WORD-OF-MOUTH COMMUNICATION IN THE ONLINE PURCHASING DECISION PROCESS

Haroldo de Sá Medeiros
Fundação Universidade Federal de Rondônia
haroldo_sm@hotmail.com

Mariluce Paes de Souza
Fundação Universidade Federal de Rondônia
mariluce@unir.br

Larissa Ananda Paiva Maciel
Fundação Universidade Federal de Rondônia
laripaiva88@gmail.com

Abstract

Among the main changes in daily life that are due to the use of online tools, the search for information to help the purchasing decision process was one of the most impacted. Before the popularization of Internet use, positive and negative information about products and services was obtained in small groups of individuals. After popularization, the interactivity between users grew and extended to consumer practices, generating a word-of-mouth communication in electronic media. In this way, this article aims to assess comparatively the influences of the positive and negative electronic mouth-to-mouth communication in the online purchasing decision process. For this, 248 questionnaires were applied and ten hypotheses were verified. As analytical methods were used the descriptive statistic and the confirmatory factorial analysis by means of structural equations. Only the evaluation of alternatives, purchase and post-purchase behavior are influenced.

Key words: electronic word-of-mouth communication; Decision-making process; Online shopping.

Resumo

Dentre as principais mudanças no cotidiano que são decorrentes do uso das ferramentas online, buscar informações para auxiliar o processo decisório de compras foi bastante impactado. Antes da popularização da internet, informações positivas e negativas sobre produtos e serviços eram obtidas em pequenos grupos. Após a popularização, a interatividade entre os usuários cresceu e estendeu-se ao consumo, gerando uma comunicação boca a boca eletrônica. Este artigo objetiva avaliar comparativamente as influências da comunicação boca a boca eletrônica positiva e negativa no processo de decisão de compras online. Foram aplicados 248 questionários e verificaram-se dez hipóteses. Como métodos de análise foram utilizados a estatística descritiva e a análise fatorial confirmatória. Os resultados indicam que não há influência da comunicação boca a boca eletrônica, positiva ou negativa, em todo o processo. Apenas a avaliação de alternativas, a compra e o comportamento pós-compra sofrem influência.

Palavras-chave: Comunicação boca a boca eletrônica; Processo decisório; Compras online.

1 Introduction

Among the main changes arising from the use of the online tools, the search for information to decide what to buy may have been one of the most impacted. Before the internet, the information was obtained in small groups where there was a close relationship between the potential buyer and informers, such as family and friends. Besides that, mass media, such as television and radio, were the great information diffusers by means of propaganda, something that transformed consumers into simple receivers.

As a result of the popularization of the use of the Internet, interactivity among users has grown, extending to consumer practices. Instead of simply receiving information, consumers began to generate content derived from their own experiences on acquiring and using products and services, showing through comments their level of satisfaction to other consumers (Chaparro-Peláez, Hernández-Garcia & Urueña-López, 2015; Purnasari, & Yuliando, 2015). A significant part of this content generated from the relation *Consumer to Business/Consumer to Consumer* [C2B/C2C], know as *word-of-mouth*, referring to word-of-mouth communication, it is present in social media, in blogs, on websites that deal with complaints about products, services and suppliers or even in the virtual places of purchase, such as e-retailers.

Importance is attached to this set of online information generated by consumers to other consumers due to the impact generated in consumer behaviour, especially as regards the acquisition of products, because the sharing of information About buying and using products and services influences the purchasing decisions of other potential buyers (Almeida, 2015; Hyrynsalmi, Seppanen, Aarikka-Stenroos, Suominen, Jarvelainen & Harkke, 2015; Nguyen & Ai-Zhong, 2016; Peng-Fen & Yu-Hsiu, 2013).

Works such as Santos, Hamza and Nogami (2015) show that the willing information from buyers to potential buyers has similar importance to other attributes common to the supply in online purchases, as the delivery time and ease of payment described by the supplier company, presenting itself as a form of evaluation of alternatives for the purchase, which according to Bentivegna (2002) assists in the reduction of risks in the acquisition by the potential Buyers.

These recent studies point to the fact that online content generated by consumers influences other potential consumers, but also shows new market aspects to be studied. Among these aspects, it is possible to compare the positive and negative contents generated by consumers and that can be visualized by other potential buyers, being the target of this article. In this

way, we try to answer the following question: how does the positive and negative electronic word-of-mouth communication influence the online shopping decision process? Therefore, the purpose of this article is to comparatively evaluate the influences of positive and negative electronic word-of-mouth communication in the online shopping decision process.

