

RESEARCH ARTICLE

The Chaotic Purchase Decision Process: A Study Aiming to Understand the 21st Century Purchaser

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Abstract

Based on the thought of McLuhan [1] where all the artifacts created from the first instruments to the current technologies are extensions of the human body, your nervous system, your emotions and perceptions, suggests that there is now a new human, a new consumer, a mutation to each new technology or tool created. There are many variables in permanent evolution, influencing consumers, businesses and the world. From this evidence has begun a study observing possible contribution of chaos theory to the understanding of consumer behavior, which is increasingly unpredictable [2]. The current article is the result of the continuation of this study. The research aimed to analyze how consumers is taking their purchasing decisions in order to verify the possibility of purchasing chaotic or disordered in relation to different products. This is an exploratory study with a quantitative approach based on the opinion of 212 respondents. The audience was composed of Brazilians over 18 years old economically active, mostly college students proceeding in a non-probability sample. These initial results confirmed the existence of purchase chaotic motivating future research to produce more information about this topic.

Keywords: *Marketing, Costumer Behavior, Chaos Theory.*

Introduction

In the Industrial Era the rhythm of changing was relatively slow; the actual scenery is characterized for the rapidity and dynamics. We live in the "Digital Era", a moment when information can be easily spread through the communication net. In view of this, nowadays you can take any information to long distances trough the technology and interactive systems, where the purchaser becomes an important doer and not any longer a receiver. MacLuhan [1] claims that all created artifacts, since the first tools to current technologies, are the human body extensions, of its nervous system, of its emotions and perceptions, which leads us to believe that there is a new human being, a new consumer, a mutation in every new technology or tool created. Therefore, new ways of thinking, acting and living will appear every second, permeating the relation among human being, society, work and market. From this scenery the study that observes the Chaos Theory for the understanding of this new consumer behavior, every time more unpredictable, has begun, motivating the elaboration of this article.

According to the theoretical essay already presented by Sacchet Freitas *et al.* [2], the

scientific point of view of the Chaos Theory explains the operation of dynamic complex systems. A system is considered complex when its properties generally accrue from a not linear relation between its parts. Among the examples of complex systems are: the social systems (social nets), biological (animal's colonies) and physics (weather). In this case it is concluded that the market with its consumption relation is a Social Complex System. Continuing the identification of the Chaos Theory and the Consumption Behavior, the authors noticed the dynamic aspect from a general model of all systems that evolves, according to the rule that connects the present status to the past status. Stacey [3] corroborates the claim that the Chaos doesn't mean absolute disorder or a loss of the complete shape, but it is a random behavior with a "hidden" standard or order. Therefore the challenge suggested here is to answer the following question:

Do the respondents recognize any "disorder" in their purchase decision process?

The current article is a result of the continuity of this study that correlates the purchase behavior and the Chaos Theory. It is an exploratory study,

not probabilistic, of a quantitative approach. The research has had as an overall goal to analyze the purchase behavior of the Brazilian consumers as to their identification about their chaotic or disorderly decision-making considering different products.

Among the specific goals are:

- To describe the relation of the chaotic or disorderly purchase decision in case of routine purchase or low involvement according to the opinion of the respondents;
- To study the relation of the chaotic or disorderly purchase decision in case of medium or moderated involvement according to the opinion of the respondents;
- To analyze of the chaotic or disorderly purchase decision in case of complex or high involvement according to the respondents.

Theoretical Referential: The global market is expanding and changing and the consumer's preferences follow the same dynamic. In all segments it is observed that the consumers are demonstrating diverse preferences and a purchase behavior less predictable. To attend this demand, the companies started to adopt the policy of market segmentation that has as premise the potential market division in smaller and homogeneous segments, aiming the realization of more specific promotional campaigns to each group.

