence the e-satisfaction in high involvement purchases.

Starting the discussion with the relationship between e-satisfaction and online flow, it appears, based on the proposed structural equation model, the individual immersion, loss of self-consciousness, high curiosity, and natural fun experienced during navigation into a website tend to positively influence e-satisfaction in high involvement purchases. Thus, consumers coming into a flow state have a higher chance of being satisfied with the shopping experience in virtual shopping environments, which highlights the influence that cognitive-emotional states experienced during the navigation has on e-satisfaction.

In a complementary way, with regard to the relationship between convenience and e-satisfaction in high involvement contexts, it is noteworthy that, as advocated by Eid (2011), Lin and Sun (2009), Evanschitzky *et al.* (2004), Burke (2002) and Szymanski and Hise (2000), ease perceived by consumers in conducting transactions in virtual environments tends to positively influence satisfaction.

Items that increase the ease perceived by consumers buying at e-commerce identified in the literature review include tools of price/product comparison (Schaupp and Belanger, 2005), website maps, FAQ, instructions available, easy registration (Kim *et al.*, 2009), and search tools (Kim *et al.*, 2009; Zhao and Dholakia, 2009; Chung and Shin, 2008; Lee and Lin, 2005). All these elements tend to reduce the effort required for consumers navigate the website and complete their purchases in less time.

Analyzing the dimensions of convenience, Berry *et al.* (2002) reiterate that e-commerce stands out for convenience of decision and transaction because it reduces the time and effort involved in finding information regarding specific products and services, comparison of competitors, and evaluation of shopping alternatives.

Analyzing the relationship between website's assortment and e-satisfaction, it appears that a large assortment significantly influences the satisfaction experienced by consumers in online purchasing processes of high involvement. This finding is consistent with studies of Dholakia and Zhao (2010), Holloway and Beatty (2008), Evanschitzky *et al.* (2004), Burke (2002), and Szymanski and Hise (2000), which relate the number of options available to consumers and online satisfaction. Furthermore, as explored by Liu *et al.* (2008) and Fasanghari and Roudsari (2008), individuals feel more satisfied when they realize they have ample choice.

This finding is also in agreement with the results obtained by Martín and Camarero (2008) and Posselt and Gerstner (2005), who concluded that consumers, after finalizing the online purchase, feel more satisfied when they see different purchase options, many of which are not available in traditional retail, optimizing their process of choice.

In turn, the relationship between e-satisfaction and reliability is supported by the studies of Rose *et al.* (2011), who found that websites that are associated with greater confidence tend to reduce the perception of risk associated with e-commerce and elicit favorable attitudes from consumers, increasing satisfaction. Therefore, as greater the confidence in the retail brand, lower is the cognitive dissonance or discomfort of the individual after placing the purchase order, which tends to positively influence the online satisfaction (Rose *et al.*, 2011; Fasanghari and Roudsari, 2008; Schaupp and Belanger, 2005).

The credibility of electronic retailers is directly related to consumer perception about the privacy and security of the website, as well as the guarantees offered (Kassim and Abdullah, 2010; Cheung and Lee, 2005; Ribbink *et al.*, 2004; Wang

*et al.*, 2003). When there are adequate security and privacy policies, the consumer discomfort tends to be lower after placement of purchase orders, which increases the sense of control and e-satisfaction (Martín and Camarero, 2008).

The relationship between the quality of delivery service and e-satisfaction was also identified, which is in line with the studies of Parasuraman *et al.* (2005) and Collier and Bienstock (2006), who argue that e-consumers overestimate the quality of delivery service in electronic environments, because they are affected in a very negative way by failures in this regard. According to Dholakia and Zhao (2010), Fasanghari and Roudsari (2008), Holloway and Beatty (2008), Liu *et al.* (2008), Posselt and Gerstner (2005), Schaupp and Belanger (2005), and Wang and Huarng (2002), the delivery time is essential in the evaluation of consumers. If the time between order placement and delivery of the product does not correspond to the deadline previously informed by the retailer, the consumer tends to become very dissatisfied (Fasanghari and Roudsari, 2008; Schaupp and Belanger, 2005).

