

RELACIONAMENTO DE QUALIDADE NO COMÉRCIO ELETRÔNICO
RELATIONSHIP QUALITY IN ELECTRONIC COMMERCE
LA CALIDAD DE LA RELACIÓN DEL COMERCIO ELECTRÓNICO

Stella Naomi Moriguchi

Doutora em Administração pela Universidade de São Paulo (USP), Brasil; Professora Associada da Universidade Federal de Uberlândia (UFU), Brasil
stellanm@ufu.br

Sylvio Barbon Júnior

Doutor em Física Aplicada Computacional pelo Instituto de Física de São Carlos (IFSC), Brasil; Professor Adjunto da Universidade Estadual de Londrina (UEL), Brasil
barbon@uel.br

Darly Fernando Andrade

Doutor em Administração pela Universidade Fundação Mineira de Educação e Cultura (FUMEC), Brasil; Professor Adjunto da UFU
darly@ufu.com.br

Luiz Carlos Murakami

Doutor em Administração pela Fundação Getúlio Vargas (FGV), Brasil; Professor da Universidade Federal do Ceará (UFC)
murakami@ufc.br

Contextus

ISSNe 2178-9258

Organização: Comitê Científico Interinstitucional

Editor Científico: Carlos Adriano Santos Gomes

Avaliação : Double Blind Review pelo SEER/OJS

Revisão: Gramatical, normativa e de formatação

Recebido em 15/10/2015

Aceito em 14/04/2016

2ª versão aceita em 09/06/2016

RESUMO

A inovação tecnológica permite diferentes estratégias no atendimento de desejos e necessidades dos clientes. Em comparação com as lojas físicas tradicionais, o comércio eletrônico oferece acesso e processo de pesquisa mais fácil para o comprador, permitindo-lhe encontrar a oferta mais adequada em relação à marca, preço, entrega e frete. Este cenário aumenta o desafio das empresas para desenvolver uma abordagem de marketing baseada em um relacionamento de qualidade com seus clientes, ao invés de uma perspectiva transacional, o que às vezes pode significar uma única compra. Este artigo relata a construção de um modelo para medir a qualidade do relacionamento entre consumidores e empresas de comércio eletrônico, explorando variáveis demográficas, atitude, comportamento e lealdade em relação a compras eletrônicas, valor percebido, comprometimento, satisfação e confiança. Realizou-se uma survey com clientes de uma empresa brasileira de comércio eletrônico que realizaram compras no período de 2009 a 2013, utilizando-se uma amostra não probabilística extraída de seu banco de dados. Os resultados iniciais levaram à ampliação da pesquisa com a inclusão dos construtos valor percebido, comprometimento, satisfação e confiança utilizando Modelagem de Equações Estruturais.

Palavras-chave: E-commerce. Relacionamento de qualidade. Valor percebido. Comprometimento. Confiança.

ABSTRACT

Technological innovation allows different strategies to attend wants and needs of customers. Compared to traditional physical stores, electronic commerce offers an easier access and search process to the buyer, allowing them to find the most suitable offer, concerning brands, price, delivery and freight. This landscape heightens the challenge for sellers to develop a relationship quality marketing with their clients instead of a transactional marketing approach, which sometimes means one sole purchase. This paper reports the construction of a model to measure the relationship quality between consumers and e-commerce sellers, exploring demographic variables, attitude, behavior and loyalty toward electronic purchase, perceived value, commitment, satisfaction and trust. A survey with a non-probabilistic sample from a Brazilian nationwide electronic commerce vendor database covered 2009-2013 period. The initial findings have led to expand the research to include perceived value, commitment, satisfaction and trust using Structural Equation Modeling.

Keywords: E-commerce, Relationship quality. Perceived value. Commitment. Trust.

RESUMEN

La innovación tecnológica permite diferentes estrategias para asistir a los deseos y necesidades de los clientes. En comparación con las tiendas físicas tradicionales, el comercio electrónico ofrece un acceso más fácil y un proceso de búsqueda para el comprador, que les permite encontrar la oferta más adecuada, en relación con las marcas, precio, entrega y transporte de mercancías. Este panorama aumenta el desafío para los vendedores para desarrollar un marketing de calidad de la relación con sus clientes en lugar de un enfoque de marketing transaccional, que a veces significa una sola compra. Este artículo informa la construcción de un modelo para medir la calidad de la relación entre los consumidores y vendedores de comercio electrónico, la exploración de las variables demográficas, actitud, de comportamiento y de lealtad hacia la compra electrónica, valor percibido, de compromiso, satisfacción y confianza. Una encuesta con una muestra no probabilística de una base de datos de una empresa de comercio electrónico brasileña en un periodo de 2009 a 2013. Los resultados iniciales han llevado a ampliar la investigación para incluir el valor percibido, el compromiso, la satisfacción y la confianza utilizando modelos de ecuaciones estructurales.

Palabras-clave: Comercio electrónico. Valor percibido. Calidad de la relación. Compromiso. Confianza.

1 INTRODUCTION

The creation of value seems to be a key factor for a sustainable growth to any organization, especially when the market is geographically huge like the Brazilian market which remains cautious in a slow ongoing global economic recovery scenario.

It is widely recognized that technological innovation has brought business the potential to transform their customers' shopping experience and strengthen their own competitive positions, allowing them different strategies to better attend their clients' wants and needs.

Online trade provides firms a mechanism for broadening target markets,

improving two-way communication with customers, collecting market research data, improving cost efficiency and delivering customized offers (SRINIVASAN et al., 2002; BASY; MUYULLE, 2003).

Particularly, in an increasingly connected world, compared to traditional physical stores, electronic commerce offers an easier access and search process to the buyers easily find the most suitable product, brand, price, delivery and freight rates.

So, commitment, satisfaction and trust that one inspires on ones clients appear to be even more important to e-commerce businesses, since price and other selling conditions are very similar.

Despite the fact that e-commerce is at different stages of maturity around the world, preparing and delivering a valuable offer seems to be a key factor to achieve a profitable outcome. Valuable offers translated to customized products, promoted correctly at the most appropriated place and price, expect to produce loyal and committed customers.

A first survey was conducted with a non-probabilistic sample extracted from a Brazilian nationwide electronic commerce vendor database covering 2009-2013 period. Around 1200 clients answered the online research about behavior and attitude toward

e-commerce. Statistical tests (Chi-square, t test) were conducted to get a general overview.

Evidences of action loyalty were not found, meaning that despite the respondents declaring they believe (cognitive loyalty) and like (affective loyalty) the e-seller, their intention to buy (conative loyalty) sometimes does not transform into action.

Taking into account these initial findings, the objective of this paper is to present a model to measure the relationship quality between consumers and e-commerce sellers, reflected by satisfaction, trust and commitment. Perceived value is proposed as an antecedent and demographic variables, attitude and behavior toward electronic purchase as moderators.

2 LITERATURE REVIEW

Value literature over time shows that academics have just begun to understand what value means (LINDGREEN, 2012). Up to 2005, most researchers sought to explain value or usefulness from the trade-off between benefits – technical, economic, service, social – and sacrifices – money, time, effort to obtain the product – associated with a good or service (ZEITHAML, 1988; HOLBROOK, 1994; WOODRUFF, 1997).

As the importance of relationship marketing instead of a transactional marketing approach increased, scholars and professionals have been paying special attention to determine the nature and process of value creation (EGGERT et al., 2006; MÖLLER, 2006; GRÖNROOS, 2008).

