

# INFLUENCE OF ONLINE CONSUMER INNOVATIVE- NESS BEHAVIOR IN ELETRONIC PRODUCTS ON PLANNED OBSOLESCENCE PROCESS

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Anderson Neckel<sup>1</sup>

Ricardo Boeing<sup>2</sup>

## ABSTRACT

The objective of this paper is to analyze the influence of online consumer behavior innovativeness on the planned obsolescence process. Through a theoretical analysis of innovativeness constructs, consumer behavior and planned obsolescence process, the following scales and the following model for research development were employed: Domain Specific Innovativeness and New Involvement Profile scales and the Model of Diffusion of Innovations. The research approach uses mixed methods and was performed with two focus groups after a survey was carried out. The sample comprises 448 consumers of electrical and electronic equipment sold on the internet who reside in the Southern region of Brazil. Data processing was based on a multivariate data analysis and results show that innovativeness behavior has a significant positive influence on the planned obsolescence process.

**Keywords:** Innovativeness; Consumer behavior; E-commerce; Marketing; Planned obsolescence.

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1 Assistant Professor – University of Passo Fundo. He earned his master's from University of Vale do Itajaí - UNIVALI in 2014. He is Coordinator of the Administration Course of the University of Passo Fundo. E-mail: neckelanderson@hotmail.com

ORCID: <https://orcid.org/0000-0002-3588-848X>

2 Assistant Professor – University of Wisconsin – Stevens Point. He earned his doctorate from Fundacao Getulio Vargas – EAESP in 2012. He was also a visiting scholar at the University of Nebraska – Lincoln in 2010, with a CNPq scholarship grant. He was a full professor at the UNIVALI Business Administration Graduate Program from 2012 to 2015, where he advised several master thesis and doctorate dissertations. He is still in the program as a collaborator professor. He currently is an Assistant Professor at the University of Wisconsin – Stevens Point since 2015, where he also is the Director of Internships since 2016. E-mail: andersonn@upf.br

ORCID: <https://orcid.org/0000-0003-3320-0116>

# 1 INTRODUCTION

Preliminary studies relating to consumer behavior aimed at identifying how consumers would respond to supply and communication processes of certain products, as well as aimed at understanding what were the procedures undertaken for shopping (kassarjian, 1971). As the years have gone by, consumer behavior has taken more complex features connected with the new consumer environment, electronic commerce (Mazzon, 2011).

The electronics purchasing adoption process has also been experiencing major changes since what previously depended on visiting a physical store, nowadays has a much more compound nature because products may be found in numerous online stores with differentiated prices and payment conditions, whereas still receiving a strong influence of other factors, such as media, virtual communities, society and particularly the environment in which the individual is inserted.

In that connection, this paper becomes relevant as it allows an enhanced comprehension of the innovativeness behavior of electronics online consumers, since new ways of communication arise on a daily basis, and consumers are becoming more agreeable in sharing experiences, ideas and attitudes. Accordingly, the following research question is proposed: what is the influence of innovativeness behavior of electronics online consumers on the planned obsolescence process?

## 2 THEORETICAL BACKGROUND

The theoretical background of this paper is focused on the following topics: innovativeness, consumer behavior and planned obsolescence, followed by research hypotheses.

### 2.1 Consumer innovativeness behavior

Innovativeness behavior may directly influence contexts concerning consumer behavior and in particular the purchasing adoption process. In this context, consumers have become progressively more demanding, particularly regarding the launch of electrical and electronic products and in this case, innovation eventually becomes a major motivation for innovativeness behavior.

Robertson (1967), in his work, describes that behavioral scientists in the 1960s, devoted much attention to the innovation theme, although various contemporary writers stimulated a number of discussions on creativity, particularly on how the creative process occurs within itself. Schumpeter (1942) states that anthropologist HG Barnett depicted innovation as the basis for culture changes, and defines innovation as "any new thought or behavior".

Over the years, the concept of innovation began to be appreciated according to the perspective of each study. Some authors such as Goldsmith and Hofacker (1991) as well as Rogers (1995) defined innovation as the uniqueness or novelty of the product and from the moment consumers start to adopt these products, a direct relationship is established, originating a consumer innovativeness behavior.

Innovativeness behavior may be directly related to the culture innovation capacity within a given group, resulting a positive effect on an individual's innovation capacity (Batory & Neese, 2005). When a group culture is approachable to new ideas, individuals may be associated with higher levels of innovation (Hugh & Mcdonald, 1996; Tajeddini, Trueman, & Larsen, 2006).

