

**011-0261**

**Studying the service profit chain in the technical assistance environment**

**Frederico Barbosa** (fredericobarbosa10@hotmail.com)

**Rodrigo Leone** (rleone@ibmecrj.br)

**Tereza de Souza** (terezasouza@unp.br)

**Kleber Cavalcanti Nóbrega** (klebercn@unp.br)

Universidade Potiguar

Av. Floriano Peixoto, 295 / Petrópolis – Natal – RN / Brazil

CEP 59.012-500 / Tel (84) 3215.1137

**POMS 20<sup>th</sup> Annual Conference**

**Orlando, Florida U.S.A.**

**May 1 to May 4, 2009**

**Abstract**

One of the strongest relationships between the elements of Heskett, Sasser and Schlesinger's service profit chain is verified between employee satisfaction and client's satisfaction. This paper reports the results of an exploratory study on the Brazilian operation of a world-wide leader of elevator technical assistance, in which the relationship between these two elements and their influence on the client retention rate was evaluated. The research data were treated with statistical discriminant and cluster analysis. The findings identified the relationship between employee and client satisfaction in 25 of the 27 business units studied. On the other hand, the factor that largely influences the client retention rate in this business environment is client satisfaction, while employee satisfaction is almost null. The results have important academic and managerial implications, given the limited amount of studies in this area and draws actions for the business success.

Key words : service profit chain; service quality; service management; technical assistance

## **1. Introduction**

Services are part of citizen's life all around the planet, every day. The businesses with services keep on growing in the entire world and each day there are bigger market for services. The significant sector growth and the consequent economic contributions focused attention on the subject. Competition is not, however, a particularity of service companies neither of the service sector. All organizations compete in some degree based on services. It is almost impossible to relate, even a manufacturing industry, in which services issues are not important (Zeithaml, 2003; Fitzsimmons, 2005, Grönroos, 1995).

The high competitiveness generated by the great amount of new products with technologies and very similar prices, forced the companies to search competitive and different ways in which marketing, exclusively of transaction, started to give space to the relationship marketing. This, in turn, bases itself on the relationship created by the service delivered to customers. The majority of services are characterized by a meeting between a service provider and a customer, what is called "moment of the truth" or "service encounter", and the majority of companies invest good part of its energies so that the result of these encounters are made as good as possible. Therefore, customers will consider the possibility to return to make business with the company (Fitzsimmons, 2005).

Growth and profitability are between the main objectives of any business and, as the purpose of the relationship marketing is construction and maintenance of a base of engaged and income-producing customers, each time more efforts are canalized to the understanding of customer management as an asset for the organizations.

Investments on relationship and search of customer's satisfaction are justified by points that signalize a strong relationship between customer retention and high satisfaction levels. The high satisfaction level not only allows to hold them back, but, also, to stimulate

them to consume more, to charge prices higher and to stimulate the indications. The process of customer's retention starts at the first contact with the organization and it lasts the whole period of relationship.

Growth and profits are not achieved only with focus on customers. It is crucial that a company also focuses employees, especially front office staff (Zeithaml, 2003; Heskett *et al.*, 2002). It is important to observe, inside company operational strategy, elements as a good politics of recognition and rewards, good structure of the workstation and adjusted tools to take care of customers needs. These elements consequently provide a better environment and greater satisfaction to these employees. Internal elements (qualification, satisfaction, loyalty and employees productivity) and external (satisfaction and customers loyalty) of this chain, form the links of this model and result from several research studies, conducted in companies of different segments by Harvard's professors Heskett, Schlesinger and Sasser. Among the service profit chain strongest relations, the authors identify: 1) profit x customer's loyalty; 2) employee's loyalty x customer's loyalty; and 3) employee's satisfaction x customer's satisfaction (Heskett *et al.*, 2002).

Studies about the relationship between the chain elements are recurrent in international journals and specialized magazines publications like Aksoy *et al.*, 2006; Gelade and Young, 2005; Yingzi, 2005, Kassinis and Soteriou, 2003. The present study differs from those, on the studied sector and for the followed aiming. This study intended to evaluate the relationship between employee's satisfaction and customer's satisfaction , verifying its impact on customer retention rate and it was conducted in the Brazilian operation of a world-wide leader in technical assistance, which operates in national scope with its twenty seven business units situated over the country.