Besides this technique, the companies started to

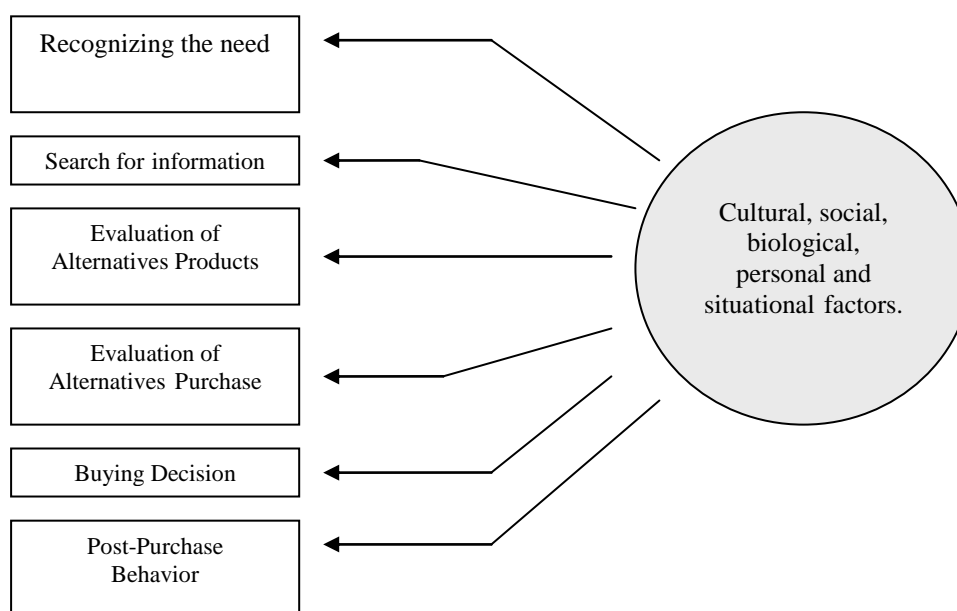


Fig. 1: The consumer's purchase decision process.

Source: Sãmara and Morsch [8].

attempt to the positioning of their products on the market, in other words, they reviewed the image of their products in a way that they could be realized as the companies that best satisfied their target-segments' necessities [4,5]. But, after all, what is the consumer behavior? Blackwell, Miniard and Engel [6] propose that “the consumer behavior is defined as activities in which people occupy themselves when they obtain, consume and dispose products and services.” Mowen and Minor [7] define that as “[...] the study of the buyer units and the exchange process involved in the acquisition, the consumption and the disposal of commodities, services, experiences and ideas.”

Samara and Morsch [8] comment the personal consumer's purchase behavior claiming that it is more elaborated than the organizational purchase behavior, in view of a bigger number of purchase options and a bigger gamma of influences prosecuted over the subjects.

The Traditional or Organized Purchase Decision Process

The search for the understanding of the consumer behavior motivated many relevant studies that, so far, collaborated for the strategic management of marketing. Fig.1: Represents the personal consumer's decision-making process:

The consumer's behavior can be seen as a decision-making process, even if the purchase decision shows to be disorganized and casuistry. However, for the marketing management it is important to notice the consumer's purchase decision-making as a logical and organized process in which a set of multiple factors (cultural, social, biological, personal and situational) prosecute an influence. The consumer's decision process model (CDP model) acts as a mental map of the subject that can be utilized by marketing professionals as a guide to elaborate a products, communication strategy and sales *mix*. The model intend to capture, in a schematic way, the activities that occur when the

decisions are taken, demonstrating as internal and external factors an interact so that can influence the consumer, affecting its behavior, evaluation and attitude [6, 8].

Karsaklian [9] presents two classic models of the consumer's behavior from the summary fulfilled by Dubois [10], and the first was proposed in 1966 by Francesco Nicosia, which it has never been updated and which is was inspired in a computer program. For Nicosia [11], the decisions of a consumer originate in a passive process of being divided in "activity fields" and being subdivided in "subfields" (or subprograms), like the fig. 2 shows:

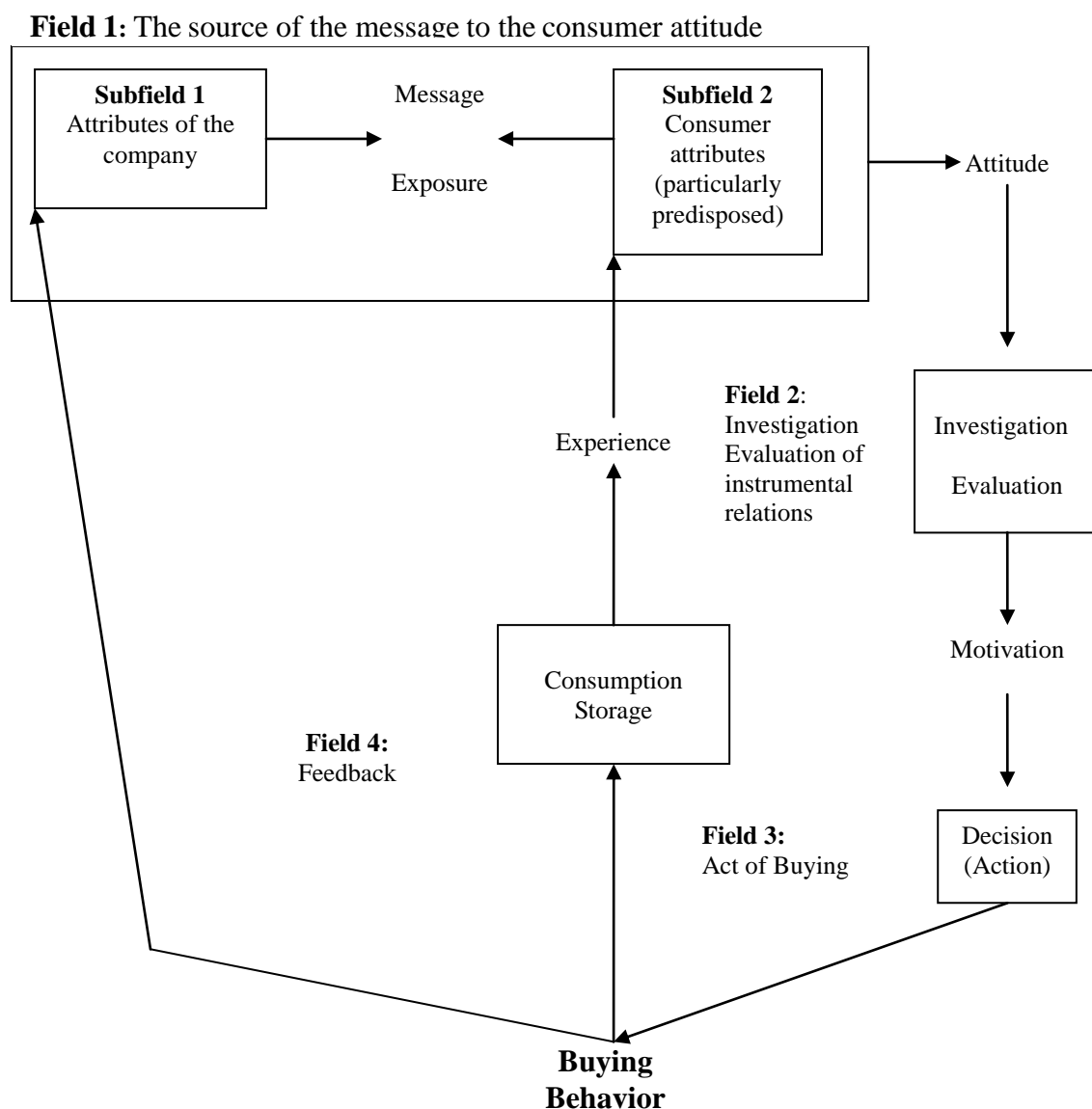


Fig. 2: Buying behavior
Source: Nicosia apud Karsaklian [11]

Nicosia's model [11] propose that the consumer will research and evaluate the obtained information as a result of its exposition to the

company's message, often advertising. Therefore, it is expected that the company's particulars, according to what was manifested in the message (subfield 1), combine with those already possessed by the consumer (subfield 2), so in case of

exposition it results in an attitude. The next stage is the investigative activity and the evaluation of the “middle-end” relations (field 2) in a way to associate the available brands with the suggested expectations in the attitude. It is expected in this process moment that a specific motivations for the brand appears where the effects of the situational factors (advertising, social and physical environment, time, etc.) can or can't become in a purchase act (field 3). The next stage is the consumption and storage of the bought product resulting in an experience (field 4), both to consumer and company, which will modify the

initial particulars and it will return to the bottom line [9].