Dijk *et. al* (2014) report that innovation changes the way a brand is perceived by consumers. The explanation for that indirect effects shows that the advantages developed by the new products are better valued by consumers, compared to existing products, generating the consumer innovativeness behavior.

Based on the literature reviewed on consumer innovativeness behavior, according to lessons given by Goldsmith and Hofacker (1991) and Rogers (1995), it has been possible to verify that such behavior is influenced by numerous elements that actually comprise the consumption behavior. This behavior characterizes the way consumers purchase innovative products in a period relatively sooner than other individuals. Therefore, the following research hypothesis is proposed.

***H1 - The greater the consumer innovativeness behavior, the greater the influence on the purchasing intention of innovative products.***

## **2.2 Purchasing adoption process**

Purchasing adoption process is described as the manner in which consumers adopt a new product, service or innovation. It is a constant theme in most correlated articles, as well as in major consumer behavior studies (Strader & Hendrickson, 2001; Caro, Mazzon, & Caemmerer, 2010). Within this context, consumers have a consumption need which must be satisfied and initiate a series of steps referred to as “decision making process” or “purchasing adoption process” (Horn, 2009).

The adoption process steps of new products start from the identification of a given problem or need and continues with a search for information from different media. After that, there is an evaluation of alternatives, when the attributes of the products are compared, followed by the purchase itself, consumption, post-purchase evaluation, during which consumers perceive the need to repurchase and share their experiences with other people; and finally, the disposal (Strader & Hendrickson, 2001; Caro *et al.* 2010).

For this reason, Jain and Srinivasan (1990) stress that a decision to adopt purchasing of innovative products varies from one individual to another, according to their individual features, such as demographic (age, gender, location etc.), socioeconomic (income, social class), psychographic (personality, open mind) and cultural (ethnic, value system) data. Furthermore, other factors eventually directly influence the decision-making process, such as relevance, the symbolic value, the significance of risk and the probability of risk. In order to identify the influence of the purchasing adoption process on the planned obsolescence process, the following research hypothesis is proposed.

***H2 - The greater the intention to purchase innovative products, the greater the influence on the planned obsolescence process.***

## **2.3 Planned obsolescence process**

There are numerous factors which have contributed to the development of the planned obsolescence process, among which a gain of prominence of technological innovation and launching of innovative products that have created a new concept of behavior, the consumer innovativeness behavior.

According to Bulow (1986), planned obsolescence is the production of consumer goods with an artificially limited useful life by reducing the time between repeat purchases. Planned obsolescence is a sort of trading, which reduces the value of older models in favor of a new product line (Utaka, 2000; Marez & Verleye, 2004).

The connection among innovation, creation of new markets and entrepreneur action is unmistakably defined by Schumpeter (1997), as the organization which initiates economic change

from the creative destruction, namely the replacement of old products and consumption habits by new ones, being characterized as economic development in organizations. Lizuka (2007) states that obsolescence happens when products become old-fashioned or “outdated”.

The results of the study of Dijk *et al* (2014) provide strong evidence in support of innovation as a marketing strategy. The firms that innovate in their products or create improved ones, they are in fact, more valued by the costumers. In this connection, the marketing should obtain all knowledge involving the behavior of these consumers by guiding communication, and making it an effective source of competitive strategy. The various segments of the purchasing adoption process must be understood beforehand, therefore decreasing efforts related to communication and marketing (Bulow, 1986; Lizuka, 2007).

In order to evaluate the consumer’s perception about the planned obsolescence process, the Model of Diffusion of Innovations (MDI), recommended by Rogers (1983) was used, and the following research hypothesis is proposed.

***H3: The greater the planned obsolescence process, the greater the influence on consumer innovativeness behavior.***

### 3 RESEARCH METHODOLOGY

As the goal of this research is to examine three constructs, exploratory and descriptive researches were applied in a mixed approach. In the first step, two discussion groups were organized, and both were carried out with consumers at 18 and 35 years old, both sexes, totalizing 27 participants. The results, together with scales DSI, NIP, MDI, were used for preparing a questionnaire that was applied in the second step of this research.

