Perceived quality, satisfaction and customer loyalty: an empirical study in the mobile phones sector in Brazil

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Abstract: This study was developed with the objective of examining perceived quality, satisfaction, and customer loyalty in regard to mobile phone service providers. A survey was done involving 434 customers in Brazil. The results showed that perceived quality could be evaluated based on the quality of the product, quality of the connection, shops, coverage areas and customer service. A low level of loyalty was observed and, when the customers' perceived quality increases, they will be more satisfied, more likely to remain with the service provider, to recommend their current provider to others, and to express a lesser desire to switch providers.

Keywords: service quality; consumer behaviour; marketing; Brazil; customer loyalty; mobile phones.

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1 Introduction

Human beings, from their origins, have always needed to communicate. Ever since men expanded their frontiers, through the discovery and the conquest of new lands, it has become necessary to develop new technologies to allow communication over a long distance. For this purpose, several technologies were created, from the telegraph and the amateur radio to the internet and mobile phones (Souki, 2006).

The first public connection starting from a portable phone receiver was made by a Motorola researcher, Martin Cooper, in April 1973, calling from the centre of New York in the USA to a landline. However, only in 1983 did this technology go into industrial production and start to be marketed (A Tarde, 2004). Bloom (2005) affirms that in the last few years, the demand for mobile telecommunication services has grown exponentially all over the world. According to data of the National Agency of Telecommunications (Anatel, 2007), the history of the mobile phone in Brazil began in 1990, when the country had 667 mobile phones. In the following year, the number of mobiles there was 6,700 units, reaching 108,519,664 mobile phones in July of 2007 (Figure 1).

Figure 1 Evolution of the number of mobile phones in Brazil, between 1990 and 2007
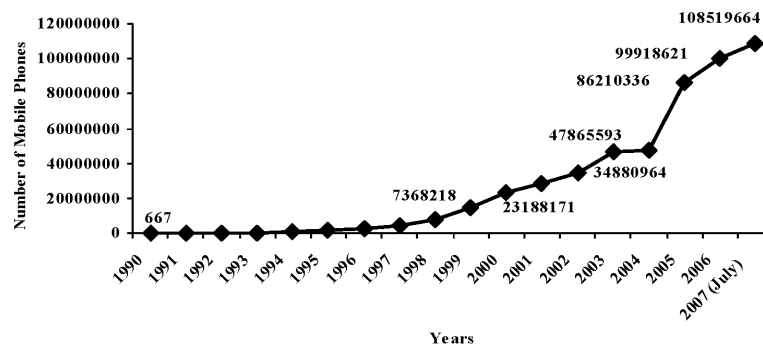
Source: Anatel (2007)

The growth in consumers' use of mobile services has been accompanied by an increase in the sophistication of mobile technology devices (Balasubramanian et al., 2002). Mobile users increasingly use these devices not only for voice communications, but also for computing purposes including internet access, e-mail, text and multimedia transmissions (Jarvenpaa and Lang, 2005). According to Sousa and Voss (2006), in recent years there has been a fast growth of services provided through multiple channels, which is closely linked to the proliferation of virtual channels of service delivery, such as the internet, mobile phones, ATMs, hotel and supermarket checkouts, interactive television, etc., which normally coexist with physical channels. For instance,

the service provided by many organisations nowadays depends on a lot of services offered through virtual channels (e.g., the web, phone and mobile phones) simultaneously with or as an alternative to physical facilities. These new ways to delivery services create new challenges for organisations, which need to provide high quality service in different levels.

Furthermore, Souki et al. (2005) point out that the high tech sectors, such as mobile phone services, are the ones that are most significantly influenced by the political, economic, technological, and social changes that are taking place throughout the world today. Such transformations have created new market tendencies and trends, thereby greatly affecting the profile of consumers and also demanding that organisations reformulate their strategies in order to remain competitive.

In order to achieve success in the mobile phone market, organisations must develop the capacity to identify the needs and desires of customers and then be able to translate this information into attributes and practices that continually improve the quality of the products and/or services offered. In this sense, an understanding of customer behaviour on the part of mobile phone providers has become a basic condition for the survival and growth of these companies.

