ABSTRACT

In the competitive market of service delivery in logistics, companies seek to improve quality in services provision. This article aims to study the service quality assessment, by a case study in a logistics company, analyzing how this company measures the satisfaction of its main customers and comparing it to SERVQUAL model. For this, after a theoretical review of themes such as service features, logistics services, customer satisfaction and services quality, through exploratory techniques, mainly an author’s auto ethnography and documents content analysis the case analysis was performed. It could be showed that the model of customers satisfaction questionnaire used by the company studied was a very simplified model - it did not meet the main structural dimensions of SERVQUAL model, just measures observed perceived quality, ignoring expectations and acts in a reactional way about clients concerns and complaints. The main considerations were a lack of identification at the customer’s feedback process and the proposal of a new questionnaire model, contributing for the company’s services quality’s efficiency.
1. INTRODUCTION

Currently, the market for provision of logistics services is experiencing a phase of great disputes between various companies, because factors such as the advance of technology has made possible the growth of the number of small and medium-sized companies in the most diverse segments. Many of these segments are providing services, thus making the client's difficult mission in choosing the best company to meet their needs, in many cases, tied to the quality of service provided.

Therefore, often the choice of the customer ends up being decided by the details, in other words, the company that offers the best service captures the customer. In this context, it is clear the need for companies to be constantly improving their quality of service delivery.

According to Freitas (2005), the subject of management and quality in services is the subject of much research, being the object of numerous discussions and questions among researchers, managers and administrators. These reflections arise from the complexity of the quality concepts and from the definitions of service delivery that essentially involve intangible characteristics (Sarquis, 2009).

This article aims to study the process of evaluation of services quality in logistics services. For this, we analyse a fictitious company called DP, based on a real logistics company which provides services in logistics operations of handling and storage of bonded cargo, located in the city of Guarulhos. We will compare this company's practices on measure the satisfaction of its clients with theoretical well-known models, such as SERVQUAL model (Parasuraman; Zeithaml; Berry, 1988).

This article aims to study the evaluation of the quality of services of this logistics company, proposes a revision of the SERVQUAL model, adapted by the same one to measure the satisfaction of its main clients. Delimiting this study in the evaluation of the quality of services performed by the company is justified by the importance of the connection between quality, services and logistics.

Through the research, it was shown that the questionnaire model used by the DP company did not meet the main dimensions of the SERVQUAL model structure,
causing problems in relation to the feedback process to the clients with whom the satisfaction surveys were done, which resulted in the proposition of a new questionnaire model by this article, contributing to the improvement of the quality of services of the company object of study.

According to Gil (2010), an exploratory, bibliographic research was carried out. Through data collection, auto ethnography was used to enrich the content (Jones; Adams; Ellis, 2013 apud Motta; Barros, 2015). The procedure adopted was a case analysis, as Yin (2010) explains, which investigates a contemporary phenomenon in its context in the real world.

This article is structured in 5 more sections besides the introduction. The next section deals with the theoretical background, section 3 deals with research methods, section 4 of the case analysis and section 5 of the final thoughts, obtained through bibliographical research, and auto ethnography of the authors, used for the construction of this one.

2. THEORETICAL BACKGROUND

In this section, we present the concepts and characteristics of service, logistics services, customer satisfaction and quality of services. These topics are constituted from the considerations of Kotler and Keller (2012), Kotler (2005), Grönroos (1993) Johnston and Clark (2010), Ballou (1995), Las Casas (2009), Christopher (1997), Lovelock and Wright (2001), Iañez (2002), Maximiano (2004), Parasuraman, Zeithaml and Berry (1985, 1988), among others.

2.1. Concept of Service

For Kotler and Keller (2012), service consists of an action or performance, where one side can offer something to the other and that does not necessarily result in ownership of anything.

According to Grönroos (1993), service can be considered as an activity of a more or less intangible nature, which usually occurs during interactions between client and service employees that is provided as a solution to the customer problem(s).
According to Johnston and Clark (2010), the conceptual scope results from several authors, studies and approaches that deal this theme. A common point of all these concepts lies in perceiving services as a strategic tool.