Domain Specific Innovativeness Scale developed by Goldsmith and Hofacker (1991), is a line of research focusing on innovativeness, limited to a domain or to a specific product. New Involvement Profile Scale introduced by Jain and Srinivasan (1990) states that a unidimensional scale is not capable of capturing the complexity of a consumer’s involvement in the purchasing adoption process. However, they will propose a new 15-item and 5-dimension scale. And Model of Diffusion of Innovations, proposed by Rogers (1983), describes how the planned obsolescence process can be envisaged by consumers.

The quantitative phase was performed through a survey with an online questionnaire, where 448 respondents were involved. At the outset, the prepared questionnaire was pre-tested with 55 consumers, totaling 13.75% where some difficulties in filling out were identified, hence demanding a remodeling. The second version was used with 52 consumers who had also performed a purchase of an electronic product by internet within the last six months, totaling 13% of the sample.

Based on the results achieved in the second pre-test, Cronbach’s Alpha test was performed to verify the model reliability, where all constructs have been validated. Statistical studies were carried out by a multivariate data analysis.

### 4 RESULTS AND DISCUSSIONS

The sample of surveyed consumers has a female predominance (63.62%), with an average age between 18 and 35 years. 75.00% are undergraduate students and 16.74% are graduate students. Regarding the last purchase made over the internet, it has been identified that 42.63% took such action in the previous six months, a conditioning factor to products referred to as con-

sumer durables. Due to this characteristic, purchasing of such products does not occur habitually, 26.34% of the sample made a purchase in the last month and 31.30% made the last purchase during the period of two to five months.

#### 4.1 Exploratory factor analysis of the constructs

Table 01 shows the correlation among indicators of the innovativeness behavior, the commonality extracted in each indicator and also the factor loadings achieved in the extracted factors.

Table 1 - Factor analysis of the innovativeness behavior construct.

Correlations	Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09
Q01	1.000	0.369	0.361	0.232	0.375	0.356	0.279	0.111	0.285
Q02	0.369	1.000	0.506	0.314	0.426	0.465	0.316	0.216	0.360
Q03	0.361	0.506	1.000	0.418	0.376	0.428	0.291	0.447	0.420
Q04	0.232	0.314	0.418	1.000	0.301	0.256	0.127	0.354	0.199
Q05	0.375	0.426	0.376	0.301	1.000	0.709	0.426	0.258	0.420
Q06	0.356	0.465	0.428	0.256	0.709	1.000	0.494	0.367	0.499
Q07	0.279	0.316	0.291	0.127	0.426	0.494	1.000	0.262	0.408
Q08	0.111	0.216	0.447	0.345	0.258	0.367	0.262	1.000	0.372
Q09	0.285	0.360	0.420	0.199	0.420	0.499	0.408	0.372	1.000
Commonality	0.340	0.465	0.649	0.639	0.642	0.715	0.540	0.527	0.477
Loading on factor 1	0.558	0.682	0.721	0.509	0.751	0.802	0.614	0.553	0.681
Loading on factor 2	-0.167	0.018	0.359	0.616	-0.28	-0.268	-0.404	0.47	-0.115

Source: Survey conducted (2013).

It may be noted that all indicators demonstrate positive correlations. With respect to commonalities, Q01, Q02 and Q09 are below 0.5, whereas the commonality represents the amount of variance explained by the factor solution for each variable, which should preferably be above 0.5 (Hair Júnior, Anderson, Tatham, & Black, 2005). Therefore, it was decided to exclude these items. After exclusion, the factor analysis was remade, and KMO's (Kaiser-Meier-Olkin) and BST's values (Bartlett's test of sphericity) were analyzed. The first showed a value of 0.758. Hair Júnior *et al.* (2005) claim that values must exceed 0.70 as a minimum acceptable index. Whereas BST's test showed 782.132 and significance 0.000. Both presented validity for continuity in the application.

Table 2 shows the correlation among indicators of the purchasing adoption process, the commonality extracted in each indicator and also the factor loadings achieved in the extracted factors.

Table 2 - Factor analysis of the purchasing adoption process construct.