The problem raised in this research is that mobile phone providers have frequently implemented marketing strategies that are divorced from the perspectives of the consumer, thus creating a dissonance between the consumer's expectations and that which is actually being offered, thereby leading to customer dissatisfaction and the eventual abandonment of the service provider. One of the reasons that can be singled out as a cause for this fact is that the providers do not adequately know their clients, and that they are not aware of the factors that can contribute to customer satisfaction and to the propensity to loyalty. Thus, this study has the following objectives:

- to investigate the perception of quality from the customer's perspective in relation to mobile phone service providers

- to verify customer satisfaction with the services provided by mobile phone service providers

- to evaluate the propensity to loyalty of customers with regard to mobile phone service providers.

This paper is divided into five sections. The first is an introduction where we present the changing context in which mobile telephony exists nowadays. Then we present the mobile phone industry as an example of a multi-channel service employing virtual channels. Based on that, we draw attention to the problem and the objectives of this research. In the second section, we discuss mobile phone services marketing and its relationship with consumer behaviour. The third section details the methodology that we used. In the following section we present and discuss the results. The conclusions, the limitations which we encountered and some suggestions for future research form the fifth and last section.

2 Literature review

Bateson and Hoffman (2001) and Lovelock and Wright (2003) affirm that the services are related to the daily lives of people, whether it be attending school or university,

talking on the phone, turning on a light, watching TV, getting on a bus among other routine activities.

According to Lovelock and Wright (2003), the service sector of the economy is going through a period of change not only in Brazil, but in the entire world, where nowadays it represents the biggest segment of the economy. As well as this, the sector is responsible for the biggest growth rate for new jobs and all developed economies have big service industries.

Parasuraman et al. (1988) and Bateson and Hoffman (2001) point out the importance to services as an element which creates substantial advantages to organisations, because when a product cannot be easily differentiated, the key to competitive success can be the addition of services appreciated by consumers.

In spite of the great importance of the service sector, customers are not always satisfied with the quality and the price of the services offered, which can prejudice their attitudes and behavioural intentions in relation to companies. In fact, the study led by Bolton (1998) revealed that the customers' satisfaction with the services offered by a mobile phone provider was positively related with the decision of maintaining as client of the company, and with the duration of the relationship with the provider. For these reasons, for the organisations in the mobile phone sector to be competitive, attracting and maintaining clients, it is essential that they offer services with high perceived quality and value for the customers. In addition, they must understand the customers' behaviour, recognising their necessities and desires, as well as the attributes that contribute to the quality of services from the customer's point of view (Souki et al., 2006).

According to Neves et al. (2000, p.3), understanding the behaviour of consumers is indispensable in order that companies be able to offer products and services that more adequately satisfy the needs and desires of the customer. These authors point out, moreover, that

> "… understanding the behaviour of the consumer means to be able to predict their behaviour with a greater chance of accuracy, to discover the relations of cause and effect that govern persuasion towards the purchase of products, and to understand the nature of the education of the consumer throughout their relationship with the company."

Engel et al. (2000, p.4) define consumer behaviour as "the activities that are directly involved in the obtaining, consumption, and the disposal of products and services, including the process of decision-making that precede and succeed such actions". These authors proposed a model of analysis of the process of purchase decision that involves the following phases: necessity recognition, search for information, evaluation of alternatives, purchase, consumption and post-consumption evaluation. To understand the consumers' behaviour is a dynamic and complex task. This is because several factors such as individual differences (the consumer's resources, motivation and involvement, knowledge, attitudes, personality, values and lifestyle), the environmental influences (culture, social class, personal influences, family and situation) and the psychological processes (processing of information, learning and changes of attitudes) can affect their purchasing behaviour and consumption. Kotler (2000) highlights that demographic factors such sex, age, education, religion, size of family, among others, can have a great influence in the purchase and consumers' behaviour.

Nevertheless, it is worth pointing out that the emphasis of this present research is to be found in the last phase of the process of deciding to purchase, namely, in the stage of

post-purchase evaluation. This is because it is in this phase that the customers evaluate the quality of the received services, experience satisfaction or dissatisfaction, speak positively or negatively about the service provider and decide whether they maintain the relationship with the provider.

According to Zeithaml (1988), the perceived quality refers to the consumer's judgement of the excellence or the global superiority of a product or of a service. Anderson et al. (1994) emphasise that the perceived quality can be considered as the evaluation of the current performance of the company from the consumers viewpoint, and such action tends to influence positively their attitudes and behavioural intentions in relation to the supplier. In fact, the perceived quality is an abstract construct that presents differences in relation to the objective quality of a product or service. In the case of the objective quality it is possible to measure observed characteristics, as the number of defects, the durability or the price (Garvin, 1983). On the other hand, the perceived quality is more related to an abstract judgement from the consumer than to the concrete attributes of the product or of the service (Zeithaml, 1988).