Looking at the issue of delivery time from the perspective of cognitive dissonance, we consider that, when the deadline previously informed by the e-retailer is not respected, the consumers' post-purchase discomfort tends to increase, which can be explained by geographical distance between buyer and seller and the intangibility of the online purchase process. When this occurs, the post-purchase satisfaction levels tend to suffer large losses.

Finally, we cite the importance attributed to the exchange and return policies. The structural equation modeling shows that the perception of fair exchange and return policies tends to positively influence the e-satisfaction, corroborating studies Holloway and Beatty (2008) and Wang and Huarng (2002).

Exchange and return policies of an e-retailer can transmit greater security to an e-consumer that there will be no major obstacles for the return of products that do not meet expectations, and/or easy exchange of the purchased product if a problem occurs. Therefore, as exchange and return policies reduce risks and discomfort associated by individuals to e-commerce, tend to increase e-satisfaction (Martín and Camarero, 2008; Cheung and Lee, 2005).

To conclude, we made a comparison between the elements of online shopping experiences that influence e-satisfaction and those that influence the state of flow. Our results show that only two elements influence both: the variety of products available on the website and website credibility. In this regard, it is noted that, in addition to increasing interest and immersion of consumer when browsing a certain website, the availability of several product also guarantees that the online shopping experience become more satisfying. In addition, it appears the credibility of the electronic retailer reduces psychological resistance associated with the online buying process and the website, which may leaves a consumer to experience the state of flow and also increases his e-satisfaction.

Factors that were not significant for the e-satisfaction or the online flow include the information available on the website, the degree of customization of offers, and the response time of the website, which may be the subject of future studies, considering that, although they do not affect the e-satisfaction, they could influence consumer choice between different websites.

## FINAL CONSIDERATIONS

Contextualized by the significant growth that Brazilian e-commerce has shown in the last decade, this study aimed to analyze the relation between the attributes of online shopping experiences, the state of online flow and e-satisfaction in high-involvement purchases. To achieve this goal, we made a literature review in order to identify all theoretical elements of online shopping experience that could influence e-satisfaction.

From the statistical analysis of data on high involvement purchases, we found there are some attributes of online shopping experiences that directly influence e-satisfaction (convenience associated with the website, exchanges and return policies, and quality of delivery service), while others influence online flow state (perceived innovation on the website, prices, and website aesthetics), which, in turn, influence the e-satisfaction. Additionally, we identified two attributes that influence both online flow and e-satisfaction (reliability attributed to the website and variety of products available for sale on the website).

Analyzing the relationships identified, it appears that more involved consumers tend to entry into a deep state of immersion while shopping when faced with more innovative and organized virtual environments, and when they realize that the prices of website are attractive.

In addition, more involved consumers tend to be more satisfied when the delivery of purchased products is realized within the time specified by the electronic retailer at time of purchase, when they perceive that exchanges and returns policies of the company are fair, and when they can explore the website without major difficulties.

Thus, we can accept the three research hypotheses, i.e., some attributes of online shopping experience influence online flow and/or e-satisfaction of Brazilian e-consumers, and the state of online flow influences e-satisfaction of these same consumers. This findings show there is relationship between online shopping experience, online flow and e-satisfaction in high involvement purchases.

As implications of this research, we have that e-companies should prioritize three aspects of its business: structure and design of online store (website), service level to consumers and reputation. These, added to prices, can be pointed as critical success factors to companies seeking to compete in the virtual market adopting a strategy focused on the customer.

As a managerial contribution of this research, we identified attributes of shopping experiences of high involvement

that should be monitored by virtual retailers to increase online flow and satisfaction of e-consumers. Thus, this research presents a vision that combines strategic decisions and operations management in e-commerce.