The importance of this study is justified by the fact that the approaches of the previous studies are generalist regarding the nature of the content generated by consumers in electronic media, not by thoroughly researching how each type of word-of-mouth achieves the online shopping decision, nor by comparing its influences. There is an exception highlighted only for the article by East, Hammond and Lomax (2008) who compared the positive and negative mouth-to-mouth communication regarding the impact of brand perception.

It is believed that the comparative analysis presented in the later sections of this article can help in understanding how negative and positive content influences online purchases, featuring a theoretical contribution, but can also help to Understanding how much each one influences in purchasing decisions, characterizing an empirical contribution.

2 Word-of-mouth Communication Electronics

Electronic word-of-mouth (E-WOM) can be defined as any positive or negative statement made by potential, actual, or former customers about a product, service or company, which is made available to a multitude of people and organizations over the internet. (Henning-Thurau, Gwinner, Walsh & Gremler, 2004). It is distinguished from word-of-mouth communication off-line, which is known as traditional word of mouth communication, as it occurs in the means of writing and reading. In this case, the declarations can also be stored electronically and can be consulted in later periods, but not over the Internet (Andreassen & Streukens, 2009).

Several studies have addressed E-WOM in association with other themes, such as service satisfaction (Andreassen 7 Streukens, 2009, Goyette, Ricard, Bergeron, & Marticotte, 2010), brand awareness (East, Hammond & Lomax, 2008; Xiaobo , 2009), consumer behavior (Chen, 2012); (Wang, Maslowska & Malthouse, 2016), cultural aspects (Pentina, Basmaniva, Zhang & Ukis, 2015) and shopping (Almeida, 2015), social media (Tubenchlak, Faveri, Zanini & Goldsmidt, online by impulse (Wu, Chen & Chiu, 2016). In addition, electronic mouth-to-mouth communication was analyzed in some commercial segments, such as hotels (Pourabedin & Migin, 2015); sales of electronic products (Almeida, 2015, Yayli & Bayrami, 2010) and the sale of applications for mobile devices (Hyrynsalmi et al., 2015).

Although the aforementioned works present a diversity of themes and approaches, something that resembles them is the analysis of statements related to the purchasing decision-making process and aspects related to consumption. According to Tubenchlak *et al.* (2015), positive declarations, also called positive E-WOM, are motivated to occur out of concern for other consumers, seeking benefits in socialization with other individuals, desire to share emotions Positive and desire to help the company by providing satisfaction in consumption, with little emphasis on its generation for economic reasons. Nevertheless, for Purnasari and Yuliar (2015), the greater the satisfaction, the more likely a consumer is to report positively their experiences on the Internet.

Negative statements, called negative E-WOM, on the other hand, have economic motivations, which relate to dissatisfaction and frustration about the acquisition of products and services (Bi, 2010; Yayli & Bayrami, 2010), but can also be (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004).

Regardless of the positive or negative qualification of the E-WOM, the statements may be classified into four categories: (I) business practice issues; (II) user experiences; (III) requests for information and (IV) comments on launching or developing products and services (Andreassen & Streukens, 2009). These classifications show the type of statements or comments about buying and consumption experiences, as well as the types of content that are viewed by potential buyers. In this way, the positive and negative qualifications can be related to the types of contents generated in each category, showing the type of involvement of the individuals with the online purchasing decision process.

The decision-making process of online purchases has similar denominations to those of the offline process, being characterized also by five stages, according to Figure 1. However, it has particularities in the characterization of each of its stages, differentiating itself in conceptualization.
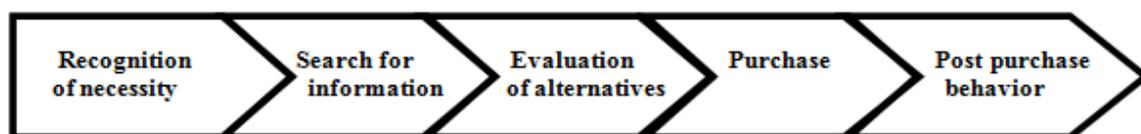
Figure 1. Online shopping decision process
Source: Adapted by the authors (2017) from Butler and Peppard (1998) and Hsia, Wu and Li, (2008).

