

Smartphone and Consumer Sought Benefits - A Descriptive Study¹

Smartphone e Benefícios Procurados pelos Consumidores - Um Estudo Descritivo

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Submission: 17 September 2019

Approval: 28 November 2019

Abstract

The present study was looking for identify the sought benefits by consumers of smartphones in their decision and purchase process. The study can be considered descriptive, consisting of exploratory research and descriptive research. Exploratory research was done through bibliographical research and interviews with heavy users. The descriptive research was restricted to quantitative research that was done through a questionnaire applied to 158 respondents. Some of the collected responses were considered outliers, leaving 131 valid observations. Data were processed using the statistical program SPSS v.21. The determinant attributes in the decision-making process and consumer purchase of the product with the highest average marks of importance were: memory capacity, ease of use, processor speed, camera definition, supplier reputation, operating system technology and battery capacity. The analysis applied to the data was factorial. Three analyzes were performed, extracting five, six and seven factors, respectively. After the validation of the factors using the Cronbach's Alpha, it was opted for the analysis where seven factors were extracted. These factors were named representing the benefits sought by consumers of smartphones: Autonomy and productivity, Visualization and mobility, Options, Reliability, Practicality, Economy and Safety. It is understood that the analysis and conclusions presented in the study are very relevant for the main companies in the sector, although the sample used is non-probabilistic. For a company has what the market wants is fundamental for the achievement of competitive advantage

Keywords: Smartphones. Product attributes. Sought benefits.

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Resumo

O presente estudo objetivou identificar os benefícios procurados pelos consumidores de *smartphones* no seu processo de decisão de compra. O estudo pode ser considerado descritivo, composto por pesquisas exploratórias e pesquisa descritiva. As pesquisas exploratórias foram realizadas por meio de pesquisas bibliográficas e entrevistas com *heavy users*. A pesquisa descritiva ficou restrita à pesquisa quantitativa realizada por meio de um questionário aplicado a 158 respondentes. Algumas das respostas coletadas foram consideradas *outliers*, restando assim, 131 observações válidas. Os dados foram tratados por meio do programa estatístico SPSS v. 21. Os atributos determinantes no processo de decisão de compra do consumidor do produto com as maiores notas médias de importância foram: capacidade da memória, facilidade de uso, velocidade do processador, definição da câmera, reputação do fornecedor, tecnologia do sistema operacional, vida útil e capacidade da bateria. A análise aplicada aos dados foi a fatorial. Foram realizadas três análises, extraindo cinco, seis e sete fatores, respectivamente. Após a validação dos fatores por meio do Alfa de Cronbach, optou-se pela análise em que foram extraídos sete fatores. Esses fatores nomeados e representando os benefícios procurados pelos consumidores de *smartphones*, foram: Autonomia e produtividade, Visualização e mobilidade, Opções, Confiabilidade, Praticidade, Economia e Segurança. Entende-se que a análise e conclusões apresentadas no estudo sejam muito relevantes para as empresas principais do setor, ainda que a amostra utilizada seja não probabilística. Uma empresa ter a sua oferta alinhada com aquilo que o mercado deseja é de fundamental importância para a conquista da vantagem competitiva.

Palavras-chave: *Smartphones*. Atributos do produto. Benefícios procurados.

1 Introduction

The research problem identified in this article was to answer the question: What are the benefits sought by smartphone consumers in their decision and purchase process?

The objective of this research was to identify the sought benefits by smartphone consumers in their decision and purchase process and also what are the determinant attributes in this process. This analysis is important mainly for companies in the sector, in order to align their offerings with what the market wants.

According to the 27th Annual Survey of Administration and Use of Information Technology in Companies, conducted by the Getúlio Vargas Foundation in São Paulo, in 2016 Brazil had 168 million smartphones in use, showing a 9% growth compared to 2015. The survey reported that by 2018 the trend is that this number will increase 40% (Capelas 2016).

Smartphone manufacturers are increasing innovation and each update surprises customers even more. Therefore, it can be said that smartphones are *augmented* products that, according to Kotler and Keller (2006, p. 367), exceed consumer expectations, satisfying it even more.

Considering the sector that generates about half a million direct job vacancies and has a high taxation, about 40% of the price of smartphones is converted to taxes, the importance of the sector and work is well characterized, mainly for smartphone companies.

As mentioned, the overall objective of the research was to identify what are the sought benefits by smartphone consumers in their decision and purchase process.