Baker and Fesenmaier (1997) assert that the perceived quality of services is one of the primordial variables for the organisations to get sustainable competitive advantages. For this reason, the concern with the quality perceived by the customers became a basic condition for the providers that want to survive and to grow in a competitive market such as mobile phone service sector.

Lovelock and Wright (2003) suggest that, although the quality of the service and the satisfaction of the customer are correlative concepts, they do not mean exactly the same thing. This is because the perceptions of the consumers regarding the quality of a product or a service are based on long-range cognitive evaluations, while satisfaction is a short-range emotional response in relation to a specific experience.

Satisfaction is the feeling of pleasure or disappointment resultant of the comparison of the waited performance of the product or service in relation to the expectations of customers (Kotler, 2000). In this sense, Anderson et al. (1994) emphasise that, in the post-purchase evaluation phase, clients compare the performance of the product or service received with prior expectations. Moreover, customer satisfaction is affected by three antecedents or determinants: perceived quality, cost (perceived value), and expectations. If customers perceive the performance is equal or superior to what was expected, there is a tendency to satisfaction. On the other hand, when the customer considers the performance as being inferior to what was expected, dissatisfaction results. Therefore, it is understood that the comparison between the perception of the performance of the product or service received with the customer's prior expectations should result in either the confirmation of choice (satisfaction) or in the conclusion that the choice was inadequate (dissatisfaction). Assael (1992) stresses that the heightened degree of satisfaction with the process of acquisition of goods and services leads to a predisposition to customer loyalty, as made evident by the continued preference in relation to a provider or supplier. Fornell et al. (1996), Aaker et al. (1998) and Gale (1992) suggest that the role of satisfaction of clients as a determining factor not only of increasing returns, but also of customer loyalty, is a notorious one.

According to Pontell (2000), the customer's satisfaction is capable of stimulating repeat purchases as well as 'word of mouth' advertising, which leads marketing professionals to seek not just to satisfy, but moreover to 'delight' the customer, by offering attributes or qualities that not even the customer would have hoped to find in the product or service. de Almeida corroborates this, emphasising that

> "… it is no longer enough to speak of satisfying customers; rather, it is essential to seek to 'delight' them, which is achieved when what is offered exceeds their expectations," that is, when "their desires and wishes are exceeded." (de Almeida, 2002)

In accordance with Oliver (1999), loyalty can be defined as a deep commitment of the customer in repurchasing or favouring a product, service or brand in the future, independently of situational influences and marketing efforts with the objective to cause switch behaviour. Oliver (1997) further highlights that customer satisfaction is a crucial factor for the success of the most varied kinds of organisations, especially because it has a direct influence on such factors as loyalty to the company, repeat purchases, positive 'word of mouth', profitability, and market share. Finally, it is important to emphasise that Reichheld and Sasser (1990) consider that customer loyalty can be considered a very likely indicator of a company's profitability.

It can be understood, therefore, that perceived quality, satisfaction, and the propensity to loyalty are dimensions that show a great degree of relevancy for the competitiveness of organisations, and that these factors should be continually monitored. In this sense, valid and reliable information about the behaviour of the users of the mobile phone services can provide important subsidies to the implementation of strategies to increment the perception of quality, affecting positively their attitudes and behavioural intentions in relation to the providers.

3 Methodology

In order to respond to the proposed objectives, this research is divided into two phases (qualitative and quantitative). In the first phase, the qualitative one, we sought to discover which variables customers perceive as being related to the quality of the products and services of the mobile phone sector. To this end, two in-depth interviews were carried out with specialists in mobile phone service, as well as one focus group with customers of mobile phone providers active in Brazil's third largest city (Belo Horizonte, Minas Gerais). It is worth highlighting that the participants were chosen for convenience and the interviews, which were done with the help of semi-structured questionnaires, were recorded, rewritten and analysed by means of content analysis. The variables obtained in this stage were used to develop the questionnaire used in the second phase of this research. These variables were relative to products and services offered by the providers, such as technology, coverage, interference, failed connections, general quality of connections, the availability, appearance and comfort of the points of sale (shops), and the honesty and transparency in transactions with customers, in addition to the quality of service, etc. In addition, satisfaction and the propensity of customers to remain loyal to the providers studied were also evaluated.