5

The recognition of necessity is the decision of consumers on the fact that a product or service can fill a gap between a real state and another desired. This recognition can occur through the exposure of external factors, which originate from the stimulus of communication of marketing actions, such as advertisements on websites, or internal factors, which are personal and are not originated by external stimuli (Butler & Peppard, 1998).

Starting with the recognition, the second step is the search for information. This step aims to reduce risks in the purchase by obtaining knowledge about the necessity itself (Hsia, Wu & LI, 2008). In fact, what one seeks to answer in this step is: What do I really need? What characteristics of the product that meet my need? At this point in the online shopping decision process, the attempt to reduce risks occurs through the search for reliable information on the internet in relation to the type of product to be purchased (Karimi, 2013) This search can occur in social media, blogs, visualization of videos with details of the use of products or acquisition of services, reports of experiences, among others. Besides that, even if it is an online decision-making process, the search for information in social groups can still occur, because the virtuality does not exclude from the process the non-virtual coexistence with other individuals, it just adds other aspects. Therefore, this stage is based on the search for a utilitarian satisfaction, without including elements such as price, payment methods, brand or hedonic aspects. The evaluation of alternatives, third stage, for Hsia, Wu and Li (2008), is understood as the use of the information obtained in the previous step to elencare possibility of acquisition. It can be considered the most complex of the whole process, as it can be influenced by a larger amount of factors than the other steps, according to Figure 2.

Factors	Description	Authors
Comments from other buyers on the sites of the offerers of products and services	Description of previous experiences of buying and using products. They are made on the shopping sites, manufacturers or on specialized sites. They are usually viewed shortly before the purchase and allow for quick comparisons with little effort between products, services, brands, other attributes of product and supply, such as price, payment and delivery.	Mavlanova, Benbunan-Fich, Koufaris & Lang (2015); Ewalda, Lu and Ali (2016); Spillinger and Parush (2012); Rose, Clark, Samouel & Hair (2012); Ceribeli, Inácio and Felipe (2015); Peng-Fen and Yu-Hsiu (2013); Pentina *et al.* (2015)
Comments from other buyers in social media	Reports of experience of purchase and use of products and services that are made in profiles that belong to manufacturing companies, distribution stores or personal profiles in social media. They result from the possibility of interaction and participation between consumers and companies, through sharing of news, videos and images.	Kim *et al.* (2016)
Comments from other buyers on blogs	*Blogging* is an open way that which individuals can change information and compose research on products and services. When related to the evaluation of purchase alternatives, potential buyers use it as a means of research on offers and opinions of other buyers. Can be associated with the purchase behavior.	Anthuvan, Dhiviya, Rajeswari and Suguna, (2015)

Figure 2. Influence factors in evaluating alternatives

Source: Prepared by the authors (2017).

It should be noted that the comments mentioned above in Figure 2 may be positive or negative in relation to the attributes of the products, services and any aspects related to the offers. The comments from buyers that are made in social media can be viewed by potential buyers at times that there is no claim for shopping achievements. In this way, positive and

negative comments would be information that would influence the recognition of need. On the other hand, the comments on blogs and the websites offering are very related to the moments that precede the act of the purchase.

The stage of purchase, also called the stage of choice, consists of the decision of "what" and "where" to buy (Butler & Peppard, 1998). Considering the sequence of the online purchase decision process, the choice of product depends on the evaluation of alternatives and previous steps, being more influenced by comments on shoppers with more web shopping experiences (Spillinger & Parush, 2012).

The purchase behavior is characterized by the perception of the use of the product and the fulfillment of the purchase expectations (Butler & Peppard, 1998). In this last stage of the process, the buyers can communicate their perceptions and express their satisfactions or dissatisfaction, being motivated, even, by other comments that they read during the phase of evaluation of alternatives. (Bauer, Falk & Hammerschmidt, 2006; Spillinger & Parush, 2012).

3 Hypothesis Development

The development of the hypotheses is based on the premise that there is an influence of electronic word-to-mouth communication in the online shopping decision process (Almeida, 2015; Hyrynsalmi *et al.*, 2015; Nguyen & Ai-Zhong, 2016; Peng-Fen & Yu-Hsiu, 2013). This influence occurs through positive and negative E-WOM in each of the decision-making stages, as shown in Figure 3.