Johnston and Clark (2010) contemplate a concept for services based on the organizational point of view. This concept provides a definition of services as the link between the objectives of the organization and the perception and satisfaction of the clients in relation to the services provided, according to figure 1:

![Figure 1: Concept of services on two perspectives](From: Johnston and Clark (2010, p. 55)).

It is worth highlighting the conceptual relationship established between Lovelock and Wright (2001) and Las Casas (2009), which indicated services as intangible goods that differentiate them from products. In this way, the final evaluation of the services is influenced according to the characteristics described below:

- **Intangibility** - even if the services include or as a result present in tangible elements, their realization will be in its basis always intangible.

- **Heterogeneity** - the difference in the provision of services between companies can be measured according to the customer service. The level of contact with customers enables the creation of a satisfactory experience for both sides. The management of their meeting is an arduous task, where the quality of care can make all the difference.
• **Variability** - having the customer in the operational process makes their control very complex because the services are being consumed at the same time they are produced.

• **Perecibility** - the quality of the service can be measured when purchased or consumed (attributes of experience), due to the absence of inventory, because it is something perishable, which is harmed to the extent that the demand is greater than the supply capacity.

Other elements highlighted by Kotler and Keller (2012), known as the 4P’s of the modern marketing administration, are also of great relevance to understand the relations between organizations and their clients, being used strategically by these to stand out in the segment of services, thus being described as:

**People**, the most fragile link in this segment, because their actions can influence the quality of services, therefore the training must be constant, with training and the formation of a culture among those involved, with a focus on good customer service. Often one observes certain behaviors of people who work in different departments of a company, and who usually assign the responsibilities on the customer always to the sales or commercial departments.

These situations can be solved as companies offer their employees integration talks between departments and demonstrate to them the importance of excellence in customer service. This factor is of great importance to be considered refers to the employee's performance.

According to some authors, "satisfaction also depends of factors related to the customer perception regarding the quality of performance of service employees" (BITNER, 1992, p. 57; SLÅTTEN, 2008 apud PEREIRA; CARVALHO; ROTONDARO, 2013, our translation).

**Profile** (physical evidence), understands the location, how and where the service is provided. The aspect of standardization may be to include also in profiles, such as the use of uniforms with the company logo, for example, passing an image of credibility. Another positive aspect is the production of printed catalogs, being of great relevance in the company's market positioning.
Processes, logistics services incorporate various processes, such as receiving, warehousing and transportation. The effectiveness of each of these stages will constitute the quality of the service. The efficiency of logistics processes includes designing processes and service standards according to customer specifications, such as the storage of cargoes that require refrigeration and temperature control, also includes control of the standard and obtaining quality certifications. It is also valid mention of service contracts, because it is common to occur inconclusive or inconsistent situations, situations that could be avoided with the inclusion of attachments or scope of services offered within a contract, for example.

Productivity and quality, in this the productivity of all involved must be assured, as well as the ideal way to serve the client, from his entry into the company until the moment he is satisfied. Logistics services represent a set of values and operations that companies offer their customers. Quality of services is "the general impression of the consumer about the relative superiority/inferiority of the organization and its services" (BITNER; HUBBERT, 1994, p. 72 apud VEIGA; MOURA, 2003, our translation).

In this way, the four elements worked in the companies in an integrated way in all phases of the processes can improve the execution of these processes and provide improvements to the quality in the services, in this way, to differentiate the companies in relation to their competitors.

Complementing the services approach, it is valid to include a prominent field for outsourcing. Many companies are now aware that quality in logistics processes represents a considerable factor of success for businesses. According to Christopher (1997), efficient logistics processes provide an opportunity to create advantages in the face of competition.

2.2. Logistics services

According to Ballou (1995, 73, our translation), "the level of logistics service is the quality in which the flow of goods or services is managed". In this way, logistics services are the representation of a set of values and operations that companies offer their customers. Logistics services include freight transportation (national and international), customs clearance, stock control, warehouses,
distribution centers, cargo handling in the port, logistic operator, chartering, demurrage, outsourcing, among others.