In Brazil, the technical assistance environment in which the studied company operates is very pulverized, inciting competition, compelling the organizations in the segment to be as well as possible synchronized with customers' demands, as well as their fulfillment. This way, many resources have been canalized to technology to build good, financial and marketing information systems, and also, adequate politics of people management, intending not only to hold back the current customer portfolio, but also, to conquer new customers.

Studies show that, for each 5% of increase in the retention rate, profits increase about 25% to 85% (Heskett *et al.*, 2002). Thus, in a competitive technical assistance market where the studied company operates, is crucial maintaining the current customers portfolio.

According to Grönroos (2003), to conquer a new customer costs about five to six times more than maintaining an existing one. With this premise in mind, this academic study aims to develop a critical sense about the theoretical issues, as well as to evaluate one of the strongest relationships of a world-wide accepted and used model, about which it has little existence of studies of this relationship with impact in the customer's retention rate in a service company of technical assistance.

## **2. The Theoretical theme background**

### **2.1 Services**

The complexity of services starts with its conceptualization. For authors as Kotler (1998), Grönroos (1995), Horovitz (1993), manufacturing industry is, essentially, transformation of raw materials into finished products. Any other activities, as for example, the treatment of information or the knowledge management are considered services.

In general, amongst the definitions found in literature, some common words can be extracted: experiences, interactions, activities, action, processes, intangibilities, performance, customer, etc., which drives to characteristics that are part of services nature and that they are directly linked to the elements of service profit chain.

Many authors as Grönroos (1995), Vavra (1993), Hoffman (2001), Gianesi and Corrêa (1996), differentiate goods and services and its corresponding implications. For this, they try to describe its specific characteristics which were linked to the elements of the service profit chain:

- The services are intangible by nature. Technical assistance services, for example, cannot be seen or touched until they are done. The results are only known after the completion of the service. The central link of the service profit chain deals with the value of the services delivered to customers, which, in order to reach good results, demands themselves, according to the model, an adequate support systems that will result in faithful, capable and satisfied employees that leads to productivity and quality in its production.
- It is almost impossible to separate the influence of customers or the people that is providing service on service results. Related to the inseparability of services, the model stands out the adequate hiring system as an important factor to reach high performance services. In this occasion, with accurate criteria of selection, it can be observed the interpersonal skills that will be necessary for the future employees to attend company's needs. Accurate staff selection and training are important elements of what the model flame of capacity cycle which helps the employees to interact with customers achieving successful result.
- The heterogeneity of services reflects the variability that is inherent to the process of services rendering, depending on who executes them. The service profit chain model

defines that the organizations can decide on offering great value to the customers opting to methods that restrict the front line staff freedom of action, like Mc Donald's standardization of the balcony workers, in order to reduce the variability.

- The impossibility of being stored and sold in a posterior date turns perishable characteristic an important one for the operational strategy and the system of services operations. Structure of the workstation and hiring and development, reward and recognition systems are among the basic points of the service profit chain model so that it can deliver valuable services.

As Grönroos (1995) and Lovelock (2001) put, services can be classified in several types. The importance of the classification justifies, for each type of service deserves a different strategy, with specific approaches on how to manage its operations. Traditionally services are grouped by activity sector : health, hostess, transports, financials, consultant, technical assistance, etc., and these some business-oriented segments had been object of studies by Heskett and others, through organizations as Nordstrom, American Express, The Ritz-Carlton, that had proved the existence of the service profit chain on site.

The organizations, with its investments to improve its actions to conquer the loyalty and to extend the gamma of customers, try to search new relationships with its partners and to extend it to clients, transforming relationship into one of its most important goods and, consequently, giving an impulse to the development of an area inside marketing, known as relationship marketing .