The specific objectives, so that the overall objective can be achieved are:

- a) Systematize scientific knowledge on the subject;
- b) Interpret the results from qualitative research to improve the quantitative research instrument;
- c) Identify the determinant attributes in the decision and purchase process;
- d) Interpret the factors derived from factorial analysis in order to identify the sought benefits.

2 Theoretical Framework

2.1 Marketing

According to Kotler and Keller (2006, p. 4), marketing involves identifying and satisfying human and social needs. The authors affirm that, in order to be understood in a simple way, it can be said that marketing "supply the needs profitably". That is, marketing is responsible for conquer the market through products and services that it promotes. It is important to emphasize that marketing does not create needs, because the needs exist before it. Marketing, along with other social factors, only influences desires (Kotler & Keller, 2006).

According to the American Marketing Association-AMA (2013), marketing is the set of activities and processes of creation, communication, deliveries and exchanges that offer value to customers, partners and society in general.

2.2 Needs

Needs are basic human requirements for people to survive. People also have needs other than basic needs. These needs become desires from the moment they are directed to specific objects that can satisfy them (Kotler & Keller, 2006).

According to Lambin (2000, p. 95), Maslow believed that the needs of human beings are organized into multidimensional structures and, for this reason, created a pyramid, known as the Maslow's Hierarchy of Needs, which divides the needs into five categories: physiological needs, safety needs, social needs (love and belonging), esteem needs and self-actualization needs.

Lambin (2000) also affirms that Maslow also believed that there was and still exists a priority order in relation to these needs. The individual begins by supplying the needs that are considered more basic before moving to the subsequent level.

According to F. T. Urdan and A. T. Urdan (2013) exchanges (purchase and sale) are motivated by needs, which may vary, considering that there are the needs of individuals and organizational needs.

2.3 Wishes

According to Santini (2014), desires are only a privileged means of satisfying needs, that is, they are the ways in which needs are materialized according to the influences that are received, such as culture and our personality. They are the preference for something specific and, through this specificity, the individual seeks to satisfy a need. (Urdan & Urdan, 2013).

According to Kotler and Armstrong (2000), desires are human needs shaped through culture and individual personality. Desires are shared in a group of people or in a society and, when they are well received by this group, can become a demand that demonstrates to the market how that particular group wants to satisfy a need. According to the authors, the demand represents the objects that will satisfy the needs.

2.4 Marketing Orientation

Marketing orientation is how a company conducts its marketing activities in relation to the market in which it operates and also the means to reach that market. According to Kotler and Keller (2006), there are five types of marketing orientation: production orientation, product orientation, sales orientation, marketing orientation and marketing-holistic orientation.

In the case of the present study, the orientation used by the smart phone industry is the orientation for the product, which has as follower companies those that invest highly in innovative products or with quality and performance superior to those of the competitors. The biggest challenge is in the constant search for product improvement, independent of which market it belongs (Crocco, Telles, Gioia, Rocha, & Strehlau, 2013).

2.5 Value

According to Kotler and Keller (2006), the value reflects the costs and benefits, that can be tangible and intangible, perceived by the consumer and it is through this concept that a buyer chooses between different offers, because he chooses the one that will provide more value.

Marketing aims to create perceived value, which is nothing more than a proposal of superior value to customers. The value equation that guides this proposal is:

$$\text{Value} = \text{Benefits} / \text{Price}$$

It is important to emphasize that the monetary cost of a product or service is not the only determining factor for the generation of value. There are other factors such as, for

example, the time and effort that the customer takes to receive their product, the ease or difficulty of purchase, which are taken into account at the time of purchase and which add or not value to the product or service (Keegan, 2009).

According to Jain (2001), there are three types of value: economic value, technical/functional and psychological. According to the same author, a good organization should offer the three types of value simultaneously, but the most difficult to be achieved is the psychological value.

According to Krishnamurthi (2001), the concept of value is the validity, perceived in monetary units, of a set of benefits received by the customer in exchange for the price paid for a product offered, considering the offers and prices of competitors.

The third foundation of marketing is the principle that customers do not buy products, but what the product can do for them (Hooley, Saunders, & Piercy, 2005). This can also be called added value to the product.

2.6 Benefits

The benefits according to Kotler (1998), refer to the expected results with the use of the product. According to Bateson (2016), all products, regardless of whether they are products or services, present a package of benefits for the consumer.