The second model discussed by Karsaklian [9] is the one from Howard and Sheth [12], considered the most complete and significant of the researches realized about the purchase behavior. This model follows the Behaviorism, trying to explain the way a consumer makes the marketing stimuli, “the entrance”, into purchase decision, “the exits”:

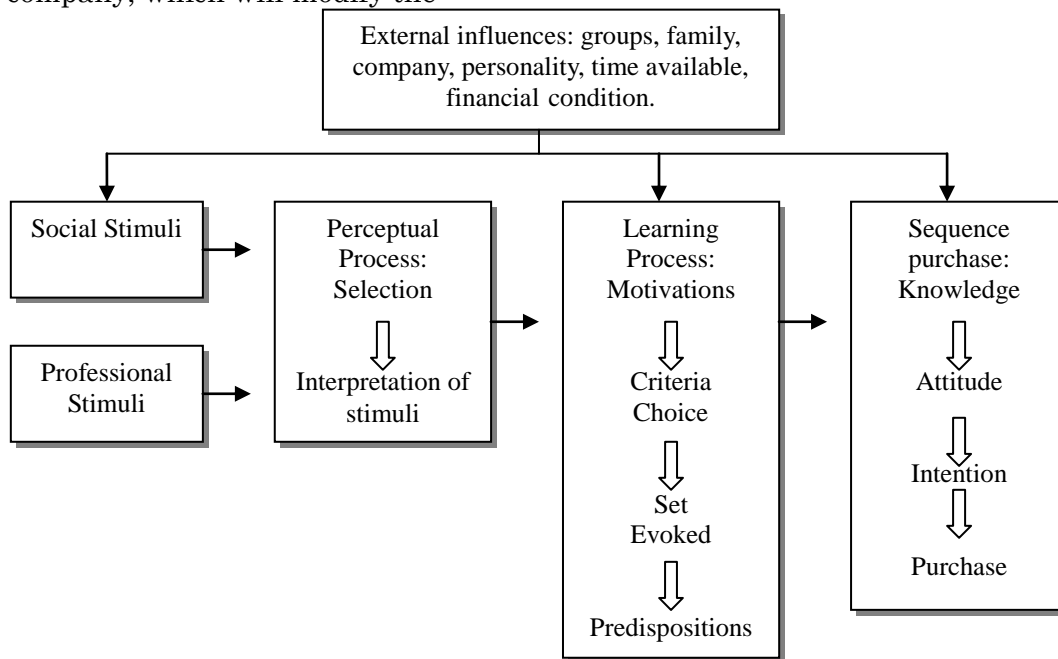


Fig. 3: Summary Model Howard and Sheth, 1969

The original model was adapted to explain the industrial and home purchase. Despite of it was empirically tested twice (the first one occurred in the United States during the launch of a new alimentary product and the second one in Argentina) Karsaklian [9] claims that these tests can not ensure the prevision value of the model. Mowen and Minor [7], approaching the Consumer's Decision Process assert that:

other words, the consumers take their decision continuously and the process used is affected by the difficulty of the problem, by the knowledge, by the consumer characteristics and by the situation characteristics [7].

The model they proposed has a relatively similarity with the one proposed by Samara and Morsch [8] that can be demonstrated by the figure 4:

The decision-making is a constructive process. In

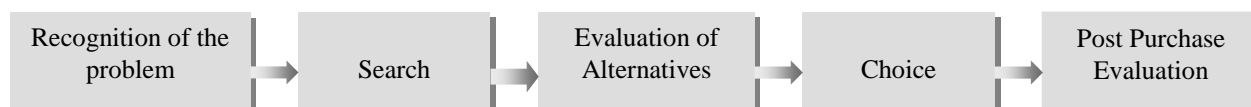


Fig. 4: Generic flowchart of the decision process of consumer purchasing

Source: Mowen and Minor [7]

This generic model of decision-making also follows the same line of reasoning of Solomon [13] which demonstrates the stages made by the consumer and, also, by the company in a case of the organizational consumption. The first stage of the

process is that the consumer realizes a necessity that, if it is strong enough, it will make the consumer to search for some information about the product, entering, therefore, on the second stage. Depending on the consumer's level of involvement, the search for information can be completed or limited. Independently of the search level, the consumer will obtain and evaluate the product alternatives, as the third stage of the process. The fourth stage is the choice among the alternatives evaluated. Lastly, on the fifth stage the consumer consumes and utilizes what was bought proceeding to an evaluation of this process, discarding the leftover of the purchase. This generic and simple aspect process is, in its totality, guided by external (environmental) and internal (situational) influences [7,8].