A comparative perspective was used that enabled, through an assignment of importance, the hypotheses to be elaborated in proportional or inversely proportional relations. In this way, the more people attach importance to electronic word to mouth communication, the greater the influence of e-WOM in the stages of the process (Butler & Peppard, 1998; Hsia, Wu & LI, 2008), making it possible to compare influences comparatively, but also to verify proportionality relations. In this way, the hypotheses and their respective justifications are presented.
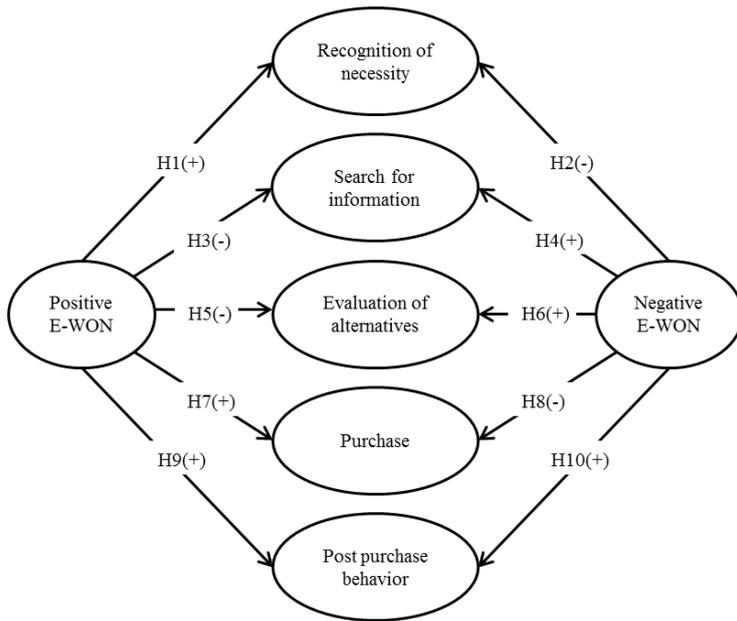
Figure 3. Hypotheses

Source: Prepared by the authors (2017).

H1 - The greater the importance attributed to positive E-WOM, the greater the need recognition.

H2 - The greater the importance attributed to negative E-WOM, the less recognition of needs.

The hypotheses H1 and H2 derive from the comparison between individuals in social media who, when confronting their real personal situations with the desired situations tend to recognize new needs through hedonic values, especially in the case of positive statements. There is also the relation of hedonism in consumption to impulsivity in buying (Boström, 2015, Kim et al., 2016). This type of behavior is also presented in the work of Varma and Agarwal (2014). The influence of hedonism can happen, including, with the help of the companies offering to share the experience of their customers. In the case of negative statements, recognition of the need is less likely, since the comparison between actual and desired personal situations will not generate hedonic values (Boström, 2015, Kim et al., 2016).

H3 – The greater the importance attributed to positive E-WOM, the less searches for information are carried out.

H4 – The greater the importance attributed to the negative E-WOM, the more searches for information are carried out.

The search for information is permeated by the attempt to reduce risks in the acquisition of products and services (Hsia; Wu; LI, 2008). They are also the search for the understanding of

9

their own desires and needs so that they are actually met. For Lopez and Sicilia (2014), the importance given to the search for information is related to their credibility, allowing the analysis of the statements of experiences of other individuals so that there is possibility of maximizing the satisfaction with the acquisition of acquired products or services (Baptista & Botelho, 2007; Scrhamm-Klein, Swoboda & Morscheet, 2007).

The importance of positive E-WOM, for H3, would adversely affect the search for information, because the credibility linked to the importance would be a minimizing factor in the continuity of search. In this way, the greater the importance given to the reliable information, the less the need to extend the searches. Likewise, the more important the negative E-WOM is attributed to H4, the greater the need to extend the search for information so that there is no frustration in meeting the wants and needs.

H5 - The greater the importance assigned to positive E-WOM, the less alternative evaluations are performed.

H6 - The greater the importance assigned to negative E-WOM, the more evaluations of alternatives are performed.

Evaluations of alternatives are characterized by the search for information on specific types of products or services (Hsia, Wu & LI, 2008). In addition to understanding your own needs and wants, as in the second stage of the online shopping decision process, Evaluations are directed at the characteristics of the products or services, such as the forms of use, price, forms of payment, brand, supplier and other characteristics, with an assessment of the purchase possibilities (Karimi, 2013). However, something that resembles this stage of the previous process is the credibility of the information as an element linked to importance. Therefore, for the H5, the greater the importance attributed to the positive E-WOM, the less the need to extend the amount of evaluations, in view of the confidence attributed to what is seen. For H6, as a result of the lack of credibility in evaluations and the consequent minimization of importance, more evaluations are needed to be made.