Customers buy the benefits and not the attributes, because when buying the benefit, the customer tries to meet their needs in the best possible way, becoming satisfied and, consequently, bringing good results to the company that provided the product (Dias, 2010).

The customer analyzes the benefit through three dimensions: the economic, functional and psychological benefit. The economic benefit comes from the comparison of product quality with price. The functional benefit is related to the technical properties of the product. The psychological benefit comes from the perception of the intangible characteristics of the product. Sustainable differentiation occurs when the three benefits are offered to the customer (Jain, 2001).

2.7 Four Ps

According to Kotler and Keller (2006), the marketing compound (or mix) has been defined as a set of marketing tools for companies to achieve their goals. These tools were classified into four groups, which became known as the four marketing Ps.

2.7.1 Price

The price refers to variables that are related to the cost of the product, which reflect the cost of the product to the consumer (Crocco et al., 2013).

According to Urdan and Urdan (2013), the price is the consideration charged to the consumer in exchange for what the company offers him of desirable. In this value are included not only the costs generated for the direct production of the product, but also the marketing actions involved, the administrative costs of the company and other costs. Another factor that is decisive for the pricing is the perceived value that the product carries with it. When greater is the perceived value, greater will be the price that the consumer will be willing to pay to acquire that good.

2.7.2 Place

The place refers to everything that has to do with the distribution, physical location and logistics involved to make a product reach the hands of the consumer (Crocco et al., 2013).

According to Urdan and Urdan (2013), places are arrangements of interdependent agents that make products available to customers. The places, also known as distribution, can bring advantages to the company that makes good use of this artifice. The management of the places integrates factors related to the development and operation of distribution channels.

2.7.3 Promotion

The promotion deals with a process of active communication of the attributes and benefits of a product to the target market that this product aims to achieve. For this process to be successfully carried out, it is necessary the creation and dissemination of advertising programs, public relations and personal sales (Crocco et al., 2013).

According to Urdan & Urdan (2013), the promotion involves the communication between the company and its stakeholders, and has the intention, persuade and influence in the purchase process. Still according to the authors, it can be said that a good promotional action is made when managers understand the subject, select the most appropriate alternatives to each of the situations, implement integrated actions and thus create synergy in efforts.

2.7.4 Product

Product is that which satisfies the needs and desires of the consumer and is received through a transaction with the supplier. The product consists of a collection of attributes articulated by the company that produces/sells it (Urdan & Urdan, 2013).

A product can be a physical, service, idea, experience, property, among others. The individual buys the product with the intention of solving a problem, which makes it a solution tool and also an instrument to achieve added satisfaction to the value.

According to Kotler and Keller (2006), five levels of the product should be considered before offering it to the market. Each one of the levels adds more value to the customer and the junction of all the levels generates what can be called the product hierarchy. Products can be classified as durable goods, non-durable goods and services.

2.8 Augmented product

According to Kotler and Keller (2006), augmented product is the fourth level of the product. At this level the product exceeds customer expectations. It is at this level that innovative ideas arise, because, unexpected products are launched with extended functionality in a way that exceeds customers expectations, but at the same time makes them want to buy this new product, even if it does not really needed.

2.9 Attributes

According to Kotler (1998), attributes are the aesthetic and functional characteristics of a product. The attributes can be concrete or abstract. The concrete attributes integrate the product itself, so, it is what composes the product, which makes the product exist. The abstract attributes are conferred to the product from the concrete attributes (Urdan & Urdan, 2013).

According to Lambin (2000) the attributes of the product go beyond the basic service that it offers, thus increasing the added value to the product, competitiveness, value and

customer satisfaction when acquiring that product with differentiated quality and characteristics.

When developing a product or service, the benefits that they will bring to the consumer are also developed. These benefits are communicated and delivered through product attributes (Kotler & Armstrong, 2000).

According to McDonald and Christopher (2003, p. 139), a good or service is more than the sum of its parts. The client seeks a set of benefits, seeking to find a complete package (of benefits). In reality the product is a set of attributes or characteristics that, when put into use, generate the benefits (Moraes, 2009).

3 Methodology

3.1 Elements of the scientific method

According to Richardson (1999), method is the path or way to achieve a certain objective and it is essential that the application of the scientific method and the problems be understood, so that there can be the transformation of the portrayed reality.

According to Pease and Bull (1996 apud Richardson, 2007, p. 22), regardless of the area of knowledge that a research will be conducted, there is a common structure of five elements that can be applied to all of them. This structure is composed of: goal, models, data, evaluation and review.