Additionally, as an academic contribution, this research adds to the study of consumer behavior in e-commerce. Moreover, considering the study explored e-satisfaction and online flow simultaneity and incorporated a perspective based on involvement of the e-consumer during purchase process, it can be considered innovative.

One limitation of this study is the fact that the sample was not selected randomly, reducing the generalizability of the results. However, it should be added that, by opting for sampling by quotas, the researcher was able to form a sample that had age distributions that represented the actual distribution of the population studied. Therefore, we consider that, despite not having been formed by a random selection process, the research sample represents, at least peripherally, the target population of the study.

For future research, it is suggested that the questionnaire developed be tested in other samples, enabling the comparison of results. Additionally, it is recommended that the reflections arising from the analysis of the results for high involvement purchases be the subject of future studies, consolidating the discussion started at this work.

It is also suggested that future studies analyze attributes of online shopping experiences that influences e-satisfaction in low involvement purchases. Besides, another issue to be addressed in future studies is the discussion of how demographic and cognitive characteristics of consumers can influence their buying behavior in e-commerce, based on the models proposed here. Finally, it is recommended that the construct "perceived innovation", which proved to be positively associated with online flow in high involvement purchases, be divided into dimensions and the influence of each dimension to online flow be examined separated.

## REFERENCES

- AGARWAL, R.; KARAHANNA, E. 2000. Time flies when you're having fun: cognitive absorption and beliefs about information technology usage. *MIS Quarterly*, 24(4):665-694. <https://doi.org/10.2307/3250951>
- ARBUCKLE, J.L. 2010. *IBM SPSS AMOS 19 user's guide*. Crawfordville, Amos Development Corporation, 635 p.
- BANSAL, H.; MCDUGALL, G.; DIKOLLI, S.; SEDATOLE, K. 2004. Relating e-satisfaction to behavioral outcomes: an empirical study. *Journal of Services Marketing*, 18(4/5):290-302. <https://doi.org/10.1108/08876040410542281>
- BERRY, L.L.; SEIDERS, K.; GREWAL, D. 2002. Understanding service convenience. *Journal of Marketing*, 66(3):1-17. <https://doi.org/10.1509/jmkg.66.3.1.18505>
- BLACKWELL, R.D.; MINIARD, P.W.; ENGEL, J.F. 2005. *Comportamento do consumidor*. 9ª ed., São Paulo, Pioneira Thomson Learning, 632 p.