In the second phase (quantitative and descriptive), a survey was done using a structured questionnaire developed on the basis of information obtained during the qualitative phase. Moreover, it was structured with multiple choice questions and quantitative variables, with Likert scales of five points (*1* representing 'I totally disagree' and *5* signifying 'I totally agree'), satisfaction or dissatisfaction of seven points (*1* 'Very unsatisfied' and *7* signifying 'Very satisfied'), and frequency of mobile phone use of seven points (*1* 'Never' and *7* signifying 'More than five times a day').

The data collection was based on a Snowball sample, by means of a cross-sectional data collection, involving 434 customers of mobile service providers. According to Malhotra (2001), in this sampling technique, first a random group of interviewees is chosen who, after having been interviewed, will be asked to identify other individuals who belong to the same population of interest. Thus, the subsequent interviewees are selected based on these references. This process can be executed in successive waves, which permits the research to obtain individuals who present demographic and psychographic characteristics more similar to the people who indicated them than would have occurred by a random sampling. However, it is important to emphasise that this is a non-probabilistic technique. Furthermore, because of ethical concerns, the companies examined have been given fictitious names (Alpha Company, Beta Company, and Gamma Company).

The profile of the obtained sample is presented in Table 1.

Table 1   Profile of the sample

Customers interviewed	434
Gender	Male: 37.8%
	Female: 62.2%
Marital status	Single: 60.6%
	Married: 30.4%
	Divorced: 8.1%
	Did not answer: 0.9%
Family monthly income	Until R$ 1,000.00: 35.2%
	Between R$ 1,001.00 and R$ 2,000.00: 24.7%
	Between R$ 2,001.00 and R$ 3,000.00: 18.2%
	Between R$ 3,001.00 and R$ 4,000.00: 9.2%
	Above of R$ 4,000.00: 12,7%
Education level	Never attend to school: 0,5%
	Primary school: 1,2%
	High School: 32,7%
	College or University: 51,8%
	Masters or PhD: 13,8%
Mobile phone service provider	Alpha: 50.0%
	Beta: 24.9%
	Gamma: 25.1%

Source: Research data

4   Results and discussion

The analysis was structured by taking into consideration the need to respond to the proposed objectives. The quantitative data were analysed by means of Distributions of Frequency, Crosstabs, Spearman's Correlations, Variance Analysis, and Factor Analysis, using the SPSS® – version 12.0 and Microsoft Excel®.

We start by addressing the first objective of this research, that is, to investigate the perception of quality from the customer's perspective in relation to mobile phone providers.

Considering that the number and type of factors were initially unknown and with the objective of reducing the variables to a limited number of factors, we decided to use Exploratory Factor Analysis by means of Principal Component Analysis (with Varimax rotation method and Kaiser Normalisation). Gerbing and Anderson (1988) and Dunn et al. (1994) point out that a scale can be considered as unidimentional when the EFA with principal component extraction has eigenvalues (the quantity of variance explained by one factor) superior to one, and each indicator shows a factor loading of at least 0.400 on the factor which it is linked to. In this sense, these criteria were used for the definition of the number of factors in this research, that is, only those factors that presented eigenvalues greater than 1 and factor loadings greater than 0.400 were considered significant (Hair et al., 2005).

The results obtained make it possible to conclude that the perceived quality by customers can be evaluated based on the following factors: Factor 1 – Quality of the products, Factor 2 – Quality of connections, Factor 3 – Shops, Factor 4 – Coverage, and Factor 5 – Customer Service (10.163%), as can be seen in Table 2.

In all the factors defined, the variables presented factor loadings greater than 0.436. Moreover, the h^2 factors are the items in common and show the variance percentage observed according to each indicator, and the *eigenvalues* corresponds to the separation of data variance according to each factor. Furthermore, the variance explained is the variance percentage of each factor, meaning that the total variance was 65.215% of the total of variations of response encountered, which means that 34.785% of the variations are not explained by the model.

Netemeyer et al. (2003) point out that the evaluation of the internal variables is one of the most popular ways of evaluating the reliability of the scale. According to Nunnaly and Bernstein (1994) and Malhotra (2001), the internal consistence can be evaluated by means of Cronbach´s Alpha Coefficient (α), which shows the variation percentage of the measurements that are free from random errors. Cronbach's Alpha Coefficient can be considered adequate when values are superior to 0.800. However, values superior to 0.600 are acceptable for scales in development, such as those used in this study (Malhotra, 2001). In this research, all alphas discovered by means of the analysis of the internal consistency were bigger than 0.716, demonstrating a satisfactory internal consistency.