Correlations	Q10	Q11	Q12	Q13	Q14	Q16	Q17	Q18	Q19
<b>Q10</b>	1.000	0.261	0.183	0.327	0.131	0.065	0.116	0.255	0.223
<b>Q11</b>	0.261	1.000	0.097	0.136	0.064	-0.008	-0.007	0.279	0.194
<b>Q12</b>	0.183	0.097	1.000	0.545	0.409	0.197	0.263	0.174	0.259
<b>Q13</b>	0.327	0.136	0.545	1.000	0.415	0.050	0.170	0.363	0.362
<b>Q14</b>	0.131	0.064	0.409	0.415	1.000	0.101	0.156	0.141	0.087
<b>Q16</b>	0.065	-0.008	0.197	0.050	0.101	1.000	0.306	0.033	0.018
<b>Q17</b>	0.116	-0.007	0.263	0.170	0.156	0.306	1.000	0.049	0.112
<b>Q18</b>	0.255	0.279	0.174	0.363	0.141	0.033	0.049	1.000	0.530
<b>Q19</b>	0.223	0.194	0.259	0.362	0.087	0.018	0.112	0.530	1.000
Common-ality	0.353	0.400	0.662	0.712	0.632	0.690	0.612	0.622	0.549
Loading on factor 1	0.522	0.367	0.687	0.778	0.533	0.233	0.362	0.619	0.620
Loading on factor 2	-0.211	-0.453	0.359	0.054	0.347	0.544	0.538	-0.462	-0.377
Loading on factor 3	0.19	0.246	-0.246	-0.322	-0.477	0.583	0.437	0.156	0.151

Source: Survey conducted (2013).

Most cases show positive correlations, except among items Q11 x Q16, Q11 x Q17. With respect to commonalities, Q10 and Q11 are below 0.5. Therefore, it was decided to exclude these items. After exclusion of commonalities showing values below the expectation, the factor analysis was remade, and KMO's (Kaiser-Meier-Olkin) and BST's (Bartlett's test of sphericity) were analyzed. The first showed a value of 0.684 and the second showed 496.845 and significance 0.000. Both presented validity for continuity in the application.

Table 3 shows the correlation among indicators of the planned obsolescence process, the commonality extracted in each indicator and also the factor loadings achieved in the extracted factors.

Table 3 - Factor analysis of the planned obsolescence process construct.

Correlations	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
<b>Q20</b>	1.000	0.416	0.436	0.474	0.484	0.280	0.294	0.369	0.334	0.341	0.299
<b>Q21</b>	0.416	1.000	0.475	0.450	0.427	0.250	0.410	0.342	0.416	0.324	0.281
<b>Q22</b>	0.436	0.417	1.000	0.566	0.514	0.325	0.576	0.605	0.515	0.401	0.355
<b>Q23</b>	0.437	0.45	0.566	1.000	0.586	0.469	0.501	0.465	0.441	0.560	0.523
<b>Q24</b>	0.484	0.427	0.514	0.586	1.000	0.421	0.461	0.432	0.439	0.462	0.412
<b>Q25</b>	0.280	0.250	0.325	0.469	0.421	1.000	0.489	0.416	0.374	0.448	0.474
<b>Q26</b>	0.294	0.410	0.576	0.501	0.461	0.489	1.000	0.594	0.667	0.474	0.447
<b>Q27</b>	0.369	0.342	0.605	0.465	0.432	0.416	0.594	1.000	0.585	0.462	0.490
<b>Q28</b>	0.334	0.416	0.515	0.441	0.439	0.374	0.667	0.585	1.000	0.473	0.480
<b>Q29</b>	0.341	0.324	0.401	0.560	0.462	0.448	0.474	0.462	0.473	1.000	0.559
<b>Q30</b>	0.299	0.281	0.355	0.523	0.412	0.474	0.447	0.490	0.480	0.559	1.000
Common-ality	0.602	0.598	0.628	0.618	0.575	0.538	0.623	0.578	0.570	0.573	0.624
Loading on factor 1	0.594	0.606	0.750	0.781	0.726	0.631	0.771	0.750	0.744	0.711	0.685
Loading on factor 2	0.499	0.480	0.257	0.089	0.217	-0.374	-0.168	-0.124	-0.127	-0.255	-0.393

Source: Survey conducted (2013).

Indicators displayed in Table 3 show positive correlations with the others, commonalities are also in correlation, because each variable represents the amount of variance explained by the factor solution for each variable. In this case, all items of the construct were kept. KMO's values were analyzed, with a value of 0.915, and BST, 2249.357, with significance 0.000. Both presented validity for continuity in the application.