## **2.2. Relationship Marketing**

In the industry, the concept of partnerships by long term contacts has been used, although the terminology of relationship marketing in services sector appeared with

Leonard Berry in 1983. For the author, relationship marketing is like the attraction, the maintenance and - in multi-services organizations - the distinction of relationships with customers (Berry, 1983). It is the type of action that integrates the customer to the company to create and to keep long term period of a relationship that leads to faithful customers.

Some authors define relationship marketing only as relations of long term between purchaser and salesman (Vavra, 1993, Berry, 2001, Levitt, 1985). Different authors as McKenna (1998) and Kotler (1998) in an ampler context, state that the company forms the relationship marketing and all the interested actors who support it and are part of its vital chain are the consumers, suppliers, deliverers, retailers and others that constitutes income-producing commercial relationships mutually. For Kotler and Armstrong (2003), relationship marketing creates, keeps and accents solid relationships with the customers and other public. According to McDonald (2001), quality, attendance to the customer and marketing are highly related issues, but frequently managed separately. What makes these elements more integrated is a focused on the relationship marketing strategy .

Relationship marketing is the use of an ample gamma of marketing approaches, sales, communication, service and , in order to identify the individual customers of a company, to create a lasting and advantageous relationship between the company and its customers, and to manage this relationship benefiting customers and the own company (Stone, 2001). It can also be said that relationship marketing deals with a set of action that the company and the employees carry through, guided for a fidelity program, with the objective to conquer and to keep the consumer affection and confidence, receiving, in exchange, for a period of the possible longest time, the customer preference (McKenna, 1998). According to author, marketing today has the mission to integrate the customer to

the elaboration of the product and to develop a systematic process of interaction, bringing firmness and longevity to the relation.

Marketing relationship experts had identified some factors that contribute to the growth of importance and development of this new orientation of the marketing, such as: increasing and global nature of competition, more demanding and sophisticated consumers, intense fragmentation of the consuming market, speed in the changes of consumer standards, constant growth of the requirement quality levels, inadequacies of the concept that the quality by itself creates sustainable competitive advantage, influence of the technology in the products and services and the decline of effectiveness global advertising (Bowman; Narayandas, 2004).

With the natural markets and consumers evolution, related to its critical sense and more protected by the specific legislation that regulates the relationships between supplier and customer, the organizations had acquired knowledge that the service and product quality is a basic competition requisite. The quality of the relationship lights up as the differentiation factor and the most appropriate measure of the organization success (Peppers; Rogers, 1997).

Marketing relationship has as main area of concentration, the attendance, because it recognizes in it the strength to hold back the customers. This intention to hold back the customers is what it differentiates it of the traditional marketing, that tends to direct its action for conquest of new customers.

An organization of the service sector that chooses relationship marketing is oriented to long terms results. Grönroos (1995) affirms that, even that the attainment of new customers is still important, the main strategic interest of relationship marketing is to

concentrate in the existing customers, focusing on maintenance and improvement of these relationships.

### **2.3. The Service-Profit Chain**

The observations and a set of relations established by James Heskett in the middle of 1980 resulted on what was known as services strategic vision. This was the embryo of what later would be called “Service Profit Chain”, developed together with contributions of Earl Sasser in his profitability and fidelity studies, and Leonard Schlessinger in his experiments at the coffee-bakery French chain Au Bon Pain (Heskett *et al.*, 2002). The article “Putting the Service Profit Chain to work” was published for the first time in 1994 in Harvard Business Review. The authors suggested that, as much as the customers, front line employees would have to be placed in the center of the attentions of the company, if this company desired to succeed in a service economy. The model stands that satisfied employees tend to deliver services with higher added value to customers, what, in turn, tends to make them satisfied and faithful, keeping them in the company, impacting positively in company’s growth, and increasing its profitability. This model became, since then, part of the strategic orientations of many corporations around the world, gaining prominence and importance in Brazil, amongst other reasons, for having strong indications that it is much more advantageous to keep the current customers instead of attracting new ones.

The maintenance, or retention of customers, can be defined as the commitment of the consumer to make businesses with the same company on a regular basis. This brings a series of benefits as the satisfaction and retention of the employees, better services, lower costs, word of mouth advertising (Maritz; Nieman, 2008). Faithful customers are much

more inclined to buy more through different channels as telephones, websites, and to consume more. In turn, the employee's fidelity increases productivity, what adds value to the delivered service, impacting on growth and company's profits.