H7 - The greater the importance attached to negative E-WOM, the purchase decisions become easier.

H8 - The greater the importance attached to negative E-WOM, the buying decisions become more difficult.

Given the evaluation of alternatives, the purchase stage is characterized by the specific decision of what to acquire (Butler & Peppard, 1998). The H7 and H8 are based on the premise of reliability and importance in the information obtained in all the previous stages of the decision making process. Therefore, when a potential consumer relies on positive E-

WOM and attaches importance to it, the easier it will be to decide (H7), while given the importance attributed to negative E-WOM, the more difficult the purchase decision (H8) will be. According to Lee and Lee (2006) the consumer is more sensitive to negative information.

H9 – The greater the importance attributed to the positive E-WOM, the greater is the willingness to declare the consumer experiences on the Internet.

H10 - The greater the importance attributed to negative E-WOM, the greater the willingness to declare consumer experiences on the internet.

In H9, previous visualization of other positive online consumer experiences is a potential generator of E-WOM, since the motivations are based on helping consumers and good suppliers, when the experience of those who declare is also positive (Tubenchlak et al., 2015). While in the case of H10, the importance given to the visualization of negative statements also generates the desire to generate E-WOM, but when the experience of consumption is also negative (Kim et al., 2016).

4 Methodology

Seeking to respond to the problem of research and to meet the proposed objectives was carried out a descriptive research, with the use of methods of quantitative analysis. The data were obtained through online application of questionnaires using the Google Forms tool.

The collection instrument has three blocks of questions and was constructed in support of the ten hypotheses described in the previous section. The first one, with only one question, sought to select the individuals able to answer the questionnaire when asking about the frequency of visualization about products and services. If the answer to the first question indicated that there was no frequency, the respondent was directed to complete the questionnaire.

The second block, with ten affirmative in seven-point concordance scales (ranging from 1- I totally disagree with 7- totally agree), was directed only to individuals who responded to have some frequency of visualization of E-WOM. However, in order to facilitate the understanding of the respondents, the term E-WOM has been replaced by the word comments. Figure 4 presents the statements of block two, the hypotheses that relate and the work from which they originate. The affirmations A1, A3, A5, A7 and A9 have their hypotheses related to the positive E-WOM, whereas the affirmations A2, A4, A6, A8 and A10 are related to the negative E-WOM hypotheses, according to Figure 3 and 2. The third block understood questions about gender, age, income and schooling.

Affirmations	Related Hypotheses	E-WOM
A1 - Positive comments influence me to buy products	H1	Positive
A3 - Positive reliable comments influence me not to continue seeking other information about the product I wish to acquire	H3	Positive
A5 - Positive comments about brands, pricing, payment forms, delivery or other features of a product influence me not to search for other purchase options	H5	Positive
A7 - Reading positive comments about a product makes my decision to purchase easier	H7	Positive
A9 - Reading comments on positive consumer experiences influences me to declare my experiences of consumption on the internet	H9	Positive
A2 - Negative comments influence me not to buy products	H2	Negative
A4 - Reliable negative reviews influence me to continue searching for other information about the product I wish to purchase	H4	Negative
A6 - Reliable negative reviews on brands, prices, payment methods, delivery or other characteristics of a product influence me to look for other purchase options	H6	Negative
A8 - Reading negative comments about a product makes my buying decision more difficult	H8	Negative
A10 - Reading comments about negative consumer experiences influences me to declare my consumption experiences on the internet	H10	Negative

Figure 4. Block two

Source: Prepared by the authors (2017).

The sample consisted of 264 respondents, and only 248 reported to check the E-WOM on the internet with some frequency, so these were considered in the analysis. The questionnaires were distributed by the authors via e-mail, social media Facebook in eleven groups of purchase and sale, and also on Twitter, as well as being released by the WhatsApp application for groups of people not associated to the researchers. It should be noted that prior to the release of the questionnaire, the instrument was applied to five interviewees to provide their

impressions, consisting a pre-test. After that, some adjustments were made for the divulgation.