It emphasizes from the work of Mowen and Minor [7] the discussion of their proposition about the alternative perspectives concerning the decision-making, for they assert that since the 18th century, until the 70s of the 20th century, the researchers understood that people would move linearly along the generic decision-making process. But, by the end of the 1970s, the researchers questioned this process considering that all the purchases “[...] result from a careful and analytical process.” some of these researchers suggested that perhaps, in some circumstances, the consumers wouldn't even use any kind of decision-making process before the purchase [7].

It is known that besides the authors cited here, there are numerous relevant theoretical contributions about the consumer's decision-making process. However, the listed authors allow to show that invariably the proposed models are logical and structured. According to what was said initially, this knowledge helped to elaborate marketing strategies, but in the current conjuncture it is believed that the consumer from the new millennium, because of the accelerated rhythm in which it lives, presents a chaotic purchase decision process, or in other words, without a structured logic.

The Behavior and the Chaos Theory

The word “chaos” is often used as a reference to an escape from the standard observed that guide the experiences usually lived by the subject. Namely,

something escaped from the model that the subject usually uses in the decision-making or in repetitive events, like: to buy or not a product; to go to work by bus, subway or even by its own car; to travel or not, etc. Or the fluctuation of the stock market; bad weather like earthquakes, hurricanes, tsunamis, etc. This way, it is considered that most nature phenomena and the human behavior present order and stability, disorder and irregularity particulars.

From the scientific point of view, the Chaos Theory explains the function of dynamic and complex systems. A system is considered complex when its properties generally accrue from a not linear relation between its parts. Among the examples of complex systems are: the social systems (social nets), biological (animal's colonies) and physics (weather). In this case it is concluded that the market with its consumption relation is a Social Complex System. Continuing the identification of the Chaos Theory and the Consumption Behavior, the authors noticed the dynamic aspect from a general model of all systems that evolves, according to the rule that connects the present status to the past status. Stacey [3] conceptualizes chaos as:

“[...] in its scientific definition, Chaos doesn't mean absolute disorder or a total loss of its shape. It means that systems guided by certain kinds of perfectly orderly laws are capable of behave in a random way and, in this way, they are completely unpredictable in a long term, in a specific level. On the other hand, this random behavior also presents a pattern or “hidden” order in a more general level [...]. Chaos is the individual creative variety inside a general standard of similarities.” [3].

To Batanete and Castro [14] “the Chaos Theory isn't a disorder theory, but searches in the apparent fortuity an intrinsic order determined by precise laws.” To Borman [15] apud Wood Jr. the chaotic systems seems to be completely random, but they are extremely deterministic. Therefore, what seems illogical presents an underlying logic, not structured or limited yet.

In the *Deterministic Nonperiodic Flow* article, Lorenz confirms his hypothesis that, “[...] mainly in nonperiodic solutions, in other words, solutions that never repeat exactly their historic past, the approximate repetitions have a finite duration” [16]. Although his focus was the hydrodynamic systems, his discovers seemed fruitful and

applicable in many other sciences and knowledge fields.

The proposal of this work is to analyze the individual consumer's purchase decision-making process considering the Chaos Theory. According to what was cited before, some researchers have already suggested that perhaps in some circumstances the consumers wouldn't even use any kind of decision-making process before the purchase [7]. As to the "absence of the decision-making process", that is what this work will investigate and this "disorder" in the decision-making is what we are calling "chaos".

Method

In order to study the current individual purchase behavior, that is every day more unpredictable, hypothetically chaotic, it was decided to perform an opinion research to directly question the consumers about their purchase decision process. The first stage, defined by the authors of this article, was to establish a model of research. Malhotra et al. [17] referring to the models of research assert that there are two wide types: the conclusive and the exploratory research. The appropriate type of research for the present work is the exploratory one.

At the same time as the research model was established, a wide and judicious literature review was accomplished in order to subsidize the goals set for the present article.