According to Ulaga; Eggert (2006), it is important to observe that value is a subjectively perceived construct on a high level of abstraction and value perceptions are relative to competition, i.e. the value of an offering is always assessed in relation to a competing offer.

In a previous study, those researchers stated that perceived value and customer satisfaction are two distinct yet complementary constructs (EGGERT; ULAGA, 2002). They remarked that interactions between them are strong and the first one should be a cognitive construct and the second affective construct.

This is the very essence of marketing discipline. Voluntary market exchange only happens when all parties involved expect to be in a better situation after the exchange, if they perceive value in the exchange or the relationship (ALDERSON, 1957). Customers with a strong relationship with a service provider or retailer represent a precious asset and a determinant key of

profitability for service firms (DOWLING; UNCLES, 1997; RIGBY et al., 2002; WEBSTER, 2000; GRANT, 2004).

Relationship quality is referred to very often on marketing literature as the strength of a relationship between two parts, however, Caceres; Paparoidamis (2007) and Athanasopoulou (2009) state that there is no consensus among the researchers on the dimensions that compose the construct "relationship quality". Many researchers understand it as a higher-order construct, generally composed of satisfaction, trust and commitment (DORSCH et al., 1998; HIBBARD et al., 2001; WULFET et al., 2001; HEWETT et al., 2002; ULAGA; EGGERT, 2006; ATHANASOPOULOU, 2009).

Expectations are reference points in customers' assessment of service performance. If the performance perceived is equal to that which was expected, the customer is satisfied. When performance exceeds expectations, the customer is very satisfied and if it is below, the customer will be dissatisfied (PARASURAMAN et al., 1988).

However, satisfaction concept could have different approaches. Considering the consumer behavior, according to a tendency toward a cumulative view, Garbarino;

Johnson (1999) and Shama et al. (1999) suggest measuring satisfaction as the general level of satisfaction based on all experiences with a firm. As an affective state of mind resulting from the evaluation of all relevant aspects of the relationship, satisfaction can be a predictor of repurchase intentions, word-of-mouth and loyalty (RAVALD; GRÖNROOS, 1996; LILIANDER et al., 1995; FOURNIER et al., 1999).

If an individual has already experienced that a certain supplier is able and willing to fulfill his or her needs and demands and is a reliable partner, i.e. he or she is satisfied, this supplier will be probably a trusted supplier.

Trust was established by Morgan; Hunt (1994, p.23) as a key-mediating variable in relational exchanges that occurs "when one party has confidence in an exchange partner's reliability and integrity".

Among the different definitions of customer's trust, it is possible to find one common notion that trust is the belief, the confidence that the partner's behavior will be in the best interest of the other partner (ANDERSON; WEITZ, 1992; MORGAN; HUNT, 1994).

Trust diminishes the perceived risk in a relationship and leads to commitment to the relationship.

Commitment is widely acknowledged in relationship marketing literature. It is the foundation of a relationship (BERRY; PARASURAMAN, 1991; MOORMAN et al., 1993, MORGAN; HUNT, 1994). Customer's commitment is a lasting intention to develop and maintain a long-term relationship (ANDERSON; WEITZ, 1992; MOORMAN et al., 1992) and according to Moorman et al. (1993), a high level of commitment helps to stabilize the relationship.

Commitment has three components: affective – a positive attitude towards the relationship; instrumental – whenever some kind of investment, like time or other resources are made; temporal – indicates a long lasting relationship (GUNDLACH et al., 1995).

A deep commitment to rebuy or recommend a preferred product/brand consistently in the future, despite situational influences and marketing efforts that could switch the consumer behavior is the definition of loyalty (OLIVER, 1997).

Oliver's (1997) proposal introduces a four-stage loyalty model: cognitive, affective, conative and actual purchase behavior. At the first stage, consumer loyalty is by information related to the offering such as price and quality and it is largely

influenced by his evaluative response to the perceived performance of the offering value.

Affective loyalty relates to a favorable attitude towards a specific brand and can deteriorate by increased attractiveness of competitive offerings. This attitudinal loyalty is accompanied by a desire of intention and action, for example repurchase a certain brand. This stage corresponds to the conative loyalty. The last loyalty stage is action loyalty, when the intentions turn into action.

Once it presents the relationship quality components and loyalty types, this review will also briefly explores personal, attitudinal – self-efficacy, innovativeness, attitude; and behavioral characteristics – need for human interaction, need for touch, expertise; since Huntley (2005) remarks that technology-intensive product and service may have idiosyncratic effects on relationship quality.

Self-Efficacy refers to a person's belief that he/she is capable of performing a particular task successfully (BANDURA, 1977, 1995, 1997, DABHOLKAR et al., 2002). Van der Bijl et al. (2002) remark that individuals are more likely to engage in activities for which they have high self-efficacy. Self-efficacy has been thought as a kind of self-confidence (KANTER, 2006) or

a task-specific form of self-esteem (BROCKNER, 1988, LUNENBURG, 2011).

Innovativeness refers to the velocity and the extent one person adopts innovations. Zhou et al. (2007) state that innovativeness relates to electronic shopping, i.e. it can be understood as an innovative behavior regarding shopping at physical stores. Innovativeness also means the desire for new stimuli (HIRSCHMAN, 1980).

Attitude is an important marketing construct that may be defined as favorableness or unfavorableness as result of a set of beliefs, feelings and behavior intentions toward an object (SHETH et al., 1999). Attitude is an expression of like or dislike towards an object that determines an individual's intentions and attitude toward electronic purchase as a key factor to differentiate an electronic buyer from a non-electronic buyer (GOLDSMITH; BRIDGES, 2000, BLACKWELL et al. 2001).

Need for human interaction is determinant to some consumers on adopting self-service technology products (DABHOLKAR, 1996; DABHOLKAR et al. 2002; SIMON et al., 2007). On the other hand, Meuter et al. (2000) explain that avoiding human interaction can be a source of satisfaction to some consumers.

Need for touch, i. e. sensorial need from the marketing point of view affects attitude as much as the buying behavior, according to Peck et al. (2003). The attitude towards a product can depend directly on touching and having a sensorial answer. The need for feel and touch can make the difference between adopting internet as a purchasing channel or not.

Expertise gives to internet users skills to find what they are looking for easier, to choose the best payment modes and to identify safe virtual stores. Besides, they are able to finish the purchasing process quicker. The more time an individual spends online, the more confident and familiar the client gets and at the same time, the more open the client is to explore the internet services (NOVAK et al., 2000; ZHAO, 2006).

3 METHODOLOGICAL PROCEDURES

Two surveys were carried out on using a non-probabilistic sample from a Brazilian nationwide electronic commerce vendor database covering 2009-2013 period. Launched in September 2000, S.com.br, as named in this study, is the electronic retail business unit of a well-known Brazilian wholesaler. They sell books, electronics & computers, home, beauty, health & grocery products and automotive parts, among other

departments.

A confidentiality agreement was presented to all respondents asking them for their voluntary cooperation and ensuring them their rights as private individuals would be respected by the researchers who would never allow personal data would be used for any purpose other than this study.

3.1 First data collection

Primarily, a research was conducted to know who those consumers were. So, an invitation to respond to a survey to their electronic purchases behavior was sent to almost 45.000 individuals extracted from the e-seller database, over the period from March to June 2014. This first questionnaire was designed to gather personal characteristics about attitude (self-efficacy, innovativeness, attitude), behavior (need for human interaction, need for touch, expertise) and loyalty toward e-commerce. Some questions about the last electronic purchase were made.