Some basic considerations from the elements of the chain relationships (Heskett *et al.*, 2002) :

- customer loyalty causes increase of growth and profit. 5% of increase in the fidelity of the customer can increment the profits about 25% to 85%.
- customer satisfaction induces fidelity. Xerox discovered that their very satisfied customers had six times more intention to repurchase company's goods than mere satisfied ones.
- aggregate value to services induces to customers' satisfaction. The effort of an insurance company to deliver the maximum value includes to train a team to supply special services like offer onsite services even in catastrophes. The company has one of the highest margins in industry.
- employees productivity aggregate value to the services. Southwest Airlines has the fastest land service of the industry. The pilots fly more 20 hours a month in comparison with the competition. The tariffs remain low while the value of the services keeps high.
- employee fidelity induces to productivity. The cost of substitution of a salesman of automobiles who on average has 8 years of experience for another with less of one year represents \$ 432,000 in sales lost.
- employee satisfaction leads to fidelity. A recent study in a company, 30% of all the unsatisfied employees had expressed their intention to leave, in

comparison with 10% of all the satisfied employees. Moreover, low rotation rate has direct relation with customer satisfaction.

- adequate support system leads to customer satisfaction. Services employees are happier when they have “room” to carry through their customer’s needs and when they have authority to take action.

### **3. Research methodology**

#### **3.1 Data collection**

The data used for the accomplishment of the present study are secondary, once they had been collected in a research carried out by the company in 2007, with customers and employees, as follows:

For the research of customers satisfaction, the company sent by direct mail, with freight prepaid for posterior devolution, a total of 9.010 envelopes with questionnaires, that corresponded to 50% of the customers of each one of the 27 business units in Brazil. This amount is established by the world-wide procedure of the company, which annually researches half of its customers and in subsequent year, the other half. A sum of 1.045 questionnaires were received and validated, corresponding to 11.60% of the total sent, what may be considered, for the standards of the conducted type of research, an outstanding return rate . The questionnaires presented scale of satisfaction of 1 (completely unsatisfied) to 6 (completely satisfied), without average scale, to force the positioning of the customers, who could only choose one of the six alternatives for each question. The average of notes

was calculated,  $\overline{x_j}$ , for each one of the respondent customers, and the final note,  $\overline{X_i}$ , for each one of the 27 units of business  $i$ , it was gotten by the formula as follows:

$$\overline{X_i} = \frac{\sum_{j=1}^{N_i} \overline{x_j}}{N_i},$$

where  $N_i$  is the number of customers of the business unit  $i$ . It was calculated the average of the average notes for the customers belonging to the same business unit. This average was identified as the note for the satisfaction of the customers in the respective branch offices and was limited to the interval [1; 6].

For the employees satisfaction research, the company sent by internal mail, addressing 100% of the employees, the total of 1.287 envelopes with the questionnaires, for each one of the 27 business units. On a pre-scheduled day, the answered envelopes were stamped and deposited in a sealed up ballot box, with access allowed only to the company contracted and responsible for the research process, guaranteeing entire confidentiality to the employees. 1.081 envelopes had been returned, corresponding to 84% of the applied questionnaires. The questionnaires contained scale of 5 (five) points, starting from very unsatisfied to very satisfied, passing for a neutrality point. The average note for each one of the participant employees, in each one of the business units, was the criteria of classification for elaboration of a relative frequencies distribution in the five class of satisfaction. The level of the employees satisfaction of one given business unit was identified as the sum of the relative frequencies of the classes “satisfied” and “very satisfied” and was limited to the interval [0%; 100%].

The questionnaires applied to the customers and employees had been analyzed to verify its tack to the model of the service profit chain. The elements of the chain had been listed and each question of the questionnaire was referenced with the respective strategic orientation established by the model. All the elements of the chain were linked and the results allowed to conclude that all the questions had demonstrated to have strong relation with the model, allowing to use the results of the research for the purpose considered for the study.