- BLOCH, P.H.; SHERRELL, D.L.; RIDGWAY, N.M. 1986. Consumer search: an extended framework. *Journal of Consumer Research*, 13(1):119-126. <https://doi.org/10.1086/209052>
- BRIDGES, E.; FLORSHEIM, R. 2008. Hedonic and utilitarian shopping goals: the online experience. *Journal of Business Research*, 61(4):309-314. <https://doi.org/10.1016/j.jbusres.2007.06.017>
- BURKE, R.R. 2002. Technology and the customer interface: what consumers want in the physical and virtual store. *Journal of the Academy of Marketing Science*, 30(4):411-432. <https://doi.org/10.1177/009207002236914>
- CERIBELI, H.B. 2015. Satisfação do consumidor: percorrendo diferentes perspectivas teóricas. *REUNA*, 20(2):5-22.
- CHEN, H.; WIGAND, R.T.; NILAN, M.S. 1999. Optimal experience of web activities. *Computers in Human Behavior*, 15(5):585-608. [https://doi.org/10.1016/S0747-5632\(99\)00038-2](https://doi.org/10.1016/S0747-5632(99)00038-2)
- CHEN, Q.; RODGERS, S.; HE, Y. 2008. A critical review of the e-satisfaction literature. *American Behavioral Scientist*, 52(1):38-59. <https://doi.org/10.1177/0002764208321340>
- CHEUNG, C.M.K.; LEE, M.K.O. 2005. Consumer satisfaction with Internet shopping: a research framework and propositions for future research. In: ICEC, Xi'an, 2005. *Proceedings...* Xi'an, 7:327-334. <https://doi.org/10.1145/1089551.1089612>
- CHOI, D.H.; KIM, J.; KIM, S.H. 2007. ERP training with a web-based electronic learning system: the flow theory perspective. *International Journal of Human-Computer Studies*, 65(3):223-243. <https://doi.org/10.1016/j.ijhcs.2006.10.002>
- CHUNG; K.H.; SHIN, J.I. 2008. The relationship among e-retailing attributes, e-satisfaction and e-loyalty. *Management Review: An International Journal*, 3(1):23-45.
- COLLIER, J.; BIENSTOCK, C. 2006. Measuring service quality in e-retailing. *Journal of Service Research*, 8(3):260-275. <https://doi.org/10.1177/1094670505278867>
- CONGWEN, D.; JIABIN, Y.; SHUXIAN, J. 2010. The characteristics of web site and consumer online shopping conduct: an empirical study based on flow experience. *International Conference on Logistics Systems and Intelligent Management*, 3:1774-1778. <https://doi.org/10.1109/iclsim.2010.5461306>
- CYR, D. 2008. Modeling web site design across cultures: relationships to trust, satisfaction, and e-loyalty. *Journal of Management Information Systems*, 24(4):47-72. <https://doi.org/10.2753/MIS0742-1222240402>
- DHOLAKIA, R.R.; ZHAO, M. 2010. Effects of online store attributes on customer satisfaction and repurchase intentions. *International Journal of Retail & Distribution Management*, 38(7):482-496. <https://doi.org/10.1108/09590551011052098>
- E-COMMERCE. 2013. *Evolução da Internet e do e-commerce*. Disponível em: <http://www.e-commerce.org.br/stats.php>. Acesso em: 22/02/2013.
- EID, M.I. 2011. Determinants of e-commerce customer satisfaction, trust, and loyalty in Saudi Arabia. *Journal of Electronic Commerce Research*, 12(1):78-93.
- EVANSCHITZKY, H.; IYERB, G.R.; HESSE, J.; AHLERT, D. 2004. E-satisfaction: a re-examination. *Journal of Retailing*, 80(3):239-247. <https://doi.org/10.1016/j.jretai.2004.08.002>
- FASANGHARI; M.; ROUDSARI, F.H. 2008. The fuzzy evaluation of e-commerce customer satisfaction. *World Applied Sciences Journal*, 4(2):164-168.
- GARSON, G.D. 2012. *Structural Equation Modeling*. Asheboro, Statistical Publishing Associates, 227 p.
- GONÇALVES, M.A.D.; FERREIRA, S.B.L. 2010. *O Comércio Eletrônico a partir de Ambientes Públicos*. Rio de Janeiro, RJ. Relatórios Técnicos do Departamento de Informática Aplicada, 4. Universidade Federal do Estado do Rio de Janeiro, 15 p.
- GUJARATI, D.N. 2006. *Econometria básica*. Rio de Janeiro, Elsevier. 812 p.
- HAIR JUNIOR, J.F.; BABIN, B.; MONEY, A.R.; SAMOUEL, P. 2005. *Fundamentos de métodos de pesquisa em administração*. Porto Alegre, Bookman, 471 p.
- HAIR JUNIOR, J.F.; BLACK, W.C.; BABIN, B.J.; ANDERSON, R.E.; TATHAM, R.L. 2009. *Análise multivariada de dados*. 6ª ed., Porto Alegre, Bookman, 688 p.
- HANNA, N.; WOZNIAK, R.; HANNA, M. 2009. *Consumer behavior: an applied approach*. 3ª ed., Dubuque, Kendall Hunt Publishing Company, 638 p.
- HAWKINS; D.I.; MOTHERSBAUGH, D.L.; BEST, R.J. 2007. *Comportamento do consumidor: construindo a estratégia de marketing*. 10ª ed., Rio de Janeiro, Elsevier, 528 p.
- HIGIE, R.A.; FEICK, L.F. 1989. Enduring involvement: conceptual and methodological issues. *Advances in Consumer Research*, 16:690-696.
- HOFFMAN, D.L.; NOVAK, T.P. 1996. Marketing in hypermedia computer-mediated environments: conceptual foundations. *The Journal of Marketing*, 60(3):50-68. <https://doi.org/10.2307/1251841>
- HOFFMAN, D.L.; NOVAK, T.P. 2009. Flow online: lessons learned and future prospects. *Journal of Interactive Marketing*, 23:23-34. <https://doi.org/10.1016/j.intmar.2008.10.003>
- HOLLOWAY, B.B.; BEATTY, S.E. 2008. Satisfiers and dissatisfiers in the online environment: a critical incident assessment. *Journal of Service Research*, 10(4):347-364. <https://doi.org/10.1177/1094670508314266>
- HUANG, M.-H. 2003. Designing website attributes to induce experiential encounters. *Computers in Human Behavior*, 19(4):425-442. [https://doi.org/10.1016/S0747-5632\(02\)00080-8](https://doi.org/10.1016/S0747-5632(02)00080-8)
- HUANG, M.-H. 2006. Flow, enduring, and situational involvement in the web environment: a tripartite second-order examination. *Psychology and Marketing*, 23(5):383-411. <https://doi.org/10.1002/mar.20118>
- JARQUE, C.M.; BERA, A.K. 1987. A test for normality of observations and regression residuals. *International Statistical Review*, 55(2):163-172. <https://doi.org/10.2307/1403192>
- JORESLOG, K.G. 1970. A general method for analysis of covariance structures. *Biometrika*, 57(2):239-251. <https://doi.org/10.1093/biomet/57.2.239>
- JUN, S.E.; CHUNG, K.H. 2006. A study on the factors of internet shopping site affecting customer's e-satisfaction, e-loyalty, and repurchasing intention. *The Journal of Internet Electronic Commerce Research*, 6(2):133-158.
- KASSIM, N.M.; ABDULLAH, N.A.N. 2010. The effect of perceived service quality dimensions on customer satisfaction, trust, and loyalty in e-commerce settings. *Asia Pacific Journal of Marketing and Logistics*, 22(3):351-371. <https://doi.org/10.1108/13555851011062269>