#### 4.2 Confirmatory factor analysis of each construct

Table 4 shows results for adjustment indexes for absolute measurements comprising values of chi-square, chi-square divided by the degree of freedom and root mean square error of approximation (RMSA). Adjustments of incremental measures CFI, NFI and TLI are also shown, after confirmatory factor analysis of the innovativeness behavior, as well as achievement of the correlation adjustment among items of the construct.

Table 4 - Model adjustment indexes of the innovativeness behavior.

CLASSIFICATION	MEASURE	VALUES
Measures of absolute adjustments	X <sup>2</sup>	17.888
	X <sup>2</sup> /GL	2.980
	RMSA	0.067
Measures of incremental adjustments	NFI	0.977
	CFI	0.985
	TLI	0.962

Source: Survey conducted (2013).

After rotation of the model and completion of the required adjustments, it was found that measures of absolute adjustments fit into the expected values, taking into consideration that the degree of freedom achieved weight 6, chi-square divided by the degree of freedom showed a value of 2.980, while, according to Hair Júnior *et al.* (2005), in order for the model to be validated, the value should be below 3.000. RMSA showed an index lower than 0.100 and measures of incremental adjustments (NFI, CFI and TLI) also achieved minimum expected indexes, ratifying the validation of the innovativeness behavior construct.

Table 5 shows standardized regression coefficients for the innovativeness behavior construct, taking into consideration that 0.500 is the lowest accepted value for standardized loadings, so that the indicator is kept as a construct reflective item (FAVERO *et al.* 2009).

Table 5 - Standardized regression coefficients and significance test of the innovativeness behavior.

Questions	Q03	Q04	Q05	Q07	Q07	Q08
Coefficient	1.000	0.636	1.439	1.666	0.898	0.793
P	0.000	0.000	0.000	0.000	0.000	0.000

Source: Survey conducted (2013).

Question Q04, which obtained a value equal to 0.636, was the question with the lowest value found. With these results, all questions were kept once these are higher than 0.500, which is the minimum expected value. Therefore, all construct questions were approved in the significance test.

Table 6 shows indicators after confirmatory factor analysis of the purchasing adoption process, as well as achievement of the correlation adjustment among items of the construct.

Table 6 - Model adjustment indexes of the purchasing adoption process.

CLASSIFICATION	MEASURE	VALUES
Measures of absolute adjustments	X2	19.070
	X2/GL	2.724
	RMSA	0.062
Measures of incremental adjustments	NFI	0.968
	CFI	0.979
	TLI	0.938

Source: Survey conducted (2013).

After the rotation of the model, it was found that measures of absolute adjustments fit into the expected values, taking into consideration that the degree of freedom achieved weight 7, chi-square divided by the degree of freedom showed a value of 2.724, RMSA showed an index lower than 0.100 and measures of incremental adjustments (NFI, CFI and TLI) also achieved minimum expected indexes (0.968, 0.979 and 0.938), ratifying the validation of the purchasing adoption process construct.

In the first regression and significance test it was found that questions Q16 and Q17, achieved values lower than 0.500, and were removed from the construct to a new confirmatory factor analysis showing the following indicators: chi-square (10.703); degree of freedom (4); chi-square divided by the degree of freedom (2.676); RMSA (0.061); NFI (0.982); CFI (0.988); TLI (0.939). Such indexes ratify the validation of the purchasing adoption process construct.

Table 7 shows standardized regression coefficients for the construct after exclusion of questions with coefficients lower than 0.500.

Table 7 - Standardized regression coefficients and significance test of the purchasing adoption process after exclusion of negative coefficients.

Questions	Q12	Q13	Q14	Q18	Q19
Coefficient	1.000	1.834	0.760	0.670	0.695
P	0.000	0.000	0.000	0.000	0.000

Source: Survey conducted (2013).

According to Table 7, all construct questions were approved in the significance test, validating the final model of the purchasing adoption process construct. Table 8 shows results after the confirmatory factor analysis of the planned obsolescence process construct.

Table 8 - Model adjustment indexes of the planned obsolescence process.

CLASSIFICATION	MEASURE	VALUES
Measures of absolute adjustments	X2	95.72
	X2/GL	2.991
	RMSA	0.067
Measures of incremental adjustments	NFI	0.958
	CFI	0.971
	TLI	0.951

Source: Survey conducted (2013).