3.2 Type of study

The study can be characterized as descriptive and uses exploratory research, which are bibliographic and qualitative research through semi-structured interviews and also has a quantitative descriptive research. The descriptive study classification is reinforced once it was based on another study on the same theme (smartphones), which served as support so that it could be deepened, detailed and updated.

According to Richardson (1999), the descriptive studies are intended to discover the characteristics of a phenomenon. This type of study allows the researcher to investigate the correlation between variables.

3.3 Types of searches

As previously explained, the present study is characterized as a descriptive study that counts on exploratory research (bibliographic and qualitative with heavy users) and descriptive research (quantitative through a questionnaire).

The exploratory research was conducted with the main objective of promoting greater understanding of the problem faced by the interviewer. This type of research is used in poorly established fields of study in which it is necessary to obtain additional data so that the problem can be better defined (Mattar, 1999). In addition, it can be said that the researcher, when conducting an exploratory research intends to find necessary elements that allow him/her to obtain the results they want when conducting the research (Triviños, 1987).

In relation to descriptive research, Gil (1999) affirms that they are, with exploratory research, usually performed by the researchers that are concerned about the practical performance. The authors Collis and Hussey (2005) assert that descriptive research describes the behavior of a given phenomenon and is used to obtain information about some problem or issue.

3.4 Research methods

The two main research methods are qualitative and quantitative methods. The quantitative method is characterized by employing quantification in data collection and treatment. This method represents the intention to ensure the accuracy of the results. The major difference between them is that the qualitative method does not use a statistical instrument as a basis for the process of analyzing a problem (Richardson, 2007).

In the case of the present study, two exploratory studies were conducted: literature search and qualitative research through interviews with semi-structured questions with heavy users. The qualitative research was conducted in order to understand the content in a more explanatory and detailed manner. From the results collected through these interviews it was possible to prepare a questionnaire that was applied to a sample to compose the quantitative descriptive research and understand which are the sought benefits by consumers of smartphones in their decision and purchase process.

3.5 Sampling plan

Qualitative exploratory research was conducted with three heavy users of the smartphone, at the convenience of the researcher. Regarding the descriptive quantitative research, the sample collected was slightly different, because it was collected essentially via social networks.

According to Sampiere, Collado and Lucio (2006), there are two types of samples: probabilistic and non-probabilistic. In the case of the present study, the sample collected to carry out the quantitative research was not probabilistic, at the convenience of the researcher.

3.6 Data collection

In the present study, the questionnaire, prepared in Google Forms, was applied to 158 respondents, with 100% of the data collection performed online.

In order to identify the respondent involved with the decision and purchase process of a smartphone type mobile phone, the questionnaire consisted of two parts. The first of them was composed of questions for the identification of the respondent and, in the second part, the respondent should assign a note of importance (between 0 and 5, considering 0, without any importance and 5, extremely important) to the 23 attributes of the smartphone type mobile phone that were previously stipulated through qualitative research.

4 Result and Discussion

A qualitative research was conducted with three heavy users of smartphones. The research was conducted in order to better understand what these consumers of the device identified as essential attributes (which should be present in a smartphone device) so that the purchase of the same were assertive and brought the benefits sought by them. In this way, it was also possible to identify new attributes that could compose the questionnaire, a quantitative research tool.

The questionnaire was prepared through qualitative research, conducted with heavy users and via secondary research (sites of the most important and relevant players in the current Brazilian market).

Before being disclosed online, the questionnaire was manually applied with four respondents so that it could be verified if the questions were clear and reflected what the

researcher sought to acquire with the answers. Some adjustments were made before the second questionnaire was released for data collection.

This questionnaire was published online and aimed to reach respondents who had a mobile phone type smartphone. However, in the questions that characterized the respondent, one of the questions (filter) aimed to make sure that the respondent had a smartphone type mobile phone. Among the 158 respondents, only one of them pointed out that did not have a mobile phone of the smartphone type and, for this reason, the answers to the questions of this individual were discarded and not analyzed.

According to Hair, Anderson, Tatham, Black and Babin (2009), atypical observations are those that have a unique combination of characteristics that can be considered remarkably different from the others. It is important that these evaluations that demonstrate some abnormality in the variable scope, which can be called outliers, are identified so that the treatment and analysis of data are performed correctly, according to Bisquerra, Sarriera and Martinez (2004).