- KIM, J.H.; KIM, M.; KANDAMPULLY, J. 2007. The impact of buying environment characteristics of retail web sites. *Service Industries Journal*, 27(7): 865-880.  
<https://doi.org/10.1080/02642060701570529>
- KIM, J.H.; KIM, M.; KANDAMPULLY, J. 2009. Buying environment characteristics in the context of e-service. *European Journal of Marketing*, 43(9/10):1188-1204.  
<https://doi.org/10.1108/03090560910976438>
- KORZAAN, M.L. 2003. Going with the flow: predicting online purchase intentions. *The Journal of Computer Information Systems*, 43(4):25-31.
- LAUDON, K.C.; LAUDON, J.P. 2010. *Sistemas de informação gerenciais*. 9ª ed., São Paulo, Pearson Prentice Hall, 448 p.
- LEE, G.; LIN, H. 2005. Customer perceptions of e-service quality in online shopping. *International Journal of Retail and Distribution Management*, 33(2):161-176.  
<https://doi.org/10.1108/09590550510581485>
- LEE, Y.; KOZAR, K. A. 2006. Investigating the effect of website quality on e-business success: an analytic hierarchy process (AHP) approach. *Decision Support Systems*, 42(3):1383-1401.  
<https://doi.org/10.1016/j.dss.2005.11.005>
- LIN, G.T.R.; SUN, C.C. 2009. Factors influencing satisfaction and loyalty in online shopping: an integrated model. *Online Information Review*, 33(3):458-475.  
<https://doi.org/10.1108/14684520910969907>
- LIU, X.; HE, M.; GAO, F.; XIE, P. 2008. An empirical study of online shopping customer satisfaction in China: a holistic perspective. *International Journal of Retail and Distribution Management*, 36(11):919-940. <https://doi.org/10.1108/09590550810911683>
- MADU, C.N.; MADU, A.A. 2002. Dimensions of E-quality. *International Journal of Quality and Reliability Management*, 19(3):246-258. <https://doi.org/10.1108/02656710210415668>
- MARTÍN, S.S.; CAMARERO, C. 2008. Consumer trust to a web site: moderating effect of attitudes toward online shopping. *Cyberpsychology Et Behavior*, 11(5):549-554.  
<https://doi.org/10.1089/cpb.2007.0097>
- MITTAL, B. 1989. Measuring purchase-decision involvement. *Psychology Et Marketing*, 6:147-162.  
<https://doi.org/10.1002/mar.4220060206>
- MITCHELL, A.A. 1979. Involvement: a potentially important mediator of consumer behavior. *Advances in Consumer Research*, 6:191-196.
- MOWEN, J.C.; MINOR, M.S. 2003. *Comportamento do consumidor*. São Paulo, Pearson Prentice Hall, 413 p.
- NOVAK, T.P.; HOFFMAN, D.L.; DUHACHEK, A. 2003. The influence of goal-directed and experiential activities on online flow experiences. *Journal of Consumer Psychology*, 13(1/2):3-16.  
[https://doi.org/10.1207/S15327663JCP13-1Et2\\_01](https://doi.org/10.1207/S15327663JCP13-1Et2_01)
- NOVAK, T.P.; HOFFMAN, D.L.; YUNG, Y.F. 2000. Measuring the customer experience in online environments: a structural modeling approach. *Marketing Science*, 19(1):22-42.  
<https://doi.org/10.1287/mksc.19.1.22.15184>
- O'BRIEN, J.A. 2004. *Sistemas de informação e as decisões na era da Internet*. 2ª ed., São Paulo, Saraiva, 431 p.
- PARASURAMAN, A.; ZEITHAML, V.; MALHOTRA, A. 2005. E-S-Qual: a multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7(3):213-233.  
<https://doi.org/10.1177/1094670504271156>