In addition to the two variable gotten directly from the research, a new variable was created to measure the customer retention rate in order to obtain necessary quantitative information for the evaluation of the service profit chain model. This variable is the result of the subtraction

$$100\% - \text{cancellation rate}$$

where the cancellation rate , obtained from the annual report, is equal to the total of the units cancelled during the year divided by the total number of the portfolio units in the beginning of the period for each one of the 27 business units.

On the possession of these three variables , the software SPSS 12.0 was used to proceed the clusters and the discriminant analysis, in the attempt to find groups of business units that could facilitate our work to identify and interpret the results of the model in cluster analysis.

The levels of customer satisfaction, employees satisfaction and the retention rate had formed the collection of data that disclosed the natural grouping of observations. A hierarchic method was used which defined, beforehand, from three to five interval for the numbers of the desired clusters. Amongst the results, it was chosen the one that presented easier interpretation and allowed a bigger progress related to the categorization and the

separation, in this case, four clusters, reached with the increase of the number of clusters that was chosen. Moreover, two new variables had been created: “Cluster”, indicating the final cluster where the observation was found and another one, called “Retention”, indicating if it had or not retention of the customer. To the observations with positive score-Z in the variable “retention rate”, was attributed “yes” for the retention, whereas for the observations with negative score-Z, was attributed “not”.

The “Cluster” variable, when identifying the business units that belongs to each one of the four clusters, it allowed to know in which of these units the relation in test was not validated. For each one of them, the procedure was to contact the manager of the business unit for an interview on the possible causes of not matching the relation.

The “Retention” variable allowed the calculation of the discriminant functions for the prediction, controlled and prevention of the retention of customers based on the values obtained for the standardized levels of satisfaction of the customers and employees.

## **4. . Statistical Analyses**

### **4.1 Discriminant analyses**

Identified the business units where it had and those where it did not have retention - YES and NOT to the variable “Retention”, respectively , it was calculated the linear discriminants functions of Fisher, used to predict the classification of this variable on the basis of the values collected for the standardized variable “customers satisfaction” and “employees satisfaction”. The tests Box' s M (0,764) and Lambda of Wilks (0,905) had disclosed that the obtained functions significantly discriminate the average of the groupings of the variable “Retention”. The results most relevant are presented as follow in table form:

In table 3, its understood that the discriminant function suffers greater influence from the perspective of the customers satisfaction level, confirmed by the coefficients of the discriminant functions of Fisher in table 4. The employees satisfaction in its turn has almost null influence for the discrimination. That is, it tends to present less impact in the retention rate than customers satisfaction. This situation was perceived in the analysis of clusters, more specifically in clusters 2 and 3 that it is presented more ahead.

**Table 3 - Standardized coefficients of the discriminant function**

VARIABLE	RETENTION
Customers satisfaction	0,984
Employees satisfaction	-0,143

**Table 4 - Coefficients of Fisher's discriminant linear functions.**

VARIABLE	RETENTION	
	NOT	YES
Customers satisfaction	-0,329	0,305
Employees satisfaction	0,046	-0,042
(Constant)	-0,746	-0,738

The values of table 5 shows that 70.4% of the original grouping were correctly classified.

**Table 5 - Frequency of rightness in predictions - 70.4% of the original grouping correctly classified**

		MEMBERS OF THE PREDICTED GROUP			TOTAL
		RETENTION	NOT	YES	
ORIGINAL	COUNTING	NOT	10	3	13
		YES	5	9	14
	%	NOT	76,9	23,1	100,0
		YES	35,7	64,3	100,0

This result motivated the cluster analysis, presented as follows.