The sampling can be classified as being of convenience, considering that there was no sample calculation for the selection of the individuals that participated of the research. However, the 248 valid questionnaires respond satisfactorily to the relation of ten respondents for each question, according to Malhotra (2005).

In order to allow analysis, internal consistency validation tests, convergent validation and discriminating validation were performed. Internal consistency validation was done using the Cronbach Alfa, and the Malhotra parameter (2005) was adopted. In which the value of the Alfa must be greater than 0.6 ($\alpha > 0.6$), while the convergent and divergent validations were obtained by the measurement of Pearson correlations.

Data analysis was performed with descriptive statistics and Confirmatory Factor Analysis [CFA], using Structural Equation Modeling [SEM]. The choice of the SEM is due to the fact that the method allows the verification of hypotheses, as well as the comparison of the scores attributed to the variables, whether dependent or independent. Thus, although positive and negative E-WOM are not correlated in a dependency condition, both have the online purchasing decision process as a dependent variable, since the consumer decision depends on the visualization of the statements. In order to test the validity of the model we used Qui-Square [CMIN], Root Mean Square Residual [RMSR], Goodness-Of-Fit [GFI], Root Mean Square Error of Approximation [RMSEA], and Comparative Fit Index [CFI] Non-Normed Fit Index [NNFI]. The parameters used for each validity index of the model were those of Hair (2009). The software used was SPSS 21.0 and AMOS 21.0.

5 Results

5.1 Description of the sample

By analyzing the 248 questionnaires, it was verified that 59.3% of the respondents were female, 39.9% were male and 0.8% declared to belong to other genders. The average age of the respondents was 32 years, but with a minimum of 15 and a maximum of 68 years. In addition, the highest concentration of respondents was between 20 and 42 years, with a frequency of 83.5%. Regarding family income, calculated on minimum salaries, 13.7% declared to earn up to R $ 1,760.00, 22.6% earned from R $ 1,760.01 to R $ 3,520.00, 13.7% earned from R $ 3,520.01 to R $ 5,280.00, 14.9% earned from R $ 5,280.01 to R $ 7,040.00, 31% earned more than R $ 7,040.00 and 4% no they wanted to declare the rent or they didn't

know how to answer. The schooling level had 14.5% of respondents with full high school, 37.9% with complete higher education, 47.2% of graduate (as) and 0.4% did not want to declare or did not know how to respond. The descriptive analysis of the questions in block 2 are presented in Table 1.

Table 1

Description of Block 2 of questions

Variables	Average	Standard deviation	Variance
A1 - Positive comments influence me to buy products	5,73	1,30	1,68
A2 - Negative comments influence me not to buy products	5,25	1,85	3,43
A3 - Positive reliable comments influence me not to continue seeking other information about the product I wish to acquire	4,33	1,80	3,25
A4 - Reliable negative reviews influence me to continue searching for other information about the product I wish to purchase	4,88	1,80	3,25
A5 - Positive, positive reviews on brands, prices, payment methods, delivery or other characteristics of a product influence me not to seek other purchase options	4,49	1,76	3,10
A6 - Reliable negative reviews on brands, prices, payment methods, delivery or other characteristics of a product influence me to look for other purchase options	5,36	1,66	2,75
A7 - Reading positive comments about a product makes my buying decision easier	5,89	1,25	1,55
A8 - Reading negative comments about a product makes my buying decision more difficult	4,85	1,93	3,72
A9 - Reading comments on positive consumer experiences influences me to declare my experiences of consumption on the internet	4,12	1,96	3,86
A10 - Reading comments about negative consumer experiences influences me to declare my consumption experiences on the internet	4,16	2,05	4,21

Source: Elaborated by the authors based on the research data (2017).

Table 1 shows that the averages are all higher than 4,12, showing that the majority of the answers were concentrated on the positive agreement scales, with no great concentration on the negative agreement or indifference scales. Nevertheless, the standard deviation and the variance show greater dispersion in the answers that have the means of lower value, corroborating each other. Affirmations A9 and A10 have lower mean and greater dispersion in responses, showing the existence of relevant divergence in the influence of the reading of comments on positive and negative experiences of consumption in the declaration of consumption experiences on the internet. While the affirmative A1 and A7 have higher average and less dispersion in the responses, demonstrating the positive influence of the positive comments in the recognition of the need and purchase decision, respectively.