In the present study, the verification of atypical occurrences was done by counting the number of times each note was presented in each of the observations.

Twenty-six cases were identified as suspect due to the high incidence of the same score (incidence above 80%). Therefore, of the 158 responses collected, only 131 were considered valid for analysis, and 26 were discarded because they were considered outliers and 1 because the respondent did not belong to the target audience because he did not have a smartphone type mobile phone.

For treatment of these data it was used a statistical tool, the software SPSS v. 21, in order to identify which are the sought benefits by consumers of smartphones in their decision and purchase process.

For data extraction and analysis, one of the multivariate techniques was used, the factorial analysis. This data analysis was chosen because it is a method that is more appropriate to the results and intended objectives. According to Hair et al. (2009) the factorial analysis allows all variables to be analyzed simultaneously, so that an underlying structure can be found to the entire set of individuals and variables. This type of analysis also provides the necessary tools to analyze the correlation structure between a large number of variables, in addition to defining sets of variables that are strongly interrelated, which can be called factors. In this study the set of strongly interrelated variables, set of attributes, generated some factors that are the sought benefits by consumers of smartphones (Hair, Anderson, Tatham, Black & Babin, 2009).

From the analysis of Table 1 it could be concluded that the most important attributes for the survey respondents, considering that these are the attributes that have the highest average scores of importance, are: memory capacity, ease of use, processor speed, camera definition, supplier reputation, operating system technology, useful life and battery capacity, which presented an average higher than 4. The attributes that presented an average score of importance between 3.5 and 3.99 were considered attributes of intermediate importance, and these are: availability of functions and applications, available warranty, design, screen definition, brand, availability, screen against impacts and falls and competitive price. The other attributes are classified as of low importance.

Also according to Hair et al. (2009), the sample size is an extremely relevant factor. This should be at least five times greater than the number of variables presented. Considering that 158 responses were collected and 26 discarded, this relation mentioned above went from $158/23= 6.89$ to $131/23= 5.74$, which can be considered a sample within the requirements.

Table 1 Descriptive statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Memory Capacity	131	5	0	5	4,32	0,994	0,989
Ease of use	131	4	1	5	4,21	1,072	1,150
Processor speed	131	5	0	5	4,20	1,084	1,176
Camera definition	131	5	0	5	4,14	1,182	1,396
Supplier reputation	131	5	0	5	4,11	1,168	1,364
Operating system technology	131	5	0	5	4,08	1,207	1,456
Useful life	131	5	0	5	4,05	1,166	1,359
Battery capacity	131	5	0	5	4,03	1,176	1,384
Availability of roles and applications	131	5	0	5	3,97	1,157	1,338
Warranty available	131	5	0	5	3,86	1,311	1,719
Design	131	5	0	5	3,82	1,160	1,346
Screen definition	131	5	0	5	3,76	1,282	1,644
Brand	131	5	0	5	3,63	1,372	1,882
Availability	131	5	0	5	3,56	1,278	1,633
Screen against impacts and falls	131	5	0	5	3,54	1,355	1,835
Competitive price	131	5	0	5	3,51	1,448	2,098
After-sales services	131	5	0	5	3,44	1,515	2,294
Availability of parts and repairs	131	5	0	5	3,36	1,382	1,909
Dimensions and weight	131	5	0	5	3,18	1,518	2,305
Facial, digital and voice recognition	131	5	0	5	3,00	1,593	2,538
Anti-dust and water system	131	5	0	5	2,98	1,441	2,077
Deadlines available for payment	131	5	0	5	2,74	1,547	2,394
Color diversity	131	5	0	5	2,10	1,532	2,348
Valid N (listwise)	131						

Source: Elaborated by the authors.

A first factor analysis was performed using the Eigen Value criterion greater than or equal to 1. This analysis was performed with the 23 variables and 131 observations using the principal components method and Varimax orthogonal rotation. The results obtained are presented in Table 2.

Table 2
KMO and Barlett Test

Kaiser-Meyer-Olkin Sample Adequacy	0,904
Approx. Chi-Square	1863,425
df	253
Barlett Sphericity Test	0,000

Source: Elaborated by the authors.

According to Pestana and Gageiro (2005) the KMO close to 1 indicates and classifies the factorial analysis that is being studied, as good. On the other hand, small partial correlation coefficients, and the KMO close to 0 indicates that it is not ideal to analyze the data by factorial analysis. In this case, the KMO was 0.904, which can be considered high. In addition, Barlett's test presents a significance level of 0.000 (value less than 0.05), allowing us to conclude that there is correlation between the variables, rejecting the hypothesis that the correlation matrix of the observations is identity.