The scales used to measure attitude and behavior were based on Garcia; Santos (2011) and the scales used to evaluate loyalty were adapted from Lopes (2007). All of them have already been validated. In this study a Likert 5 Points Scale (1 - Strongly Disagree; 5 - Strongly Agree) was applied. Variables are listed in Table 1.

Table 1 – Variables for questionnaire 1

Personal characteristics
<i>Self-Efficacy</i>
selfeff1 - I feel apt to use the internet by myself
selfeff2 - I have enough time to enjoy what internet can offer me
selfeff3 - I have the knowledge and the abilities to use internet
<i>Innovativeness</i>
inno1 - I always look for new ideas and experiences
inno2 - I like to change my activities constantly
<i>Attitude</i>
att1 - I like shopping at internet
att2 - E-stores are good places to buy products
Personal characteristics
<i>Need for human interaction</i>
humneed1_R - Human contact makes the purchase process more pleasant for the consumer
humneed2 - I like to interact with the sales person
humneed3 - The sales person is very important to me
humneed4_R - Using a machine bothers me when I can speak directly with a sales person
<i>Need for touch</i>
touchneed1_R - I trust more in products I can touch before I buy
touchneed2 - I feel more comfortable buying a product I can examine
touchneed3_R - When I visit stores I like to grab products
<i>Expertise</i>
exp1 - I am familiar with internet shopping
exp2 - I am familiar with using internet as a shopping channel
exp3 - I have experience in shoppingat websites
Loyalty
loy1 - S.com.br is the best e-commerce site(<i>Cognitive loyalty</i>)
loy2 - I really appreciate S.com.br services(<i>Affective loyalty</i>)
loy3 - S.com.br offers good prices(<i>Cognitive loyalty</i>)
loy4_R - S.com.br as e-commerce is not as good as I thought it would be(<i>Cognitive loyalty</i>)
loy5 - I like S.com.br(<i>Affective loyalty</i>)
loy6 - I have a preference for S.com.br(<i>Affective loyalty</i>)
loy7 - I would recommend S.com.br to my friends(<i>Conative loyalty</i>)
loy8 - I am loyal to S.com.br(<i>Action loyalty</i>)
loy9_R - If I could do it over again I would choose an alternative e-commerce site(<i>Action loyalty</i>)

Source: Research data

Note: variables humneed1_R, humneed4_R, touchneed1_R, touchneed3_R, loy4_R and loy9_R were reverse

Demographic data was retrieved from the S.com.br database and added to the data collected through the questionnaire: gender, age, income, education, place of residence (capital or not), average ticket and total purchases made over 2009-2013 period.

Descriptive statistics were used just to get a general overview. Frequencies and cross tabulations analysis, Chi-square and

Student's T-test were conducted. 1.249 cases were validated.

3.2 Second data collection

It was learned from the first data set analysis that S.com.br customers were familiar with Internet, they declared they liked S.com.br but do not considered themselves as loyal to S.com.br. These

findings led to explore the relationship quality, i.e. the strength of the relationship between seller-customer.

So, an invitation to answer a second questionnaire was sent to those 1.249 customers who participated in the first survey. This data collection was conducted over the period September-October 2014. It had around 260 replies from which missing cases and outliers were excluded and 202 cases were validated. The objective of this

second questionnaire was to collect data about perceived value and relationship quality expressed by satisfaction, trust and commitment.

The second questionnaire was based on a validated instrument already tested by Eggert; Ulaga (2006). A Likert 5 Points Scale (1 - Strongly Disagree; 5 - Strongly Agree) was used. Variables are presented in Table 2.

Table 2 – Variables for questionnaire 2

Variables
Perceived value
val1 - Compared with the site B, site A adds more value to the relationship overall
val2 - Compared with the site B, I gain more in my relationship with site A
val3 - Compared with the site B, the relationship with site A is more valuable
val4 - Compared with the site B, site A offers more value for me when comparing all costs and benefits
Satisfaction
sat1 - I have already regretted shopping from site A
sat2 - I am very satisfied with shopping from site A
sat3 - I am very happy with site A does for me
sat4_R - I am not completely satisfied with site A
sat5 - I would still choose site A if I had to shop again
Trust
tru1 - Site A keeps the promises done
tru2 - Site A really cares about my shopping success
tru3 - I believe Site A considers my interests
tru4 - Site A is trustworthy
Commitment
com1 - The relationship with site A is very important to me
com2 - The relationship with site A is something I intend to maintain
com3 - The relationship with site A is something I care to maintain
com4 - The relationship with site A deserves my effort to be maintained

Source: Research data

Note: the variables sat4_R was reverse.

Structural Equation Modeling was chosen to explore the links among all the data collected, since this technique allows the researcher to incorporate construct latent variables, not measured directly, and to

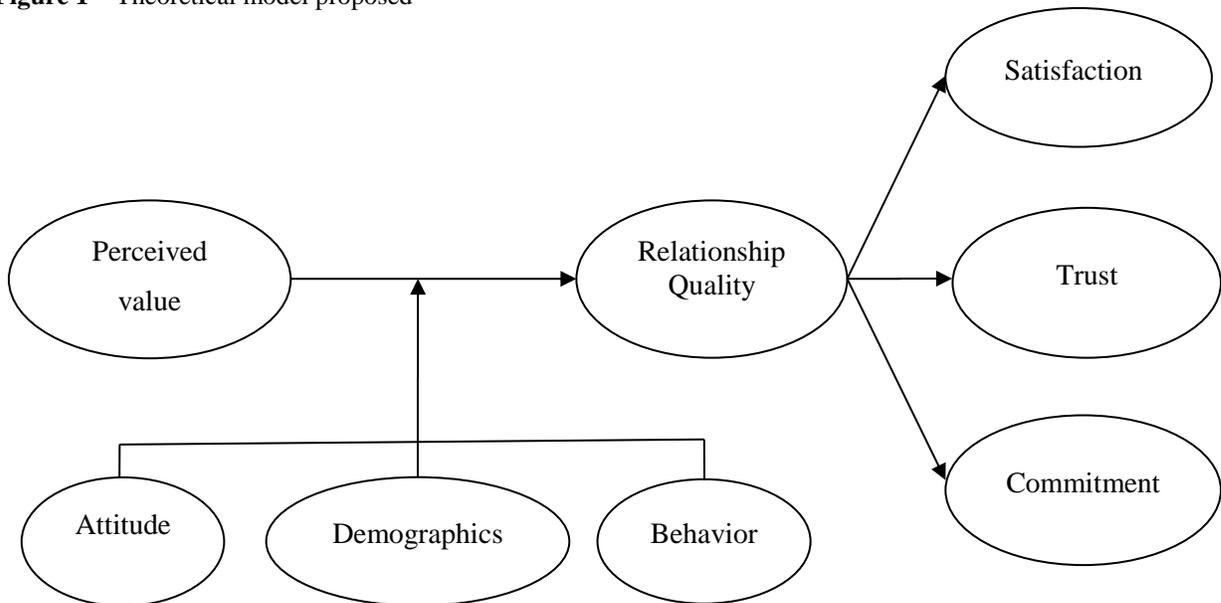
estimate dependence relations, be they multiple or interrelated or both (HAIR et al., 2005).

This paper reports about the construction of a model to measure the

relationship quality between consumers and e-commerce sellers, reflected by satisfaction, trust and commitment. Perceived value was proposed as an antecedent and demographic

variables of attitude and behavior toward electronic purchase as moderators. Figure 1 shows the proposed model.