After a model rotation of the planned obsolescence process construct and accomplishment of required adjustments, it was found that measures of absolute adjustments fit into the expected values, and the degree of freedom achieved weight 32. Table 9 shows values of chi-



square divided by the degree of freedom (2.991), RMSA (0.067), being lower than the maximum measure allowed, measures of incremental adjustments NFI (0.958), CFI (0.971) and TLI (0.951), ratifying the validation of the planned obsolescence process construct.

Table 9 - Standardized regression coefficients and significance test of the planned obsolescence process.

Questions	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Coefficient	1.000	1.149	1.483	1.411	1.320	0.923	1.198	1.477	1.210	1.041	1.220
P	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Source: Survey conducted (2013).

As shown in Table 9, all questions were kept, while the lowest coefficient found was question Q25, with a value of 0.923. Therefore, all construct questions were approved in the significance test.

### 4.3 Structural model

The proposed structural model was tested and accepted by exploratory factor analysis, as well as by confirmatory factor analysis. All indicators were tested and standardized for a better definition of the studied model. Figure 1 displays the simulation of the proposed model, showing indicators of each construct of the study.

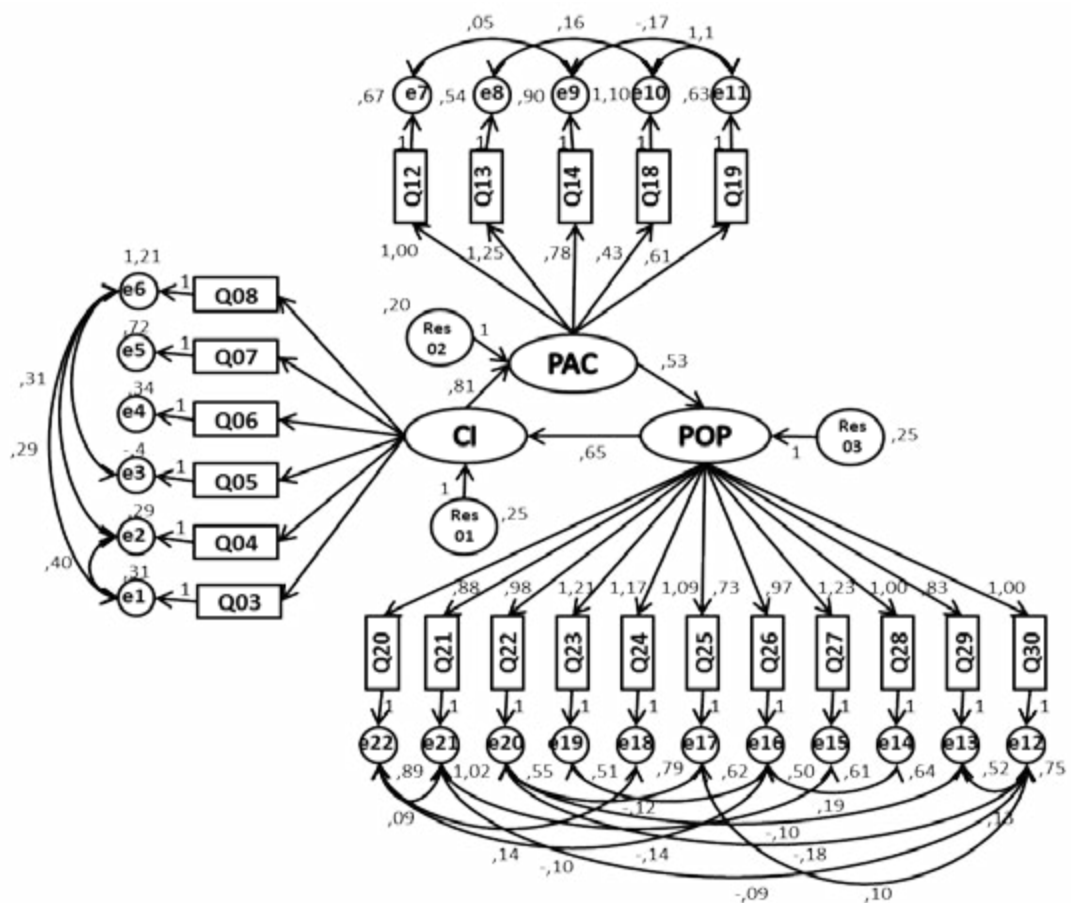


Figure 1 – Final model.

Source: Survey conducted (2013).