- PETTY, R.E.; CACIOPPO, J.T. 1981. Issue involvement as a moderator of the effects on attitude of advertising content and context. *Advances in Consumer Research*, 8:20-24.
- POSSELT, T.; GERSTNER, E. 2005. Pre-sale vs. post-sale e-satisfaction: impact on repurchase intention and overall satisfaction. *Journal of Interactive Marketing*, 19(4):35-47.  
<https://doi.org/10.1002/dir.20048>
- RIBBINK, D.; VAN RIEL, A.C.R.; LILJANDER, V.; STREUKENS, S. 2004. Comfort your online customer: quality, trust, and loyalty on the internet. *Managing Service Quality*, 14(6):446-456.  
<https://doi.org/10.1108/09604520410569784>
- RICHARD, M.O.; CHANDRA, R. 2005. A model of consumer web navigation behavior: conceptual development and application. *Journal of Business Research*, 58:1019-1029.  
<https://doi.org/10.1016/j.jbusres.2004.04.001>
- ROSE, S.; HAIR, N.; CLARK, M. 2011. Online customer experience: a review of the business-to-consumer online purchase context. *International Journal of Management Reviews*, 13(1):24-39.  
<https://doi.org/10.1111/j.1468-2370.2010.00280.x>
- ROSSI, C.A.V.; SLONGO, L.A. 1998. Pesquisa de satisfação do cliente: o estado da arte e proposição de um método brasileiro. *Revista de Administração Contemporânea (RAC)*, 2(1):101-125.  
<https://doi.org/10.1590/S1415-65551998000100007>
- SCHAUPP, L.C.; BELANGER, F. 2005. A conjoint analysis of online consumer satisfaction. *Journal of Electronic Commerce Research*, 6(2):95-111.
- SCHIFFMAN, L.G.; KANUK, L.L. 2000. *Consumer behavior*. 7ª ed., New Jersey, Prentice Hall, 469 p.
- SCHUMACKER, R.E.; LOMAX, R.G. 2004. *A beginner's guide to structural equation modeling*. 2ª ed., Mahwah, Lawrence Erlbaum Associates, 498 p.
- SHANKAR, V.; SMITH, A.; RANGASWAMY, A. 2003. Customer satisfaction and loyalty in online and off-line environments. *International Journal of Research in Marketing*, 20(2):153-175. [https://doi.org/10.1016/S0167-8116\(03\)00016-8](https://doi.org/10.1016/S0167-8116(03)00016-8)
- SHETH, J.N.; MITTAL, B.; NEWMAN, B.I. 2001. *Comportamento do cliente: indo além do comportamento do consumidor*. São Paulo, Atlas, 800 p.
- SHUN, C.; YUNJIE, X. 2006. Effects of outcome, process and shopping enjoyment on online consumer behaviour. *Electronic Commerce Research and Application*, 5(4):272-281.  
<https://doi.org/10.1016/j.elerap.2006.04.004>
- SOLOMON, M.R. 2008. *O comportamento do consumidor: comprando, possuindo e sendo*. 7ª ed., Porto Alegre, Bookman, 680 p.
- SZYMANSKI, D.M.; HISE, R.T. 2000. E-Satisfaction: an initial examination. *Journal of Retailing*, 76(3):309-322.  
[https://doi.org/10.1016/S0022-4359\(00\)00035-X](https://doi.org/10.1016/S0022-4359(00)00035-X)
- VAN NOORT, G.; VOORVELD, H.A.M.; VAN REIJMERSDAL, E.A. 2011. Interactivity in brand web sites: cognitive, affective, and behavioral responses explained by consumers' online flow experience. *Journal of Interactive Marketing*, 26(4):223-234.  
<https://doi.org/10.1016/j.intmar.2011.11.002>
- WACHTER, R.M.; GUPTA, J.N.D.; QUADDUS, M.A. 2000. It takes a village: virtual communities in support of education. *International Journal of Information Management*, 20(6):473-489. [https://doi.org/10.1016/S0268-4012\(00\)00039-6](https://doi.org/10.1016/S0268-4012(00)00039-6)