5.2 Evaluation Of Word-Of-Mouth Communication In The Online Purchasing Decision Process

This section includes confirmatory factor analysis. To be performed, internal consistency validation, convergent validation and discriminant validation tests were performed. The internal validation, given by Cronbach's Alpha, had a value of 0.677, being higher than the minimum value of 0.6, according to Malhotra (2005). Also, for the convergent and discriminant validation, the correlations among the variables were measured, as in Table 2. It should be noted that the correlations were measured in two groups of variables, one group for those related to negative E-WOM and another for positive E-WOM.

Table 2 - Correlations

Variables (negative E-WOM)	A2	A4	A6	A8	A10
A2	1				
A4	,091	1			
A6	,203**	,450**	1		
A8	,045	,153*	,080	1	
A10	,131*	,060	,177**	,174**	1
Variables (positive E-WOM)	**A1**	**A3**	**A5**	**A7**	**A9**
A1	1				
A3	,158*	1			
A5	,047	,488**	1		
A7	,443**	,240**	,107	1	
A9	,216**	,139*	,161*	,113	1

*. The correlation is significant at the 0.05 level (2 extremities).

**. The correlation is significant at the 0.01 level (2 extremities).

Source: Elaborated by the authors based on the research data (2017).

The correlation scores show a convergence pattern, since all values presented in table 2 are higher than zero. However, some correlations may be considered weak, such as between A4 and A2, A8 and A2, A8 and A6, A10 and A4 for the negative E-WOM variables and A5 and A1 for the positive E-WOM variables. However, these low correlation values are not sufficient to exclude variables, since they only indicate a lower association in the negative E-WOM group.

Considering the reliability of the data and the convergent pattern of the variables, the confirmatory factorial analysis could be performed. As the groups of variables were defined according to the qualification in positive and negative E-WOM, an EFA was not necessary to establish the relationship between the variables.

The first equation model presented higher regression values with significance higher than 0.05 (p> 0.05) for the variables A3 and A4, and it is important to exclude them. In addition, the RMSEA value was 0.107 and the GFI value was 0.931, being above an acceptable standard. Therefore, the model was adjusted. The second model met the acceptable adjustment indexes, but the A2 variable presented regression values with significance higher than 0.05 and was also excluded. Also, for the second model, the exclusion of A2 implied the exclusion of the

latent variable linked to A1, which, therefore, was also excluded. The third model met the adjustment indexes and had regression values with significance lower than 0.05, which can be considered adjusted. Table 3 shows the adjustment indices of the models.

Table 3

Model settings indexes

Indexes	Acceptable values	Model 1	Model 2	Model 3
CMIN	p<0,05	0,000	0,001	0,018
RMSR	< 0,08	0,22	0,188	0,0126
GFI	> 0,9	0,931	0,963	0,979
RMSEA	0,05 a 0,08	0,107	0,082	0,079
CFI	> 0,9	0,795	0,881	0,932
NNFI	> 0,8	0,699	0,837	0,889

Source: Elaborated by the authors based on the research data (2017).

The elaboration of the second model comprised the relationship between A5, A6, A7, A8, A9 and A10. It is possible to infer that E-WOM influences the online shopping decision process only in the last three steps: post-purchase.

A SEM was used to test the assumptions of the model described in Figure 2. All hypotheses relate to electronic mouth to mouth communication with the decision process of online purchases, having positive and negative relations. In order to perform the comparative evaluation between positive and negative E-WOM influences, the third model presents the measures of the regression weights for each variable, according to Figure 5.
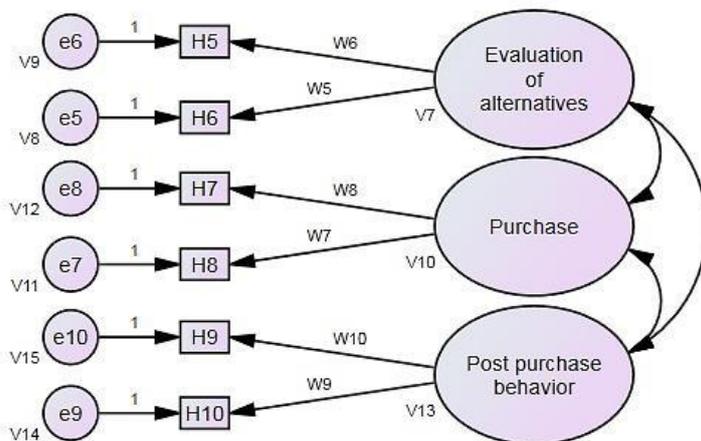

Figure 5. Result of structural modeling

Source: Elaborated by the authors based on the research data (2017).