Figure 1 – Theoretical model proposed



Fonte: Research data

Partial Least Square (PLS) was employed because it is ideal for early stages of research, as in this one (HULLAND, 1999). Based on an iterative combination of Principal Components Analysis and Regression, PLS aims to explain the variance of the constructs in the model and is more flexible than Linear Structural Relations (LISREL), concerning its assumptions as to multivariate normal distribution and sample size (CHIN, 1998).

4 SEARCH RESULTS

Firstly, descriptive analysis revealed the respondents were 41 years old on average, 89% had high school or higher degree and 93% reported feeling very comfortable using internet. 91% like to buy at internet and 90% consider online stores a good place to shop. 94% declared that they had used a personal computer or a notebook in their last electronic purchase.

Chi-square tests verify the relationship between gender and these measured variables. All tests revealed

insignificant differences ($p < .05$), meaning gender and these characteristics were independent.

Even though 75% of the respondents were male no significant statistical

differences ($p < .05$) between male and female attitudinal and behavioral answers were found, performing T-test (Table 3, Table 4).

Table 3 – Attitudinal and behavioral statistics

	Gender	Mean	Std. Deviation	Std. Error Mean
Attitude	Female	4.0287	.52351	.03096
	Male	4.0938	.47414	.01600
Behavior	Female	3.4679	.41254	.05721
	Male	3.5808	.53712	.04314

Source: Research data

Table 4 – T-test for equality of means

	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Attitude	-1.964	1162	.050	-.06509	.03314
Behavior	-1.384	205	.168	-.11288	.08157

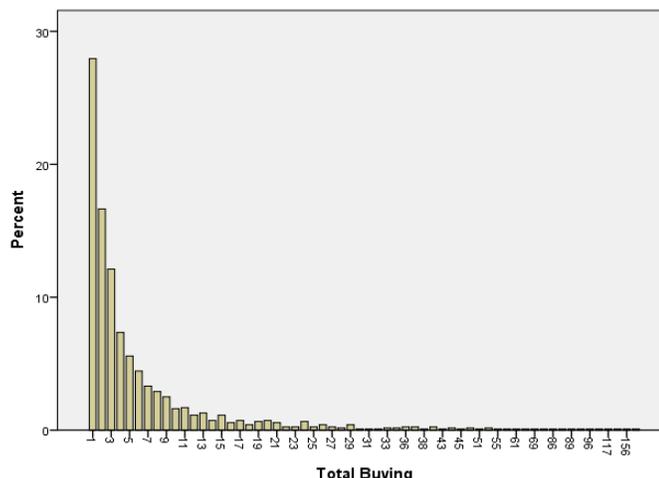
Source: Research data

The major part of purchases performed from 2009 to 2013 at S.com.br, 21% were originated from 4 cities located in the southeast region which is the most developed and richest part of the country and the region with the largest proportion of households connected to Internet

(BRAZILIAN INTERNET STEERING COMMITTEE, 2014).

Almost 80% of purchases were originated from almost 600 different cities and 30% of them registered one single sale over the period 2009-2013 (Figure 2).

Figure 2 – Total buying of S.com.br customers



Source: Research data

This fact led to look more closely at the loyalty construct (Table 5).

Table 5 – Loyalty scale means

Item	Mean
loy1 - S.com.br is the best e-commerce site(<i>Cognitive</i>)	3.16
loy2 - I really appreciate S.com.br services(<i>Affective</i>)	3.61
loy3 - S.com.br offers good prices (<i>Cognitive</i>)	3.42
loy4 - S.com.br as e-commerce is not as good as I thought it would be (<i>Cognitive</i>)	3.35
loy5 - I like S.com.br(<i>Affective</i>)	3.73
loy6 - I have a preference for S.com.br(<i>Affective</i>)	3.13
loy7 - I would recommend S.com.br to my friends(<i>Conative</i>)	3.83
loy8 - I am loyal to S.com.br(<i>Action</i>)	2.58
loy9 - If I could do it over again I would choose an alternative e-commerce site (<i>Action</i>)	3.31

Source: Research data

The 3 higher means were for "I would recommend S.com.br to my friends" (3.83), "I like S.com.br" (3.73) and "I really appreciate S.com.br services" (3.61). They refer to conative and affective loyalty phases. "I am loyal to S.com.br" (2.58), an action loyalty item showed the lowest mean. S.com.br customers do not consider themselves loyal clients.

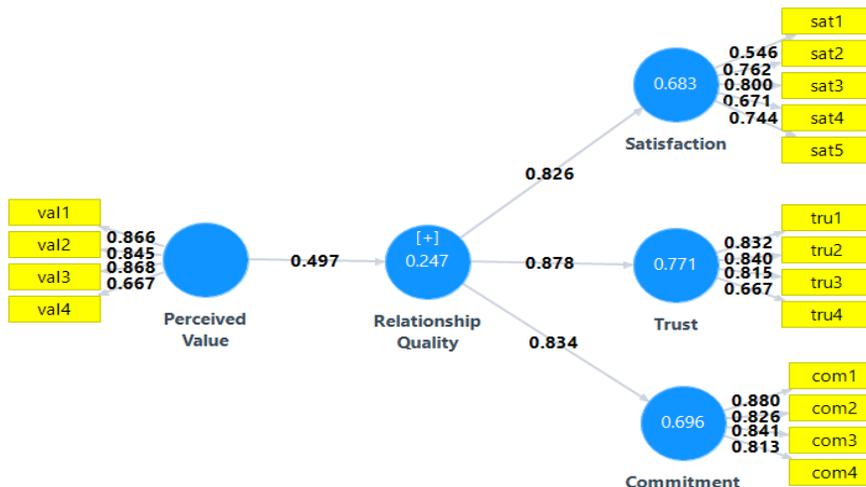
Each loyalty phase means: cognitive (3.31), affective (3.49), conative (3.83), action (2.94). S.com.br customers' intention of buying does not turn into action. T-test to assess whether those means were statistically different between men and women and it was not possible to reject H_0 at .05 level. Men and women can be considered equally not loyal. So, the sample can be considered homogeneous.

Then, the authors moved forward applying the second questionnaire.

First of all we evaluated the missing cases and outliers and 55 cases were removed, leaving 202 cases. The SmartPLS 3.0 software was utilized to assess the proposed model. The first step of the Partial Least Square (PLS) is the evaluation of the adequacy of measures (HULLAND, 1999; HENSELLER, 2009), i.e. if the calculated latent variable scores show sufficient reliability and validity.

A latent variable should explain at least 50% of each indicator variance. The absolute correlations between a construct and each of its indicators should be higher than 0.7 and standardized loadings smaller than 0.4 indicates the item should be eliminated. The PLS path is as follows (Figure 3).

Figure 3 – PLS path first structural equation model

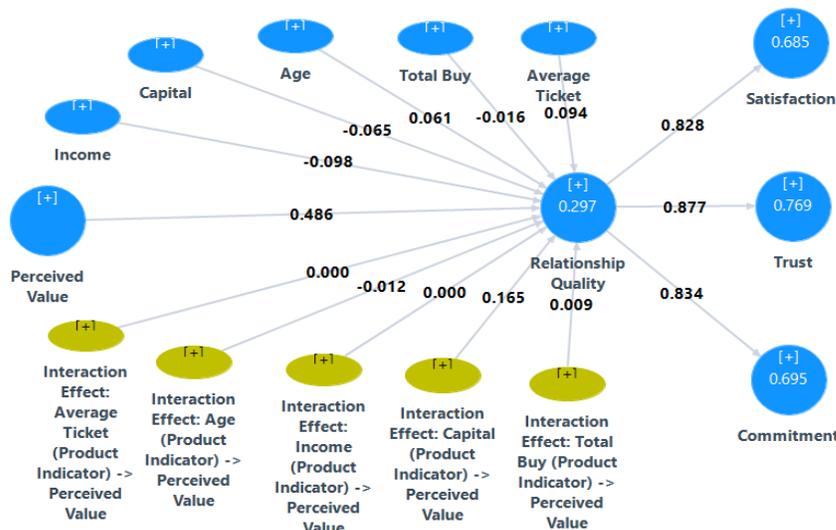


Source: Research data

The significance of these estimated coefficients through the bootstrap technique with 202 cases to provide t values estimated at the level of 5% and $p=0.000$ for all of

them. Then, the moderators' effect was tested, starting with demographic variables (Figure 4).