#### 4.2 Cluster analyses

The scheme of agglomeration and the dendogram, supplied as output of the program SPSS, allied to the concern with the easiness of interpretation, had disclosed the ideal number of four clusters for the initial collection of business units. Table 6 presents the frequencies for each one of these clusters:

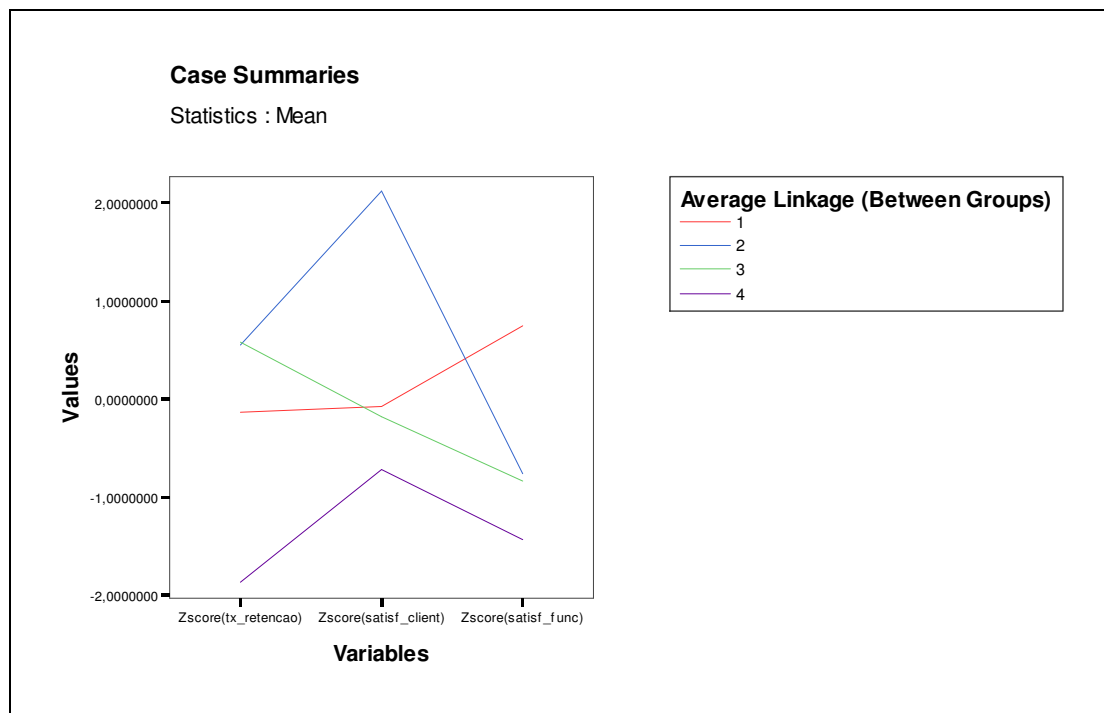
**Table 6 – Clusters absolute and relative frequencies**

Clusters	Frequency	Percentage	Cumulative percentage
1	15	55,6	55,6
2	2	7,4	63,0
3	8	29,6	92,6
4	2	7,4	100,0
Total	27	100,0	

Table 7 presents the averages for the standardized variable for Score- Z and its graphical representation is in the graph 1.

**Table 7 – Clusters average of score-Z in each issue studied**

Clusters	Score- Z		
	Retention rate	Customers Satisfaction	Employees Satisfaction
1	-0,1316714	-0,0840408	0,7428208
2	0,5466363	2,1060384	-0,7675815
3	0,5765780	-0,1884647	-0,8418635
4	-1,8654130	-0,7218732	-1,4361201
Total	0,0000000	0,0000000	0,0000000

**Graph 1: Clusters average score-Z in each studied issue**

For better interpretation of the clusters it was established in table 8, categories of intensity varying from “very low” to “very high”, that refers to the standardized values of the variables in study, as follows:

**Table 8 - Definition of the categories for clusters Scores Z average**

Categories	Score- Z
Very high	More than 1,25
High	from 0,70 to 1,25
High average	from 0,15 to 0,70
Average	from -0,15 to 0,15
Low average	from -0,70 to -0,15
Low	from -1,25 to -0,70
Very low	Less than -1,25

in which it placed each one of the variables of each one of the clusters, getting what is presented in table 9:

**Table 9 – Variable classification**

: Clusters	Retention rate	Customers satisfaction	Employees satisfaction
1	Average	Average	High
2	High average	Very high	Low
3	High average	Low average	Low
4	Very low	Low	Very low

This strategy allowed the following interpretation and analysis.