According to Latif (1994), in order to determine if the application of the factor analysis is adequate for a set of data, it becomes necessary to know if the correlation that exists between the variables is significant, thus making it possible that the factors represent a great part of the variability of the data. For such, Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) measurement of the adequacy of the sampling should be applied. The closer to zero (0.000) the level of significance of Bartlett's Test of Sphericity, the greater the adequacy of the factor analysis for a set of data. In the KMO measurement of the adequacy of the sampling, values greater than 0.600 indicate that the factors explain the variability of the data well. Furthermore, it is expected that the factorial solution is able to explain at least 60% of the total variation of the data, which shows that the data reduction can explain a considerable part of the variation (Hair et al., 2005). It is also convenient to check the magnitude of the items in common, taking in

consideration that the Factor Analysis is capable of explaining at least 40% of the difference in data (Dunn et al., 1994).

Table 2   Factor analysis of the attributes of the mobile phone service providers

Factors	Indicators	FL[1]	h[2]	E[3]	EV[4] (%)	CA[5]
Quality of products	Best on the market	0.886	0.825			
	Best coverage	0.838	0.752	3.062	16.118	0.886
	Best technology	0.838	0.738			
	Has more shops	0.799	0.685			
Quality of connections	Easy to receive calls	0.866	0.781			
	Easy to make calls	0.857	0.783	2.687	14.140	0.824
	Quality of connections	0.749	0.633			
Shops	Shops: comfortable	0.855	0.760			
	Shops: good location	0.799	0.681	2.380	12.525	0.753
	Shops: ample parking	0.726	0.631			
	Shops: pleasing appearance	0.537	0.405			
Coverage	Coverage (Belo Horizonte)	0.436	0.625			
	Coverage (Other states)	0.818	0.702	2.308	12.148	0.806
	Coverage (Highways)	0.816	0.741			
	Coverage (Minas Gerais)	0.784	0.692			
Customer service	Quality of customer service	0.764	0.603			
	Fast service	0.748	0.697	1.954	10.284	0.716
	Friendly service	0.766	0.728			

[1]Factor Loadings (FL).

[2]Communalities (h^2).

[3]Eigenvalues (E).

[4]Explained Variance (EV).

[5]Cronbach's Alpha (CA).

Observations: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalisation. Rotation converged in 6 iterations. All factor loadings were significant (>0.400).

    Source: Research data

The results of this research show that the Bartlett's Sphericity Test produced a result of 3509.992, having a level of significance of 0.000 and the KMO measurement of 0.840, and all the communalities were bigger than 0.400, indicating that the Factor analysis was adequate for the data of the present research.

However, the existence of statistically significant differences in perceived quality by customers of the providers that were studied with relation to the quality of the products, connections, and coverage (Table 3) was shown.

Table 3 Analysis of variance of perceived quality by customers in relation to the mobile phone service providers

Factors	Source of variation	Sum of squares	DF	Mean square	F	Sig.
Quality of products	Between groups	10.897	2	5.449	5.56	0.004
	Within groups	422.103	431	0.979		
	Total	433	433			
Quality of connections	Between groups	14.048	2	7.024	7.23	0.001
	Within groups	418.952	431	0.972		
	Total	433	433			
Shops	Between groups	0.597	2	0.299	0.3	0.743
	Within groups	432.403	431	1.003		
	Total	433	433			
Coverage	Between groups	14.966	2	7.483	7.72	0.001
	Within groups	418.034	431	0.97		
	Total	433	433			
Customer service	Between groups	2.609	2	1.304	1.31	0.272
	Within groups	430.391	431	0.999		
	Total	433	433			

Source: Research data

The differences verified in Table 3 are justified by the fact that Alpha Company was much better evaluated by customers with regard to the quality of the products, quality of connections, and the coverage than the other companies studied were (Beta and Gamma).

The second objective to be mentioned was that of verifying customer satisfaction with the services provided by the mobile phone providers. The results obtained in the research make it possible to state that, in general, customers appear to be satisfied with the companies (Figure 2).