The literature review implied in the use of a secondary data that, according to McDaniel and Gates [18] they "[...] include information that was collected and will be only relevant to the current issue." In this case, the secondary data were obtained through books, articles, thesis, essays, periodicals, web pages that can be considered as the documents that compound the literature research, and in the words of Cervo and it "[...] looks for an explanation to and issue from theoretical references published in documents."

The shape of the research in its second stage involved a field research using a questionnaire as technique to collect the primary data. According to Sampieri, Collado and Lucio [19], "A questionnaire consists in a set of of questions with a relation to one or more variables to be measured." And this technique is propitious to primary data, or in other words, to new data collected in a way to contribute to the issue established by the researchers. So 212 Brazilian persons were interviewed in the state of São Paulo. It was taken as criterion to the selection of

the sample consumers that practiced concomitantly the role of users and buyers of the products, as well to be 18 years old or older and to be economically active.

The third and last stage was the analysis of the data, descriptive and inferential, using statistical techniques that allow to rightly concluding about the research findings in view of the issue proposed

in this article. The results are presented in charts to facilitate the demonstration.

Results and Discussions of the Study

In this section, the results obtained in the field research from 212 interviewed persons are presented, having no missing results to any of the questions applied. The results are presented in their totality, or in other words, by considering all respondents from the state of Rio Grande do Sul (Brazil) in its capital city (Porto Alegre) and country towns.

The questionnaire was structured as follows: 6 (six) alternative questions, so 3 (three) were to the characterization of the respondents and the other 3 (three) were about the purchase decision process. The last 3 (three) questions were about the consumer's purchase behavior: the first one was about the purchase of consumer items like rice and beans; the second one was about a purchase in a shopping mall like shoes; and the third one was about the purchase of a new car, making the respondents identify in these three questions which kind of purchase decision-making they would identify themselves most.

Respondents' Profile

The first part of the research had as a goal to allow and identification of the respondents profile about their geographic region, gender and income range as it is demonstrated on Tables 1, 2 and 3:

Table 1: Where do you live?

Answer Options	Answers
Rio Grande do Sul	45,28% 96
São Paulo	54,72% 116
Total	100% 212

Source: Data collecting

It can be observed that 45.28% of the respondents lives in the state of Rio Grande do Sul and 54.72% lives in São Paulo.

Table 2: What is your gender?

Answer Options	Answers	
Male	39,62%	84
Female	60,38%	128
Other	0%	0
Total	100%	212

Source: Data collecting

The sample is compound by 60.38% of the respondents as females and 39.62% as males. The number of people in relation to each gender is not

equally proportional. However, this fact is irrelevant because it is not a goal of this research to detach the relation between the consumers' gender and the purchase behavior.

Table 3: What is your monthly income range?

Answer Options	Answers	
less than 3 minimum wages	18,87%	40
between 3-5 minimum wages	44,34%	94
between 6 -10 minimum wages	26,89%	57
above 10 minimum wages	9,90%	21
Total	100%	212

Source: Data collecting

From this information it's confirmed that the respondents are economically active, even though their purchasing power vary. There are represents from all social classes (strata), and that more than 60% of the respondents have a medium to low purchasing power because their salaries are under 5 (five) minimum wages.

Respondents' Purchase Behavior

The questions 4, 5 and 6 aim to identify how the purchase decision process occurs from three different situations: daily groceries, a purchase that involves a moderated involvement at a shopping mall and a high involvement purchase.

The types of purchase change but the answer options about the decision-making process keep identical. The idea is to allow a frequency verification of the option (C) that indicates a chaotic behavior because it characterizes an "absence of an organized routine...". The option (A) reveals a linear, standardized logical behavior aligned to the most of the proposed theories whilst the option (B) shows a consumer that is loyal, either by its preferences or by the inertia.

The three distinct options for purchase decision process are:

- The costumer identifies the necessity, looks for information about the products, surveys for options and prices in more than one store, takes the purchase decision and post-evaluates the purchase to check if it was a good deal;
- The costumer goes to its usual store and only considers the options of its favorite brand, independently of the price;
- The costumer doesn't follow an organized routine, takes advantage of opportunities of price and convenience, varying the brand and the store, even though it has its preferences.