- WANG, Y.J.; HERNANDEZ, M.D.; MINOR, M.S. 2010. Web aesthetics effects on perceived online service quality and satisfaction in an e-tail environment: the moderating role of purchase task. *Journal of Business Research*, 63(9/10):935-942. <https://doi.org/10.1016/j.jbusres.2009.01.016>
- WANG, M.; HUARNG, S.A. 2002. An empirical study of internet store customer post shopping satisfaction. *Information Systems*, 3:632-638.
- WANG, Y.J.; MINOR, M.S.; WEI, J. 2011. Aesthetics and the online shopping environment: understanding consumer responses. *Journal of Retailing*, 87(1):46-58. <https://doi.org/10.1016/j.jretai.2010.09.002>
- WANG, Y.S.; WANG, Y.M.; LIN, H.H.; TANG, T.I. 2003. Determinants of user acceptance of internet banking: an empirical research. *International Journal of Bank Marketing*, 14(5):501-519.
- WELLS, W.D.; PRENSKY, D. 1996. *Consumer behavior*. New York, John Wiley & Sons.
- WU, J.-J.; CHANG, Y.-S. 2005. Towards understanding members' interactivity, trust, and flow in online travel community. *Industrial Management & Data Systems*, 105(7):937-954. <https://doi.org/10.1108/02635570510616120>
- ZAICKOWSKY, J.L. 1985. Measuring the involvement construct. *Journal of Consumer Research*, 12:341-352. <https://doi.org/10.1086/208520>
- ZHAO, M.; DHOLAKIA, R.R. 2009. A multi-attribute model of web site interactivity and customer satisfaction. *Managing Service Quality*, 19(3):286-307. <https://doi.org/10.1108/09604520910955311>

Submitted on September 30, 2015

Accepted on September 13, 2016