After rotation of the final model and increase of covariances indicated by software AMOS (16 ↔ 17), (08 ↔ 10), (03 ↔ 06), Table 10 shows again results for adjustment indexes of absolute chi-square measurements, chi-square divided by the degree of freedom, and root mean square error of approximation (RMSA), as well as adjustments of incremental measures CFI, NFI and TLI, after confirmatory factor analysis, this time, with all indexes with values higher than the expectations.

Table 10- Final model adjustment indexes.

CLASSIFICATION	MEASURE	VALUES	EXPECTED VALUES
Measures of absolute adjustments	X2	438.465	p > 0.050
	X2/GL	2.370	< 3.000
	RMSA	0.055	Lower than 0.100
Measures of incremental adjustments	NFI	0.902	Higher than 0.900
	CFI	0.940	Higher than 0.900
	TLI	0.926	Higher than 0.900

Source: Survey conducted (2013).

This paper focusing the influence of consumer innovativeness behavior on planned obsolescence process has 22 indicators, but complies with expected minimum parameters of five respondents by indicator, the minimum for model validation amounts to 110 respondents. In view of this, as far as this study is concerned, the sample size reached 448, which confirmed its quality.

When analyzing the indexes shown, it was found that such indexes display adjustment levels above expectations, therefore representing the model in an effective way.

#### 4.4 Hypothesis testing

The following shows the research hypotheses testing. Table 11 displays results taken from the final model by using software AMOS 2.0.

Table 11 - Validation of hypotheses.

Relation	Standardized coefficient	P
Innovativeness behavior → Purchasing adoption process	0.811	****
Purchasing adoption process → Planned obsolescence process	0.532	****
Planned obsolescence process → Innovativeness behavior	0.452	****

Source: Survey conducted (2013).

Table 11 shows that hypothesis 01 was confirmed, because indeed the consumer innovativeness behavior influences the purchasing adoption process. It happens on the account that, once consumers identify a new product on the market, they are attracted and seek the required information and, based on that, a need or desire may be established, and then the purchasing adoption process starts.

The above can also be confirmed by Engel, Blackwell and Miniard. (1995), who stated that when an innovative product is launched on the market, consumers become aware, know their features and learn about them, decide on making the purchase and when to do it.

Hypothesis 2 was also ascertained, as the purchasing adoption process influences the planned obsolescence process. This is due to the fact that it is from the purchasing adoption process that companies will have an idea of the product acceptance on the market, thus being possible to plan the launching of new models with enhanced versions. Consumers, in turn,

also recognize this factor, knowing that from the time of purchase of a commodity within a few months there will be a new model, with differentiated design and other added benefits. A decision to purchase the new product will be based on the current needs and stimuli brought about. According to Caro *et al.* (2010), among these stimuli, are cultural, social, personal and psychological factors caused by marketing stimuli and other stimuli related to the environment in which the individual is inserted.

Hypothesis 3 was not ascertained, because it achieved an index lower than 0.5, (0.452). In this case, it can be asserted that concerning respondents, the planned obsolescence process does not directly influence the consumer innovativeness behavior. Consumers are fully aware of the fact that companies endeavor to develop new products, with new dimensions and capabilities, but understand that it is part of technological changes and all, in a sense, are designed to help people's lives. In such a context, purchasing in most cases is performed due to the actual consumption need.

## 5 CONCLUSIONS

This study showed that offering innovative products is not enough to make consumers feeling attracted and making the purchase. In this case, consumers are still dependent on other stimuli. The purchasing adoption process construct showed characteristics in each analyzed dimension, as to the relevance of the purchase, and showed that consumers do not purchase an innovative product because it is essential or entertaining, but because it has some sort of benefit. Dimension "symbolic value" directs towards an opposite point of view of the consumer's personality, in this case the purchase is focused on benefits acquired. Dimension "significance of risk" features that consumers care about the impact of the process.

The planned obsolescence process construct justifies that consumers have some restrictions on purchasing and repurchasing new products, featuring that innovation is not always associated with consumption. Other factors such as the use and incorporated benefits to products are most relevant in choosing something new. With respect to communication, consumers are not influenced by communication channels, but use an access to means of information.

From both the analyses carried out and transcription of focus groups, it is possible to conclude that the findings of this research ratify the contents shown in the theoretical review of the study. Against this background, the consumer innovativeness behavior has a positive impact on the purchasing adoption process, as well as the purchasing adoption process has a positive impact on the planned obsolescence process, because consumers who have a greater innovativeness behavior show similar characteristics both concerning the purchasing of innovative electronics and the repurchasing of these products. The planned obsolescence process does not have a positive impact on consumer innovativeness behavior, but has an indirect influence as it provides consumers with new choices.