Table 4 presents the following question: **“When you go to the grocery store to buy consumer items like rice and beans, answer how you usually buy”**

Table 4: Buying consumer Items (rice, beans)

Answer Options	Answers	
(A) Identifies the need, seeking information about the products, search options and price in more than a shop, make the decision to purchase and evaluate after purchase if it was a good deal.	12,74%	27
(B) Go to your dealer and considers only the options of your preferred brand, regardless of price.	37,74%	80
(C) Do not follows an organized routine, seizes the opportunities of price and convenience, and may vary from brand and store, although it has your preferences.	49,52%	105
Total	100%	212

Source: Data collecting

Mostly respondents (49.52%) chose option (C), followed by 37.74% that chose option (B) and, at last, only 12.74% chose option (A). So most respondents declares that “they don't follow an organized routine”, confirming what we call chaotic behavior in daily groceries.

Table 5 shows the result obtained through the question: **“When you go to the shopping mall to buy a pair of shoes, answer how you usually take your decision.”**

Table 5: Buying a pair of shoes in a mall

Answer Options	Answers	
(A) Identifies the need, seeking information about the products, search options and price in more than a shop, make the decision to purchase and evaluate after purchase if it was a good deal.	12,74%	27
(B) Go to your dealer and considers only the options of your preferred brand, regardless of price.	37,74%	80
(C) Do not follows an organized routine, seizes the opportunities of price and convenience, and may vary from brand and store, although it has your preferences.	49,52%	105
Total	100%	212

Source: Data Collecting

In this case, 51.42% of the respondents chose option (C), 35.38% chose option (A) and the minority (13.20%) chose option (B). This question permits to analyze the behavior in a case of a purchase decision of moderate involvement. Again it is observed that most answers were option (C) demonstrating that “the respondents don't follow an organized routine”..., in other words, the chaotic behavior is also the majority of purchases of moderate involvement.

Lastly, Table 6 permits analyze a purchase of high involvement from the following situation: “If you bought a new car, answer which purchase process you would choose.”

Table 6: Buying a new car

Answer Options	Answers	
(A) Identifies the need, seeking information about the products, search options and price in more than a shop, make the decision to purchase and evaluate after purchase if it was a good deal.	35,38%	75
(B) Go to your dealer and considers only the options of your preferred brand, regardless of price.	13,20%	28
(C) Do not follows an organized routine, seizes the opportunities of price and convenience, and may vary from brand and store, although it has your preferences.	51,42%	109
Total	100%	212

Source: Data collecting

In this scenery that portrays a purchase of high involvement, 73.59% chose option (A) that demonstrates a linear, logical, rational process, proposed by the most of scholars about the consumers behavior, specially in case of a purchase of durable goods. However, a percentage of 17.92 chose option (C), demonstrating that they don't follow an organized routine even if the purchase if of a kind of product with a high monetary value. Only 8.49% chose option (B) demonstrating that they are loyal to companies or brands [20].

Conclusion and Recommendations

The recent research was accomplished in order to understand how the current consumer's decision process happens, this consumer that is a being in constant mutation according to MacLuhan (2005). It is a initial study, without any conclusive

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pretensions, but in its small universe, it confirms, among the characteristics of this “new consumer”, the tendency to the chaotic purchase decision process, or in other words, without any kind of organized routine.

As in daily groceries as in moderate level of involvement, most respondents chose the option (C). This confirms once again the chaotic behavior: The consumer doesn't follow an organized routine, it takes advantage of opportunities of price and convenience, varying the brand and the store, even though it has its preferences.”

Even if in a case of a purchase of a new car, which it is expected for a rational and organized behavior according to the traditional researches, 19.79% chose option (C), informing that they don't follow an organized routine, even though the product purchased if of high monetary value and if it is not most of the respondents, it is a considerable percentage.

Other matter that is considerable, even though it is not the purpose of this research, was the low number of people who chose the option (B), that “goes to its usual store and only considers the options of its favorite brand, independently of the price.”, portraying the consumers fidelity to companies. This fact lead us to believe that the desired fidelity to companies and brands is getting every time more scarce, losing its spot not exactly to rivalries, but to convenience and sense of opportunity that seem to be the main variables that permeate the unpredictability, the lack of order or simply the chaos.

Though this research is quite simple, based in sample of non-probabilistic convenience and using a data analysis based in frequency, it is believed that this results are consistent with the exploratory and descriptive research model and fully complied with the proposed objectives, taking another look to he new millennium consumer

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