In table 6 it is observed the frequency of the number of business units by clusters, that shows for the cluster 1, group of fifteen business units presenting, according to categorization of the values demonstrated in table 8, an average classification for retention rate, average for customers satisfaction and high for employees satisfaction, while the cluster 4, grouping two business units presents opposite result. Nevertheless, consistent with the model, presenting very low retention rate, low customers satisfaction and very low employees satisfaction. Both clusters, 1 and 4, representing 63% of the analyzed business

units, confirm the model regarding the validity of the relation proposed by the study between employees satisfaction of and customers satisfaction impacting in the retention rate that, according to Heskett et al. (2002), it is about one of the strongest relations of the service profit chain model.

Regarding the cluster 4, this analysis made possible the identification of the business units with minor degree of alignment to the model, resulting in immediate action of the company's regional management that sent task force to the localities.

In the same line of research, the studies of Yingzi et al., (2005) in the Chinese insurance sector and Lau, (2000), that explored the relationship between profitability and quality of life at work with data of 28 American service companies, confirm the results obtained in the present study referring to clusters 1 and 4, that, even having focused on profitability and not the retention rate, confirmed the existence of the relation between customers and employees satisfaction .

On the other hand, Keiningham, T.L. et al. (2006) had explored the relationship between employees satisfaction and its profitability in studies on a major European supermarket chain and had found results that differs significantly of the exploratory studies lead by Heskett et al.(2002), finding no relationship between satisfaction of employees and the profitability of the company.

Diverging of the results of the present study, regarding the clusters 1 and 4, that confirmed the relationship between customers satisfaction and employees satisfaction, Silvestro, R. et al. (2000) had not confirmed this relationship in a simultaneous exploratory study of the relations between all service profit chain elements, inside a major supermarket chain in England. In fact, they found significant negative correlations.

Gelade and Young (2005), in similar study in the banking retail sector in England, had found a small relation not very significant between customers satisfaction and employees satisfaction with impact in businesses performance.

Cluster 2 representing 7.4% of the researched units presents a situation in which a very high customers satisfaction indicates relation with the retention rate that presents “average high”, what it allows to confirm the partial validity of the model since very satisfied customers tend to remain carrying through businesses with the same company Heskett et al. (2002); Reichheld (1996). It was not confirmed, however, the relationship between employees satisfaction and customers satisfaction.

The non confirmation of the relationship between the elements customers satisfaction and employees satisfaction in cluster 2, was portrayed in the study carried by Silvestro, R. et al. (2000), in which, they had not found relationship between employees and customers satisfaction. In fact, the correlation was negative, also placing in question a central premise of the chain: the “satisfaction mirror”, that in a few words, confirms the intense closeness of measures regarding clients satisfaction and employees satisfaction, so intense that the studies carried by Heskett, J. et al. (2002, p.112), in major services organizations between 1990 and 1995 state that, “in the lack of referring data for customers satisfaction or the employees, one can be projected in function of the other”. In the present study, this premise of the service profit chain also does not seem to exist for cluster 2.

To explain the situation found on cluster 2, an interview was conducted with the managers of the two business units, and they had declared as a main factor, the structural and processes changes occurred in the organization during the year 2007. These changes had modified hierarchic levels, operational processes, including people reducing, generating anxiety and disappointment, and, because of this, it reflected in the research.

Also it contributed the fact of that these two businesses units of are the ones that had the largest number of old employees of the company, as a whole.

Still in cluster 2, the managers explained the fact for which the dissatisfaction of the employees had not motivated change in the customers satisfaction levels raising the question that it seems to be more important for the customers of the business, the price paid for the contract and the promptness that the technicians arrives at site and solves the problem, aspects of the service that not necessarily demands a contact face to face with the customer.

Cluster 3 that groups eight business units, representing 29,6% of the analyzed total, in the same line of interpretation, partially confirms the model as for the employees satisfaction and customers satisfaction . For these elements, it does exist direct relation, low and very low respectively (Heskett et al., 2002). The same, not occurring with the retention rate that did not suffer impact with the result from this relation, keeping on average high.