Figure 4 – PLS path demographics moderators

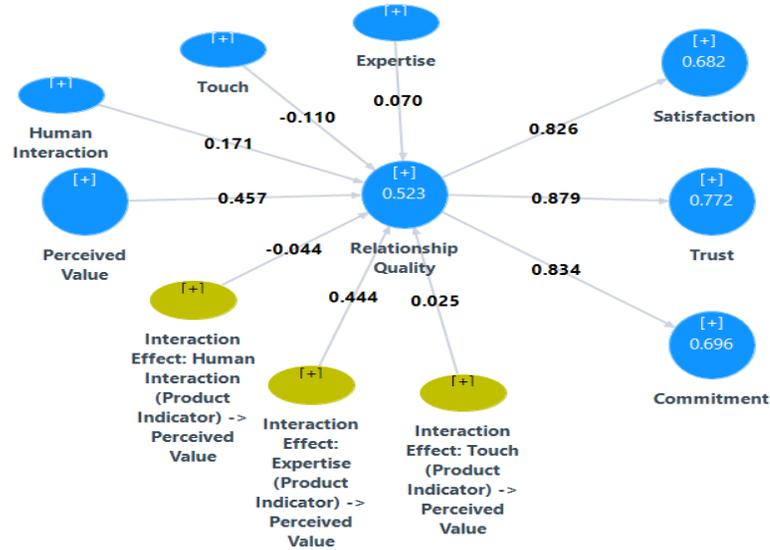


Source: Research data

The results did not show loadings high enough to be considered. The next step was to evaluate the behavioral variables

(need of human interaction, need for touch and expertise) effect (Figure 5).

Figure 5 – PLS path behavioral moderators

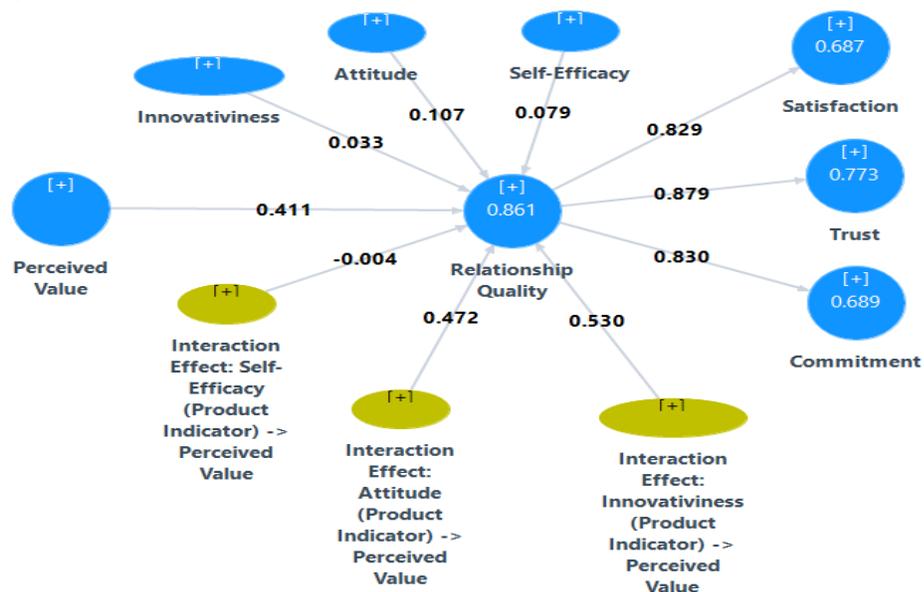


Source: Research data

Despite the interaction effect of expertise loading being higher than 0.4, the P-value for t values estimated through bootstrap was 0.06, revealing insignificant differences and expertise was discarded as a moderator.

Then, the authors evaluated the attitudinal variables (self-efficacy, innovativeness and attitude) effect as follows (Figure 6).

Figure 6 – PLS path attitudinal moderators

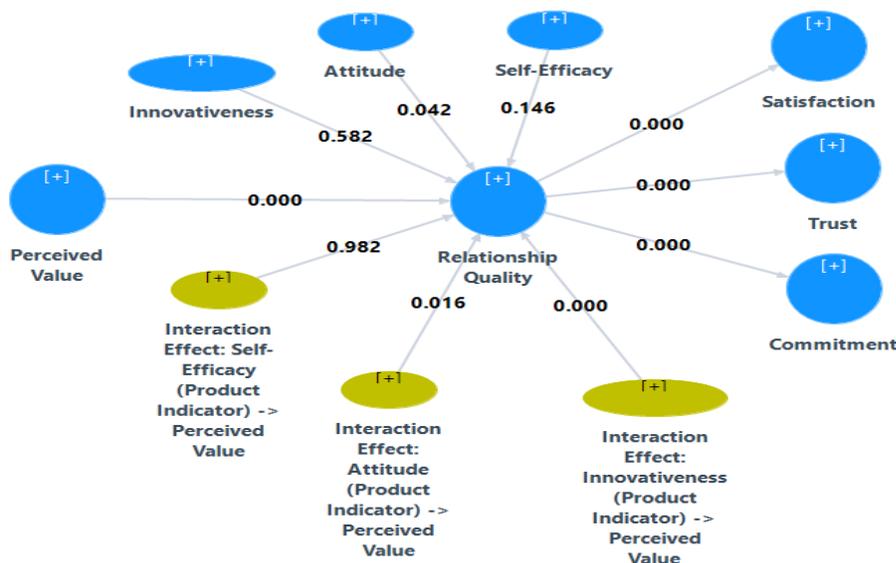


Source: Research data

It verified the significance of the estimated attitude and innovativeness interaction effect coefficients through the

bootstrap technique with 202 cases to provide t values estimated at the level of 5%. P values are shown in Figure 7.

Figure 7 – P-values for t-values estimated for attitudinal moderators through bootstrap

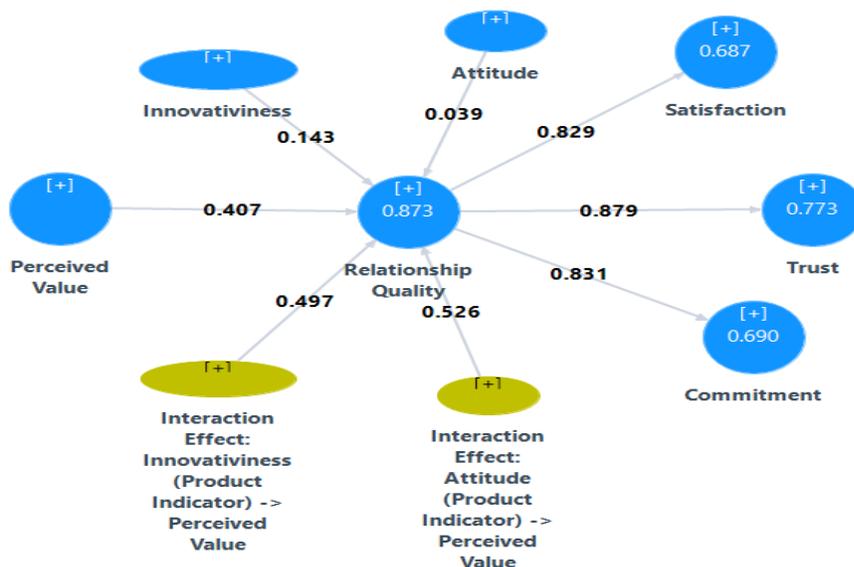


Source: Research data

The interaction effect of attitude and innovativeness showed statistical significance and were added to the first

model (Figure 3), resulting in the following adjusted model (Figure 8).