Figure 2 Customer satisfaction in relation to mobile phone providers
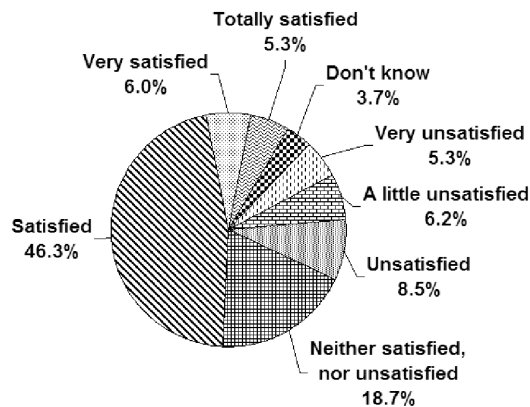
Source: Research data

Nevertheless, statistically significant differences in the opinions of those interviewed regarding the providers studied were demonstrated, as can be seen in Table 4.

Table 4   Analysis of variance of customer satisfaction in relation to mobile phone providers

Source of variation	Sum of squares	DF	Mean square	F test	Sig.
Between groups	3.334	2	15.667	6.331	*0.002*
Within groups	1066.537	431	2.475		
Total	1097.871	433			

Source: Research data

The differences verified in Table 4 are justified by the fact that the customers of Alpha Company are more satisfied than those of the other companies studied (Beta and Gamma), as Table 5 shows.

Table 5   Customer satisfaction in relation to mobile phone providers

| Providers	Don't know (%)	Very unsat. (%)	A little unsat. (%)	Unsat. (%)	Neutral (%)	Satisfied (%)	Very satisfied (%)	Totally satisfied (%)
Alpha	3.2	3.2	4.1	6.9	18.4	49.4	7.4	7.4
Beta	4.6	5.6	8.3	8.3	15.7	49.1	6.5	1.9
Gamma	3.7	9.2	8.3	11.9	21.9	37.6	2.8	4.6

Source: Research data

Thus, while 64.2% of Alpha Company's customers declared a level of satisfaction equal to or higher than 'satisfied', 57.5% of Beta Company's customers and 45.0% of Gamma Company's customers indicated such levels of satisfaction. On the other hand, while 14.2% of Alpha Company's customers declared a level of satisfaction equal to or lower than 'unsatisfied', 22.2% of Beta Company's customers and 29.4% of Gamma Company's customers presented such levels of low satisfaction.

The third objective to be mentioned was that of evaluating the propensity to customer loyalty with regard to mobile phone providers. The results obtained in the research make it possible to affirm that 47.2% of the customers would choose the same provider again if they were to purchase a new mobile phone service (Figure 3). However, 23.3% of those interviewed claim that they would opt for a different company, and 19.8% responded that they do not know if they would choose the service which they currently have. Such a situation demonstrates an unsatisfactory tendency to loyalty.

No statistical differences were found in relation to the propensity to customer loyalty among the mobile phone providers studied (Table 6).

Nevertheless, the existence of correlations between perceived quality of the factors by the customers and their satisfaction and propensity to loyalty with respect to the provider was verified. This is because the customers who more positively evaluated the quality of the products, the quality of connections, the shops, coverage, and customer service, had a tendency to be more satisfied than those who negatively evaluated the same factors (Table 7).

Figure 3 Propensity to customer loyalty in relation to mobile phone providers
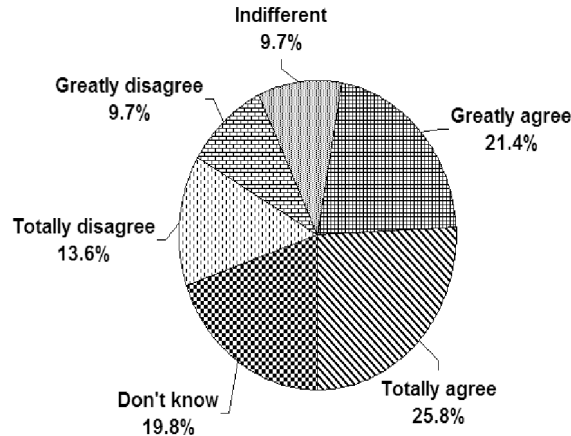
Source: Research data

Table 6 Analysis of variance of the propensity to customer loyalty in relation to mobile phone providers

Source of variation	Sum of squares	DF	Mean square	F Test	Sig.
Between groups	16.048	2	8.024	2.226	*0.109*
Within groups	1553.447	431	3.604		
Total	1569.495	433			