The analysis of the matrices rotated with the extraction of 5 and 6 factors presented a certain complexity for the nomination of factors when taken into account the practical and not statistical perspective. However, as the Scree Plot graph indicated the extraction of five to seven factors, as shown in Figure 1, it was opted to make a new data analysis, however, this time, extracting seven factors in order to make the nomination of factors less complex (Table 3).

Analyzing the extraction of seven factors, the total variance explained was at the 75% level and the rotated matrix separated two individual attributes in factors 6, competitive price and 7, facial, digital and voice recognition.

It is important to note that when the correlation matrix analysis was performed, it was possible to observe that the competitive price variable had a low correlation with the other variables, as well as the facial, digital and voice recognition attribute. For this reason, when 5 and 6 factors were extracted, it was difficult to name them because the competitive price and facial, digital and voice recognition attributes did not have a strong correlation with the other variables that made up a given factor.

Interpreting the low communality presented by the digital, facial and voice recognition variable when only five factors were extracted, it can be understood that this attribute was not fully participating in the model created. This variable started to participate in the model from the moment more factors were extracted until the limit of being alone in one of these extracted factors.

The internal consistency analysis was used to validate the factors, based on Cronbach's alpha, which is used to assess the internal consistency of the factor and decide in which factor a given variable belongs, depending on its load. After validating the analysis with six factors and the analysis with seven factors, we opted for the solution with seven factors.

After data analysis it was possible to extract 7 factors.

Factor 1 was named based on the following variables: useful life, battery capacity, processor speed, impact screen, memory capacity, available warranty, availability of parts and repairs, and availability of functions and applications. Thus, the name of factor 1 was established as **Autonomy and productivity**.

Factor 2 was named based on the following variables: screen definition, dimensions and weight, anti-dust and waterproof system, operating system technology and camera definition. Thus, the name of factor 2 was established as **Visualization and mobility**.