Figure 8 - Adjusted model of structural equation model

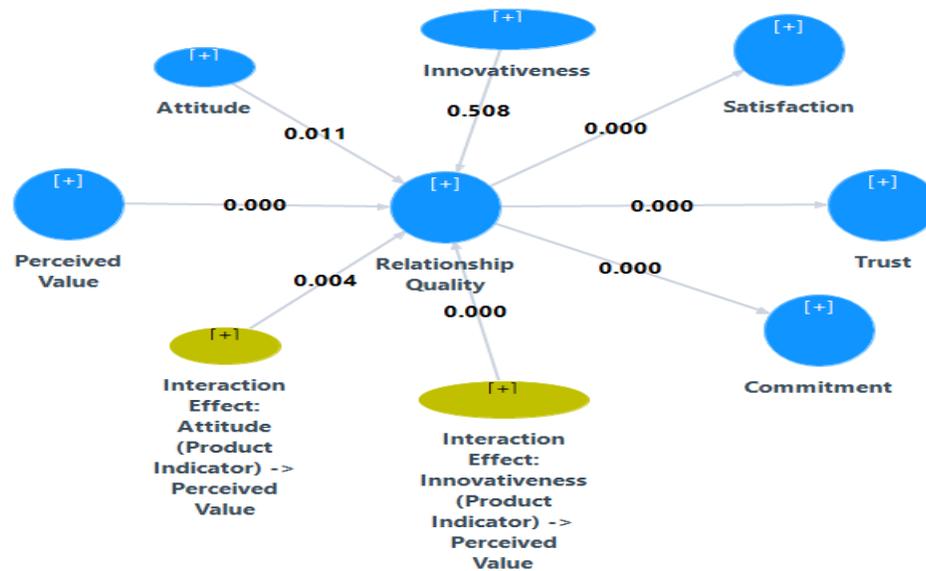


Source: Research data

The significance of these estimated coefficients through the bootstrap technique with 202 cases to provide t values estimated at the level of 5%. Although attitude and

innovativeness loading factors were low, the interaction effect between them and perceived value were high enough. P values are shown in Figure 9.

Figure 9 – P-values for t-values estimated for the adjusted model through bootstrap



Source: Research data

Cronbach’s alpha is commonly used as an internal consistency estimate of reliability of test scores, but it does not fit well in models using PLS because it tends to underestimate the reliability. So, in Table 6 we observed the loadings of scales measuring reflective constructs (Composite Reliability). All of them approached or exceeded 0.7, as recommended (CHIN,

1998; HULLAND, 1999; HENSELLER, 2009).

After that, to assess the convergent validity we compared the Average Variance Extracted – AVE from each construct and no value under 0,5 was found (FORNELL; LARCKER, 1981), which indicates that more than 50 percent of the variance in the observed variable is explained by the construct (Table 6).

Table 6 – Composite Reliability and Average Variance Extracted

	Composite Reliability	AVE
Attitude	0.921	0.854
Commitment	0.906	0.706
Innovativeness	0.824	0.613
Interaction Effect: Attitude (Product Indicator) -> Perceived Value	0.905	0.559
Interaction Effect: Innovativeness (Product Indicator) -> Perceived Value	0.926	0.516
PerceivedValue	0.887	0.665
Satisfaction	0.834	0.505
Trust	0.869	0.627

Source: Research data

The cross-loadings showed no item loaded higher on another construct than it did on the construct it was intended to measure (discriminant validity), as indicated in Table 7.

Table 7 - Cross loadings

	Attitude	Commitment	Innovation	PerceivedValue	Satisfaction	Trust
att1	0.975	0.054	0.138	0.210	0.272	0.216
att2	0.871	-0.025	0.068	0.096	0.164	0.111
com1	0.039	0.880	0.202	0.449	0.442	0.519
com2	0.057	0.827	0.119	0.388	0.497	0.525
com3	-0.015	0.841	0.183	0.389	0.354	0.488
com4	0.019	0.812	0.127	0.361	0.341	0.461
inno1	0.149	0.182	0.899	0.208	0.137	0.104
inno2	0.067	0.136	0.729	0.089	0.068	0.000
inno3	0.050	0.093	0.706	0.031	0.014	0.019
sat1	0.109	0.199	-0.022	0.103	0.547	0.286
sat2	0.210	0.307	0.074	0.281	0.762	0.567
sat3	0.237	0.491	0.206	0.375	0.799	0.524
sat4_R	0.183	0.219	0.046	0.216	0.671	0.328
sat5	0.141	0.443	0.061	0.309	0.744	0.494
tru1	0.170	0.417	-0.070	0.286	0.576	0.832
tru2	0.082	0.527	0.071	0.276	0.506	0.840
tru3	0.147	0.622	0.185	0.408	0.528	0.815
tru4	0.250	0.258	0.035	0.290	0.398	0.667
val1	0.106	0.456	0.192	0.866	0.417	0.436
val2	0.094	0.352	0.149	0.845	0.300	0.264
val3	0.121	0.407	0.184	0.867	0.271	0.295
val4	0.076	0.301	0.019	0.667	0.209	0.264

Source: Research data

5 FINAL REMARKS

The purpose of the paper was to present a model to measure the relationship quality between consumers and sellers, reflected by satisfaction, trust and commitment, in the e-commerce context.

Considered the essence of marketing discipline since voluntary market exchanges happen when all parties involved expect to be in a better situation after the exchange (ALDERSON, 1957; KOTLER, 2011), perceived value was proposed as an antecedent of the relationship quality.

Demographic variables, attitude and behavior toward electronic purchase were proposed as moderators, according to Huntley (2005) who remarks that technology-intensive goods and services may have idiosyncratic effects on relationship quality.

The adjusted model explained 87,3% of variation in the relationship quality, expressed by satisfaction, trust and commitment. This result can be considered very good and corroborates previous research.

From the set of the proposed variables as moderators, only the interaction innovativeness-perceived value and the

interaction attitude-perceived value remained as moderators.

Demographic variables – age, income, place of residence (capital or not), average ticket and total buying made over 2009-2013 period – did not show statistical significance to explain the relationship quality developed between the studied e-seller and their clients. This is interesting because in the last decade, consumers' demographic profiles have been found to influence their online behavior (Hoffman *et al.*, 2000; Slyke 2002, Shui and Dawson, 2004, Brengman *et al.*, 2005).

This could be explained by the Brazilian consumers process to adapt their lives to keep pace with digital advances. According to the ICT Households and Enterprises 2013, a survey on the use of Information and Communication Technologies in Brazil (BRAZILIAN INTERNET STEERING COMMITTEE, 2014), 21% of the population 10 years old or older, have home internet access and uses it on mobile phones. In 2011, they were only 10%. I.e., online habits has been becoming a generalized pattern among Brazilian consumers.