Source: Research data

Table 7 Correlations between perceived quality by customers and their attitudes with respect to the mobile phone providers

	Perceived quality factors				
Attitudes	*Quality of products*	*Quality of connections*	*Stores*	*Coverage*	*Customer service*
General satisfaction	0.140(**)	0.459(**)	0.118(*)	0.254(**)	0.228(**)
Would choose the same provider	0.265(**)	0.222(**)	0.321(**)	ns	0.236(**)
Recommend the provider to people	0.226(**)	0.221(**)	0.198(**)	ns	0.176(**)
Intend to change providers	ns	–0.229(**)	ns	ns	–0.120(*)

*Statistically significant correlations to 5%.
**Statistically significant correlations to 1%.
ns: Not statistically significant correlations.

Source: Research data

The customers who more positively evaluated the quality of products, the quality of connections, the shops, coverage, and customer service, had a greater tendency to choose the same provider and to recommend the provider that they use to their family and friends than those who negatively evaluated the same factors.

On the other hand, the perception of the quality of connections and of customer service negatively affects the desire to switch providers. This is because the customers who more positively evaluated the same factors tend to have a lesser desire to switch providers than those who more negatively evaluated the same factors.

5   Conclusions, limitations and suggestions for future research

The information obtained in this research makes it possible to conclude that perceived quality in customers with respect to the providers of mobile phone service can be evaluated based on the following factors: quality of the products, quality of connections, shops, coverage, and customer service. Among these factors, it was seen that there are statistically significant differences between perceived quality by the customers with respect to the quality of the products, the quality of connections, and coverage. This is because Alpha provider was more positively evaluated by customers than were the other companies studied (Beta and Gamma) on the same items.

It can be further concluded, in general, that the customers appear to be satisfied with their providers. Nevertheless, it was shown that the customers of Alpha are more satisfied than those who use the services of either Beta or Gamma.

In spite of the fact that approximately half of those interviewed claimed that they would choose the same provider whose services they currently use, if they were to purchase mobile phone service again a great portion would opt for another company, or claimed not to know if they would in fact choose the same company. This seems to indicate that, although a large part of the customers appear to be satisfied with their respective providers, there is a low propensity to loyalty. It is believed that customer loyalty in this segment presents other determining factors that should be more fully studied in future research.

Yet, it can be concluded that as the customers' perception of the quality of the products and services offered by the providers increases, there is a greater likelihood that they are more satisfied, that they are more likely to remain as clients, that they would be more likely to recommend the providers that they currently use, and that they would have a lesser desire to switch providers.

The main limitation of this research pertains to the non-probabilistic character of the method of sampling used (snowball). In addition, the sample drawn is from only one city in Brazil (Belo Horizonte, Minas Gerais). Thus, the results obtained can not be generalised for the larger population. It is suggested, therefore, that more research be carried out using random sampling and involve other cities of the country.

Another limitation of this study is that the analysis relies on cross-sectional data, that is, the data were collected at one point in time, thereby capturing a momentary situation, which might change over time.

Although not a specific object of this research, the in-depth interviews carried out with specialists in mobile phone service and the focus group with customers did make it possible to investigate indications that perceived quality and satisfaction can contribute to such factors as customers having regrets or second-thoughts about the purchase, nonpayment of bills, loss of clients, and word-of-mouth (negative and positive). Also, the image that customers have of the providers, as well as expectations regarding the products and services offered, can apparently affect customers' attitudes. In this sense, it is recommended that such variables should be included in future studies. Moreover,

it is suggested that the methodology of measurement of the constructs of perceived quality, satisfaction, and loyalty should be reevaluated in future research.

It is believed that comparative studies involving other providers in the country could contribute to a wider vision regarding the existing relations between the attributes of the products and services offered and their relation with consumer behaviour.

Finally, the increase in the sophistication of mobile technology devices and the fast growth of services provided through multiple channels create new ways to deliver services, generating new challenges for mobile phone service providers. For this reason, they must identify the needs and desires of customers and then be able to translate this information into attributes and practices that continually improve the quality of the services offered in different levels. Consequently, it is recommended that mobile phone service providers establish a system of continuous monitoring of the factors that affect the attitudes and behavioural intentions of customers (image, expectations, perceived quality, satisfaction, regrets or second thoughts, non-payment, client loss, word-of-mouth, and loyalty). Such a system should be able to provide a sound basis for the construction and implementation of strategies capable of improving competitiveness.

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