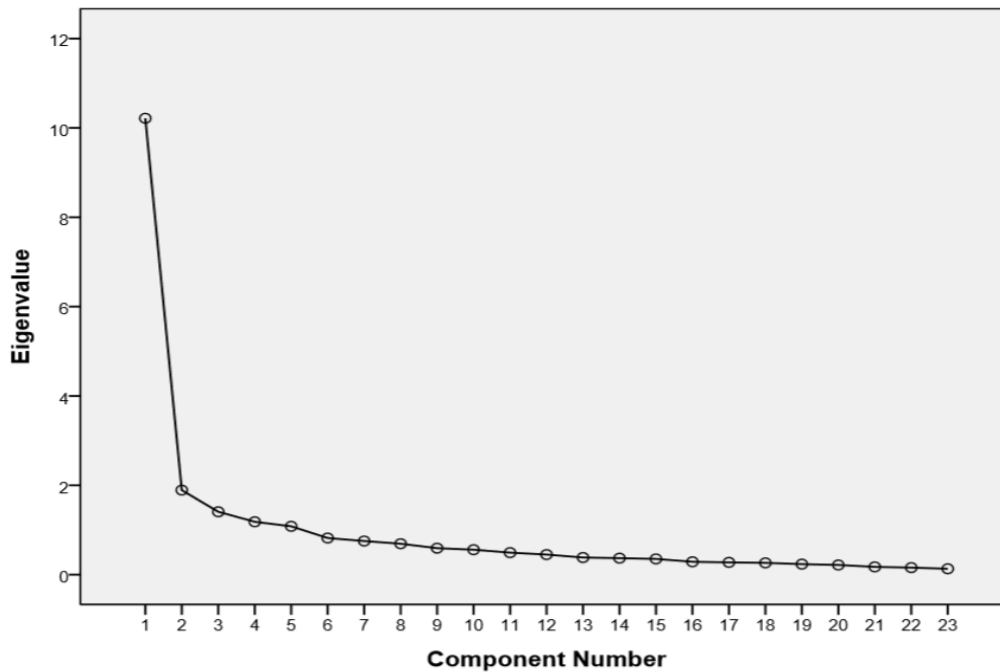


Figure 1- Scree Plot

Table 3
Varimax Rotated Factorial Matrix - Principal Component Analysis

	Componentes						
	1	2	3	4	5	6	7
Useful life	0,817						
Battery capacity	0,794						
Processor speed	0,711						
Screen against impacts and falls	0,692						
Memory capacity	0,662						
Warranty available	0,647						
Availability of parts and repairs	0,605		0,438				
Availability of roles and applications	0,548	0,495					
Screen definition		0,843					
Dimensions and weight		0,679					
Anti-dust and water system		0,669					
Operating system technology		0,661					
Camera definition		0,634		0,495			
Deadlines available for payment			0,814				
Color diversity			0,717				
After-sales services	0,447		0,541				
Brand				0,801			
Supplier reputation	0,423			0,611			
Ease of use					0,744		
Design				0,502	0,633		
Availability			0,424		0,514		
Competitive price						0,846	
Facial, digital and voice recognition							0,706

Source: Elaborated by the author.

Factor 3 was named based on the following variables: available payment terms, diversity of colors, and after-sales services. Thus, the name of factor 3 was established as **Options**.

Factor 4 was named based on the following variables: brand and reputation of the supplier. Thus, the name of factor 4 was established as **Reliability**.

Factor 5 was named from the following variables: ease of use, design and availability. Thus, the name of factor 5 was established as **Practicality**.

Factor 6 was named based on the following variable: competitive price. Thus, the name of factor 6 was established as **Economy**.

Factor 7 was named based on the following variable: facial, digital and voice recognition. Thus, the name of factor 7 was established as **Security**.

Therefore, after this analysis it can be concluded that the benefits sought by smartphone consumers are: Autonomy and productivity, Visualization and mobility, Options, Reliability, Practicality, Economic and Security.

5 Final Considerations

In the present study, some specific objectives were proposed so that the overall objective could be achieved, which was to identify the sought benefits by smartphone consumers in their decision and purchase process.

The research was based on a detailed bibliographic survey related to the subject of marketing, containing important information on attributes and benefits so that, in this way, the decisions and results of the research could be supported by a theoretical framework.

Different opinions of different authors were presented on the same theme in order to seek a greater degree of knowledge about the theme. In addition, a brief research was conducted on the smartphone industry in Brazil, so that it could be understood the importance of this sector currently. The main players were studied and, in this way, it was possible that the researcher had a greater knowledge of the subject that would be approached during the qualitative and quantitative researches.

These researches that were carried out before any data collection, enabled a theoretical basis to be formed so that the construction of the research instrument and the support of the final analyses of the research were more assertive.

In addition, a qualitative research was conducted with heavy users, which enabled a deeper understanding of what smartphones consumers seek in their decision making process to purchase a mobile phone. The results of the qualitative research were used for the improvement of the questionnaire that was the instrument of data collection for the quantitative research.

131 responses were collected through the formulated questionnaire and thus, it was possible to identify which are the determinant attributes in the purchase decision process of a smartphone type mobile phone. It was possible to verify, according to the respondents of the quantitative research, that the determining attributes in the purchase decision process are: memory capacity, ease of use, processor speed, camera definition, supplier reputation, operating system technology, useful life and battery capacity.

The variable that had the lowest average of importance attributed was the diversity of colors. Therefore, it is possible to understand that this is not an important and definitive attribute in the decision and purchase process.

Through the application of factorial analysis to the data collected through quantitative research, it was possible to identify the seven most significant factors that represent the benefits sought by consumers of smartphones and these are:

- 1) **Autonomy and productivity**: functional benefit. The attributes that compose this factor are: useful life, battery capacity, processor speed, impact and drop screen, memory capacity, available warranty, parts availability and repairs, availability of functions and applications;

- 2) **Visualization and mobility:** functional and psychological benefit. The attributes that compose this factor are: screen definition, dimensions and weight, anti-dust and water system, operating system technology and camera definition;
- 3) **Options:** functional and psychological benefit. The attributes that compose this factor are: available deadlines for payment, color diversity and after-sales services;
- 4) **Reliability:** psychological benefit. The attributes that compose this factor are: brand and reputation of the supplier;
- 5) **Practicality:** functional and psychological benefit. The attributes that compose this factor are: ease of use, design and availability;
- 6) **Economy:** economic benefit. The attribute that composes this factor is: competitive price;
- 7) **Safety:** functional and psychological benefit. The attribute that composes this factor is: facial, digital, and voice recognition.

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ⁱ The production of this article was supported by the PIBIC Mackenzie.