In this context, it is expected that this paper can assist in expanding the knowledge about this behavior, once companies launch new products onto the market, they end up forcing the planned obsolescence process and, therefore, they are increasingly contributing so that consumers have an innovative behavior. Considering this objective criticism, additional action shall be taken towards the launch of new products in communication channels by combining innovation with benefits, which they may bring to the individual's life.

## REFERENCES

- Batory, S. S., Neese, W., (2005). Ethical Marketing Practices: An Investigation of Antecedents, Innovativeness and Business Performance. *The Journal of American Academy of Business*, Cambridge Number 2.
- Bulow, J. (1986). *An economic theory of planned obsolescence*, Published by John Wiley & Sons, Inc. *The Quarterly Journal of Economics*, november.
- Caro, A., Mazzon, J. A., Caemmerer, B. (2011). wessling, m. Inovatividade, envolvimento, atitude e experiência na adoção da compra on-line. *Revista de Administração Eletrônica, São Paulo* v. 51 n. 6 nov/dez.
- Dijk, J. V., Antonides, G., Schillewaert, N. (2014). Effects of co-creation claim on consumer brand perceptions and behavioural intentions, *International Journal of Consumer Studies* 38, 110–118.
- Engel, J. F., Blackwell, R. D., Miniard, P. (1995). *Consumer Behavior*. Hindsale: The Dryden Press.
- Goldsmith, R. E, Hofacker, C. F. (1991). Measuring consumer innovativeness. *J Acad Mark Sci*.
- Hair JR, J. F., Anderson, R, E., Tatham, R. L; Black, W. C. (1998). *Multivariate Data Analysis*. 5th ed. New Jersey: Prentice Hall.
- Horn, S. A. (2009). Product adoption and innovation diffusion: the case of Japanese marketing to China . *Asia Pacific Business Review* Vol. 15, No. 3.
- Hugh W. N, Mcdonald, M. H. B. (1996). Computer-aided Marketing Planning: The Experience of Early Adopters. *Journal of Marketing Management*, 12, 391- 416.
- Jain, K., Srinivasan, N. (1990). An empirical assessment of multiple operationalizations of involvement. *Advances in Consumer Research*, v. 17, p. 594-602.
- Kassarjian, H. H. (1971). Personality and Consumer Behavior: A Review. *Journal of Marketing Research*, Vol. VIII.
- Lizuka, T. (2007). An Empirical Analysis of Planned Obsolescence. *Journal of Economics & Management Strategy*, Volume 16, Number 1. 191–226.
- Marez, L., Verleye, G. (2004). Innovation diffusion: The need for more accurate consumer insight. Illustration of the PSAP scale as a segmentation instrument. *Journal of Targeting, Measurement and Analysis for Marketing* Vol. 13, 1. 32.
- Mazzon, J. (2011). Inovatividade, envolvimento, atitude e experiência na adoção da compra on-line. *Revista de Administração de Empresa: Fórum, São Paulo*, v. 51. n. 6.
- Robertson, T. S. (1967). The process of innovation and the diffusion of innovation. *Journal of Marketing*, v. 31.
- Rogers, E. M. (1983) Diffusion of Innovations. *The Innovation Journal: The Public Sector Innovation Journal*, Volume 10(3), article 29.

Rogers, E. M. (1995) Communications of Innovations. Journal of Consumer Research, 2 (4), 290-314.

Schumpeter, J. A. (1942) Capitalism, socialismo, and democracy. New York e Londres, Harper e Brothers.

Schumpeter, J. A. (1997). Teoria do Desenvolvimento Econômico: Uma Investigação sobre Lucros, Capital, Crédito, Juro e o Ciclo Econômico. - São Paulo: Nova Cultural Ltda.

Strader, T. J., Hendrickson, A. R. (2001). Introduction to the Special Section on Marketing and Consumer Behavior in Electronic Markets, E-Service Journal.

Tajeddini, K., Trueman, M., Larsen, G. (2006). Examining the Effect of Market Orientation On Innovativeness Journal of Marketing Management.

Utaka, A. (2000). Planned Obsolescence and Marketing Strategy . Managerial And Decision Economics Manage. Decis. Econ.