Drawn for the study of demographic variables such as age and social class, this information shows inequalities in access,

especially in remote areas and among lower income strata. The differences in the proportion of households and users connected in different regions is also significant, but as 80% of the studied sample were based on small cities over 2009-2013 period, it seems to indicate that these e-consumers could get the wanted product wherever they were. So, demographic characteristics did not show any discriminant power in the sample used in this research, not even as moderators.

Similarly to the demographic variables, behavioral variables – need for human interaction, need for touch, expertise – presented no statistical significance. The studied sample elements seemed to feel very comfortable making online store purchases. These consumers could be considered updated with internet shopping process, including the use of search engines to get the best offers of the product they want to buy.

Among the tested attitudinal variables – self-efficacy, innovativeness, attitude – innovativeness and attitude showed statistical significance only when interacting with perceived value. Innovativeness and attitude *per se* did not present statistical significance. They were found as moderators in the adjusted model.

Although only 6% of the respondents stated that they make purchases using a tablet or a mobile, the proportion of households with tablets increased from 4% in 2012 to 12% in 2013 (BRAZILIAN INTERNET STEERING COMMITTEE, 2014). This growth indicates a tendency in consonance with other markets, since mobile adoption is global and more than four-fifths of US shoppers use a mobile device even within a store (GOOGLE SHOPPER MARKETING AGENCY COUNCIL, 2013).

It is important to have in mind that the studied e-seller pleases their clients, who declared they like S.com.br but do not considered themselves as loyal to S.com.br. The affective and conative loyalty are not sufficient to lead to the last loyalty phase, action. This means, S.com.br customers' intention of buying does not turn into action. The applied t-test revealed men and women can be considered equally not loyal. Indeed, they look for the best price.

But the other findings, previously discussed, show an important path in order to augment the offer's perceived value. E-sellers should develop their own mobile applicatives and improve the quality of their sites and apps content, since according to Google Shopper Marketing Agency Council

(2013), mobile empowers shoppers, who relies on search of product information and 82% of shoppers use search engines when browsing product information in-store.

This study suffers from limitations. First, the object of analysis was a particular e-seller. Second, the analyzed data cover 2009-2013 period. It could be possible to find a different scenario since then.

It is important to remark that this model represents a second stage of an ongoing research and the Brazilian e-market is not yet consolidated. So, further research with longitudinal data covering 2014-2018, the 5 subsequent years would improve this model, confirming the correlations found in this study and enlightening the understanding of the the relationship quality building process as key of profitability for electronic commerce. It seems to be a good idea focus the shoppers use of mobile devices and their impact on e-commerce.

REFERENCES

- AL-ALAK, B. A. Impact of marketing activities on relationship quality in the Malaysian banking sector. **Journal of Retailing and Consumer Services**, v. 21n. 3, p. 347-356. 2014.
- ALDERSON, W. **Marketing Behavior and Executive Action**. ed. Homewood: Richard D. Irwin Inc, 1957.
- ANDERSON, E.; WEITZ, N. The use of pledges to build and sustain commitment in distribution channels. **Journal of Marketing Research**, v.29, n.2, p. 18-34,1992.
- ATHANASOPOULOU, P. Relationship quality: a critical literature review and research agenda. **European Journal of Marketing**, v. 43, n.5/6, p. 583-610, 2009.
- BANDURA, A. **Social learning theory**. ed. Englewood Cliffs: Prentice Hall, 1977.
- _____, A. **Self-efficacy in changing societies**, p. 1-45. ed. New York: Cambridge University Press, 1995
- _____, A. **Self-Efficacy: The exercise of control**. ed. New York: W.H.Freeman,1997.
- BASU, A.; MUYLLE, S. Online support for commerce processes by web retailers. **Decision Support Systems**, v. 34, n. 4, p. 379-9. 2003.
- BENNETT, R.; BARKENSJO, A. Relationship quality, relationship marketing and client perceptions of the levels of service quality of charitable organisations. **International Journal of Service Industry Management**, v. 16, n.1, p. 81-106, 2005.
- BERRY, L.; PARASURAMAN, A. **Marketing Services**. Ed. New York: The Free Press, 1991.
- BLACKWELL, R. D.; MINIARD, P. W.; ENGEL, J. F., (2001), **Consumer behavior**. ed. Fort Worth, London: Harcourt College Publishers, 2001.
- BRAZILIAN INTERNET STEERING COMMITTEE. **ICT Households and Enterprises 2013**. Access: <<http://cetic.br/media/docs/publicacoes/2/TI>

C_DOM_EMP_2013_livro_eletronico.pdf>
2014.

BRENGMAN, M.; GEUENS, M.;
WEIJTERS, B.; SMITH, S.M.;
SWINYARD, W.R. Segmenting internet
shoppers based on their web-usage-related
lifestyle: a cross-cultural validation. **Journal
of Business Research**, v.58, n.1, p.79-88,
2005.

BROCKNER, J. **Self-esteem at work**. ed.
Lexington: Lexington Books,1988.

CACERES, R. C.; PAPAROIDAMIS, N.G.
Service quality, relationship satisfaction,
trust, commitment and business-to-business
loyalty. **European Journal of Marketing**,
v.41,n.7/8, p. 836-866, 2007.

CHIN, W. W. The partial least squares
approach to structural equation modeling. In
Modern methods for business research,
Marcoulides,G.A, ed. p. 295-336. Mahwah:
Lawrence Erlbaum Associates, 1998.

DABHOLKAR, P. A. Consumer
Evaluations of New Technology-Based Self-
Service Options: An Investigation of
Alternative Models of Service Quality.
**International Journal of Service
Research**, v.13, p. 20-51, 1996.

_____, P. A.; BAGOZZI, R. P. An
attitudinal model of technology based self-
service.Moderating effects of consumer
traits and situational factors. **Journal of
Academy of Marketing Science**, v.30, n.3,
p. 184-201, 2002.

DORSCH, M. J.; SWANSON, S. R.;
KELLEY, S. W. The role of relationship
quality in the stratification of vendors as
perceived by customers. **Journal of the
Academy of Marketing Science**, v.26, n.2,
p. 128-142, 1998.

DOWLING, G. R.; UNCLES, M. Do
customer loyalty programs really work?
Sloan Management Review, v. 38, p.71-82,
1997.

EGGERT, A.; ULAGA, W. Customer
perceived value: a substitute for satisfaction
in business markets? **Journal of Business &
Industrial Marketing**, v.17, n.2/3, p.107-
118, 2002.

_____; _____; SCHULTZ, F. Value
creation in the relationship life cycle: A
quasi-longitudinal analysis. **Industrial
Marketing Management**, v. 35, n.1, p. 20-
27,2006.

FORNELL, C.; LACKER, D.F. Evaluating
structural equation models with
unobservable variables and measurement
error. **Journal of Marketing Research**, v.
18, n(1), 39-50,1981.

GARBARINO, E.; JOHNSON, M. S. The
Different Roles of Satisfaction, Trust, and
Commitment in Customer Relationships.
Journal of Marketing, v.63, n.2, p.70-87,
1999.

GOLDSMITH, R. E.; BRIDGES, E. E-
tailing vs. retailing.Using attitudes to predict
online buying behavior. **Quarterly Journal
of Electronic Commerce**, v. 1,n.3, p.245-
253, 2000.

GOOGLE SHOPPER MARKETING
AGENCY COUNCIL. **Mobile In-store
Research: How In-store Shoppers Are
Using Mobile Devices**, Access:
<ssl.gstatic.com/think/docs/mobile-in-
store_research-studies.pdf>, 2013.