Cluster 3 still presents, a similar situation to the one of cluster 2 regarding the dissatisfaction of employees (low) and the retention rate (average high). This result confirms the discriminant analysis where the function “retention” does not suffer influence from the employees satisfaction. The perspective of the customers satisfaction level is the variable that has more influence on the retention rate.

The difference between these two clusters is on the customers satisfaction rate, that in cluster 3 presents average low, whereas, in the cluster 2, very high. Important fact to observe, verified in graph 1, the cluster 3 points out the fall in the customers satisfaction rate that not yet influenced the retention rate, as Reichheld (1996), Zeithaml (2003), McKenna (1992) points out, unsatisfied customer tends to look new sources of supply. It can be declared for this situation that, the absence of action to discover the root cause of the

problem, could develop a process of contract cancellations, coming from the dissatisfaction of the customers, that would harm the level of retention rate, the profitability and the growth of these business units.

To explain the situation of cluster 3, the eight managers of the respective business units had been interviewed and the main reason mentioned was also the reorganization of the units, resulting in low employees satisfaction rate.

In the case of the two business units of cluster 2, and the eight business units of cluster 3, the board of the company decided to send a human resources representative to apply an intermediate research with all the employees in order to verify other possible causes of this dissatisfaction, not identified in the previous research. Amongst the factors to be observed in this new research, is the attitudes of the employees regarding the relations of ones to the others, the notion of identification of its internal customers, the level of service that they are delivering and possible suggestions of corrective actions. With the results, the directory should lead actions to revert this variable in these business units, as stated by the service-profit chain model regarding the existence of a direct relationship between the employees satisfaction and the customers satisfaction which impact the growth and profitability (Heskett, 2002).

## **5 Discussion and Conclusions**

From data analysis, it can be stated that the general objective was reached, once the study indicated the existence of relationship between customers satisfaction and employees satisfaction with impact in the retention rate in services of technical assistance environment.

Relationship between employees' satisfaction and customers' satisfaction was found in clusters 1,3 and 4, equivalent to 25 of the 27 researched business units.

This study made possible to identify the degree of alignment of the business units to the service-profit chain model, once the main objective of the method of cluster analysis is to classify business units in group relatively homogeneous based on the set of variables (satisfaction of customers, employees and customers retention rate ). Thus, the business units of a determined group are relatively similar between itself, in terms of these variables and different of the business units of other groups.

In 63% of the studied business units, results indicated the existence of relationship between employees' satisfaction and customers' satisfaction with impact in the customers retention rate, as proposed by the service-profit chain model.

In the ten remaining business units, which totalized 37%, results indicated to have partial relation in two situations. In one of them, results indicated a relationship between customers satisfaction and the retention rate, and on the other, results indicated relationship between employees satisfaction and customers satisfaction, but without impact on customers retention rate .

These results allowed the company's board of director define actions aiming the maintenance of existing customers, as well as contributed for people management department to address an intermediate research with the identified minor degree of alignment to the model business units, in order to deepen the reasons of unsatisfactory findings as the ones found at cluster 4 without its very low retention rate and very low employees dissatisfaction . Elements like the attitudes of the employees regarding the relations of ones to the others, the notion of identification of its internal customers would

be explored. One big action already taken by the board was a health care plan change in some localities which was one of the reasons of the employees dissatisfaction.

The analysis through the discriminant function identified the customers' satisfaction rate with more influence on customers retention rate. The element employees' satisfaction , for its turn, had almost null influence. This information was important because drives the priority of the actions to be taken for the company, that intensified focus on customers satisfaction. One of the actions already taken was launch a campaign to reward the business units that has a bigger retention rate. And also, incentive all the business units employees, specially the front line workers in order to gain more clients and to keep them satisfied.

On the other hand, the aspects of the research that had produced results with high levels of employees satisfaction, found in fifteen business units, equivalent to 56% of the total researched, will be carefully cultivated by the company directory, as also they will be spread for the business units that had not presented good results in the employees satisfaction rate. One of the actions already taken was to gather all the managers on a national convention where the business unit managers with best results addressed their good practices which resulted in a procedure guideline that will be put in action immediately .

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