In addition to the structural model, t tests were performed to compare the means between the variables and to verify the hypotheses. There was a significant difference (p> 0.05) between the means of variables A9 and A10, with no other variables. Therefore, when considering the regression weights (A9 = 0.71 and A10 = 0.93) and the test, only post-purchase behavior is influenced by the negative E-WOM, while the evaluation of alternatives and purchase suffer the same regardless of whether the communication is positive or negative.

6 Discussion

Based on the results obtained, it was verified that four hypotheses present significant significance regarding the influence of the positive or negative comments in the consumer purchase decision, being: H6, H7, H9 and H10.

H6 indicates that the greater the importance attributed to negative E-WOM, the more evaluations of alternatives are performed by consumers. In this case the importance attributed to negative E-WOM (5.36) was greater than the importance attributed to positive E-WOM (4.49) in terms of scale. This result corroborates the assertion of Hsia, Wu and Li (2008), for however hedonistic their motivations of consumption, when faced with negative comments about the product that arouses interest, the individual ends up being impelled to seek alternatives to what he or she wants, in general, opting for similar products with more positive evaluations and more credibility.

H7 indicates that it indicates that the greater the importance attached to positive E-WOM, the buying decisions become easier. In this case, the importance attributed to the positive E-WON (5.89) was greater than the importance credited to the negative E-WON (4.86). This result indicates that the consumers evaluated by this study demonstrate greater confidence and sensitivity to the positive comments about certain products and this credibility facilitates their acquisition. This result is similar to Lee and Lee (2006), in which the consumer tends to be more sensitive to negative information, and in this case it is possible that other factors, such as cultural or geographic factors are also decisive in the purchase stage, making consumers more sensitive to negative comments.

H9 and H10 indicate that the greater the importance given to positive or negative E-WOM, the greater the willingness to declare consumer experiences on the internet. In terms of scale, the importance given by consumers to both positive E-WON (4,12) and negative E-WON (4,16) were very similar, indicating that regardless of the nature of the comment, the

18

consumer shows likely to report their experience with the product after consumption. These hypotheses confirm the studies of Tubenchlak et al., 2015 and Kim et al., 2016, and Tubenchlak et al., 2015 justifies that the positive experiences declared by consumers are motivated by consumers' intention to help good suppliers and the other consumers.

7 Conclusion

Among the hypotheses proposed, H1, H2, H3 and H4 were rejected, whereas H5, H6, H7, H8, H9 and H10 were accepted. That is, there was no influence of E-WOM, positive or negative, on the recognition of needs and the search for information. On the other hand, the other stages of the decision-making process of online shopping, being: the evaluation of alternatives, the stage of purchase and post-purchase behavior suffer significant influence of online word-of-mouth.

The evaluation of the alternatives suffers more influence from the negative comments, since the consumer uses E-WOM as a filtering tool to select the best products; the purchasing phase is facilitated by positive comments, since they legitimize the quality of the product chosen and the post-purchase behavior suffers equivalent influence from both positive and negative comments.

From the analysis it is possible to infer that the visualization of online word-of-mouth influences the evaluations of alternatives for purchase; reading positive comments makes buying decisions easier, while reading negative comments makes buying decisions more difficult; reading feedback on consumer experience influences the reporting of new experiences, although this is stronger in relation to viewing negative experiences, as consumers feel economically harmed by poor product quality. The declaration of positive experiences indicates the intention to promote good suppliers, while the declaration of negative experiences aims to safeguard unsuspecting consumers from unsuccessful purchases. Future research could adopt qualitative methodological approaches to understand why online word-of-mouth communication does not significantly influence the recognition of needs and the search for information.

The limitations of this study are related to the breadth of the proposed objective. Since there was no product or service targeted for the analysis of the purchase process and it was based on a generic evaluation, its possible that the results have a little distortion compared to other studies that directed their analysis of the purchase process for a product or specific service.

However, despite the fact that this is a limiting factor, it is also believed that the analyzes of this article are extremely important, since they can be a basis for future studies as a starting point for more specific analyzes. Also, it is recommended that indexes of influence be created to classify specific niches of consumers from their perceptions about the E-WOM in consumption, in this way, groups could be identified by similarity, allowing the deepening of this theme.

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