GRANT, D. B. UK and US management
styles in logistics: Different strokes for
different folks? **International Journal of
Logistics: Research and Applications**,
v.7,n.3, p. 181-197, 2004.

GRÖNROOS, C. Service logic revisited: Who creates values and who co-creates? **European Business Review**, v. 20, n.4, p. 298-314, 2008.

GUNDLACH, G. T.; ACHROL, R. S.; MENTZER, J. T. The Structure of Commitment in Exchange. **Journal of Marketing**, v. 59, n.1, p.78-92,1995.

HAIR, J.F.; ANDERSON, R.E.; TATHAN, R.L.; BLACK, W.C. **Análise Multivariada de Dados**. ed.Porto Alegre: Editora Bookman, 2005.

HENSELER, J.; RINGLE, C. M.; SINKOWICS, R. R. The use of partial least squares path modeling in international marketing. **Advances in International Marketing**, n.20, p. 277-319, 2009.

HEWETT, K.; MONEY, R. B.; SHARMA, S. An exploration of the moderating role of buyer corporate culture in industrial buyer-seller relationships. **Journal of the Academy of Marketing Science**, v.30, n.3, p.229-239, 2002.

HIBBARD, J. D.; KUMAR, N.; STERN, L. W. Examining the impact of destructive acts in marketing channel relationships. **Journal of Marketing Research**, v.38, n.1, p. 45-61, 2001.

HIRSCHMAN, E. C. Innovativeness, novelty seeking and consumer creativity. **Journal of Consumer Research**, v.7, n.3, p.283-295, 1980.

HOFFMAN, L.; NOVAK, T.; SCHLOSSER, A. The evolution of the digital divide: how gaps in internet access may impact electronic commerce. v. 5, n. 3, 2000.

HOLBROOK, M. B. The nature of customer value. In **Service Quality: New Directions. In Theory and Practice.**, Rust, R. T. and Oliver, R. L. ed., p. 21-71. Thousand Oaks: Sage Publications, 1994.

HULLANK, J. Use of Partial Least Square (PLS) in strategic management research: A review of four recent studies. **Strategic Management Journal**, v.20, n.2, p. 195–204, 1999.

HUNTLEY, J. K. Conceptualization and measurement of relationship quality: linking relationship quality to actual sales and recommendation intention. **Industrial Marketing Management**, v.35, n.6, p. 703-714, 2006.

KANTER, R. M. **Confidence: How winning and losing streaks begin and end**. ed. New York: Crown Publishing, 2006.

LINDGREEN, A.; HINGLEY, M. K.; GRANT, D. B.; MORGAN, R. E., Value in business and industrial marketing: Past, present, and future. **Industrial Marketing Management**, v.41,n.1, p. 207-214, 2012.

LUNENBURG, F. Self-efficacy in the workplace: implications for motivation and performance. **International Journal of Management, Business and Administration**, v.14, n.1, 2011.

MEUTER, M. L.; OSTROM, A. L.; ROUNDTREE, R. I.; BITNER, M. J. Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters. **Journal of Marketing**, v. 64, n.3, p. 50-64, 2000.

OLIVER, R. L. **Satisfaction: A Behavioral Perspective on the Consumer**, ed. New York: McGraw-Hill, 1997.

MÖLLER, K. Role of competences in creating customer value: A value-creation logic approach. **Industrial Marketing Management**, v.35, n.8, p. 913-924, 2006.

MOORMAN, C.; ZALTMAN, G.; DESHPANDÉ, R. Relationships between providers and user of marketing research: The dynamics of trust within and between organizations. **Journal of Marketing Research**, v. 29, n.3, p. 314-329, 1992.

MOORMAN, C.; DESHPANDÉ, R.; ZALTAMAN, C., Factors affecting trust in market research relationships. **Journal of Marketing**, v.57, n.1, p. 81-101, 1993.

MORGAN, R. M.; HUNT, S. D. The commitment-trust theory of relationship marketing. **Journal of Marketing**, v.58, n.3, p. 20-38, 1994.

PARASURAMAN, A.; ZEITHAML, V. A.; BERRY, L. SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality. **Journal of Retailing**, v.64, n.1, p. 12-40, 1988.

PECK, J.; CHILDERS, T. L. Individual differences in haptic information processing: the "Need for Touch" Scale. **Journal of Consumer Research**, v.30, n.3, p. 430-442, 2003.

RAVALD, A.; GRÖNROOS, C. The value concept and relationship marketing. **European Journal of Marketing**, v.30, n.2, p. 19-30, 1996.

RIGBY, D. K.; REICHHELD, F. F.; SCHEFFER, P. Avoid the four perils of CRM. **Harvard Business Review**, v. 81, p. 5-11, 2002.

SHARMA, S.; NIEDRICH, R. W.; DOBBINS, G. A Framework for Monitoring Customer Satisfaction: An Empirical

Illustration. **Industrial Marketing Management**, n.28, p. 231-243, 1999.

SHETH, J. N.; MITTAL, B.; NEWMAN, B. **Customer behavior: consumer behavior and beyond**. ed. Fort Worth: Dryden Press, 1999.

SHUI, E.; DAWSON, J. Comparing the impacts of technology and national culture on online usage and purchase from a four country perspective. **Journal of Retailing and Consumer Services**, v. 11, n.6, p. 385-394, 2004.

SIMNO, F.; USUNIER, J. C. Cognitive, Demographic, and Situational Determinants of Service Customer Preference for Personnel-in-Contact over Self-Service Technology. **International Journal of Research in Marketing**, v.24, n.2, p. 163-173, 2007.

SIRDESHMUKH, D.; SINGH, J.; SABOL, B. Consumer Trust, Value, and Loyalty in Relational Exchanges. **Journal of Marketing**, v.66, n.1, p. 15-37, 2002.

SLYKE, C.V. Gender differences in perceptions of web-based shopping. **Communications of the ACM**, v.47, n.7, p. 82-86, 2002.

SRINIVASAN, S.; ANDERSON, R.; KISHORE, P. Customer loyalty in e-commerce: an exploration of its antecedents and consequences. **Journal of Retailing**, v.78, n.1, p. 41-50, 2002.

ULAGA, W.; EGGERT, A. Relationship value and relationship quality. Broadening the nomological network of business-to-business relationships. **European Journal of Marketing**, v.40, n.3/4, p. 311-327, 2006.

VAN DER BIJL, J. J.; SHORTRIDGE-BAGGETT, L. M. The theory and measurement of the self-efficacy

construct. In **Self-efficacy in nursing: Research and measurement perspectives**, Lentz, E. A. and Shortridge-Baggett, L. M. ed. p. 9-28. New York: Springer, 2002.

WEBSTER, F. E. Jr. Understanding the relationships among brands, consumers, and resellers. **Journal of the Academy of Marketing Science**, n. 28 (Winter), p. 17-23, 2000.

WOODRUFF, R. B. Customer value: The next source of competitive advantage. **Journal of the Academy of Marketing Science**, v.25, n.2, p. 139-153, 1997.

WULF, K.; ODEKERKEN-SCHRODER, D.; IACOBUCCI, D. Investments in consumer relationships: a cross-country and cross-industry exploration. **Journal of Marketing**, v.65, n.4, p. 33-50, 2001.

ZHOU, L., DAI, L.; ZHANG, D. Online shopping acceptance model: a critical survey of consumer factors in online shopping. **Journal of Electronic Commerce**, v.8, n.1, p.41-62, 2007.