According to Iañez (2002), to understand the logistics services it is necessary to describe the processes, according to figure 2:

![Figure 2: Logistics Services](image)

From: Based on Iañez (2002).

2.3. Customer Satisfaction and Quality of Service

According to Johnston and Clark (2010, p. 123, our translation), “If the operation meets expectations, or, in fact, exceeds expectations, customers are satisfied with the service”. When customers are met within their expectations they will use another time and indicate the services; if their expectations are exceeded, they are satisfied with the service; but when none of the above occur, they are dissatisfied, compromising the reliability regarding the quality of services and before the service provider. This context is illustrated in figure 3:

![Figure 3: Expectations - Customer satisfactions](image)

From: Johnston and Clark (2010, p.123).

Complementarily, Kotler (2005, p. 42, our translation) defines satisfaction as:
The sensation of pleasure or disappointment of a person resulting from the comparison between the perceived performance (or result) of a product and its expectations. If performance does not meet expectations, the customer is dissatisfied. If the performance meets expectations, the customer is satisfied. If the performance exceeds expectations, the customer gets highly satisfied or delighted.

There is a close relationship between customer satisfaction and service quality. "It is important to emphasize that looking at quality in the perspective of services is a complex issue, since it depends on factors related to both the provider and the client" (PEREIRA; CARVALHO; ROTONDARO, 2013, p. 312, our translation).

Maximiano (2004) defines quality based on six service criteria, when the service responds positively to all of these criteria, it can be established that the company offers its customers quality services, as shown in Table 1:

| Criteria          | Definition                                                                 |
|-------------------|-----------------------------------------------------------------------------|
| Excellence        | The highest standard of performance in the field of performance.             |
| Value             | The value is relative and will depend on the purchasing power of the customer. |
| Specifications    | Design how the product should be.                                           |
| Conformity        | Degree of identity between the product and its specifications.              |
| Regularity        | Uniformity.                                                                 |
| Suitability to use | Product quality and absence of disability.                                  |

From: Adapted from Maximiano (2004, p. 177).

According to Parasuraman, Zeithaml and Berry (1985), quality of service is a complex constructor, which contains five dimensions - reliability, readiness, assurance, empathy and tangible aspects. In this context, for Parasuraman, Berry and Zeithaml (1988), it is imperative that there is an efficient instrument to monitor the quality of services provided: SERVQUAL. According to them, in any service under study, reliability was the most important dimension, in sequence agility, assurance and empathy.

For Johnston (1995) apud Pereira, Carvalho and Rontodaro (2013), it should be emphasized that, even though they are used with source for several researches in the area of service management, the SERVQUAL instrument and its five

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1 Original: A sensação de prazer ou desapontamento de uma pessoa resultante da comparação entre o desempenho (ou resultado) percebido de um produto e suas expectativas. Se o desempenho não atende às expectativas, o cliente fica insatisfeito. Se o desempenho atende às expectativas, o cliente fica satisfeito. Se o desempenho supera as expectativas, o cliente fica altamente satisfeito ou encantado.
dimensions have been criticized. According to Johnston (1995) apud Pereira, Carvalho and Rontodaro (2013), Parasuraman, Berry and Zeithaml (1985) proposal that SERVQUAL could be used to assess quality in a large part of service companies was questioned in many studies. There are several models proposed in the literature to evaluate the quality of services, which vary in numerical representation, main characteristics and their applicability, as shown in Table 2:

| AUTHOR                      | MODEL         | MAIN FEATURES                                                                 | APPLICABILITY          |
|-----------------------------|---------------|-------------------------------------------------------------------------------|------------------------|
| Grönroos (1984)             | The model has no algebraic representation. | It considers quality as function (expectation, performance and image). | Multiple service profiles. |
| Parasuraman et al. (1985, 1988) | SERVQUAL Qi = Di – Ei | 22 questions distributed in five dimensions of quality. | Multiple service profiles. |
| Brown and Swartz (1989)     | Qi = Ei – Di  | It uses the 10 dimensions elaborated by Parasuraman et al. (1985). | In medical services in the care in offices. |
| Bolton and Drew (1991)      | Service evaluation model and value. Representation by several algebraic equations. | It uses four dimensions developed by Parasuraman et al. (1988) - Includes the idea of value in the evaluation of customer quality. | Telephone services. |
| Cronin and Taylor (1992)    | SERVPERF Qi = Di | It uses the five general dimensions elaborated by Parasuraman et al. (1988). | Multiple service profiles. |
| Teas (1993)                 | Ideal Performance Model | It uses the five general dimensions developed by Parasuraman et al. (1988). | Retail Stores |

From: Adapted from Miguel (2004, p. 29).

The regular application of the SERVQUAL model shows that this is a concise and qualitative instrument, with good reliability and proven validity, which allows a better understanding of clients' expectations and perceptions and thus the improvement of the service provided.

According to Pena et al. (2013) despite two decades, the SERVQUAL scale has proven effective in measuring the expectations and needs of health service users regarding the quality of these services. In addition, it has also been used in a relevant way, as a tool to assist managers in decision making in the institutions of this segment. Sampaio et al. (2004) adds that SERVQUAL has served as a divisor
in the processes of evaluating the quality of services, because it has been used in
the most diverse areas due to the flexibility that its methodology confers to the
improvement of the object to be applied.

Thus, according to Sampaio et al. (2004), the application of the SERVQUAL
model occurs in a wide range of sectors, where the tool not only measures the
quality in the service rendering, but also shows the perception of the users in
relation to the services offered, such as transport and logistics, education, food
companies, IT outsourcing companies and librarians.

The SERVQUAL model is based on a predefined questionnaire. Parasuraman,
Berry and Zeithaml (1985) essentially proposes a research tool applied twice to a
group of clients, one to customer expectations and another to evaluate the actual
perception of the customer about the service effectively provided by the company
evaluated.

This research is the SERVQUAL scale with 22 questions about attributes
related to quality of service and evaluating the five determinants of quality, as shown
in Table 3:

| TANGIBLE: | RELIABILITY: |
|-----------|-------------|
| 1. Modern visual equipment | 5. Make the promises on time |
| 2. Physical installations with attractive visuals | 6. Sincere interest in solving problems |
| 3. Clean-looking staff | 7. Services done right the first time |
| 4. Assistive papers and materials with visual appeal | 8. Perform service in the right time frame |
| 9. Insist on records without errors |
| PROMPTNESS: | WARRANTY: |
| 10. Staff tell you exactly when service will be provided | 14. Behavior of employees inspires confidence |
| 11. Employees deliver services promptly | 15. Customers feel safe in their transactions |
| 12. Staff always want to help | 16. Staff are consistently courteous |
| 13. Employees are never too busy to take orders | 17. Employees are aware to answer questions |
| EMPATHY: | |
| 18. Provides individual customer care | |
| 19. Works at convenient times for all your customers | |
| 20. Staff give personal attention | |
| 21. They truly have the best interest in customers | |
According to Lopes, Hernandez and Nohara (2009), these questions can be adapted to each particular case, but the questionnaire applied should contain basic premises to achieve its objective of collecting information:

- Create the involvement of the respondent;
- Communicate appropriately with the respondent;
- Help the respondent to develop their responses;
- Avoid creating biases or trends of any kind;
- Promoting the interviewer’s task easily;
- Seek automated processing of answers.

In this way, the basic structure of SERVQUAL can be adapted or complemented, aiming to adjust to the aspects or needs of each company. Remembering that according Parasuraman, Zeithaml and Berry (1985), the dimensions that are part of the complex construct of quality of services must be maintained.

In this way, it is worth evaluating the companies that use tools with similar methodologies to SERVQUAL, verifying if they preserve the measurement of quality of services, since the use of the same by the companies is costly, because it presupposes the application of an extensive questionnaire before and after the provision of the service.

3. METHOD

This is a case analysis, as Yin (2010) that investigates a contemporary phenomenon in its context in the real world. The data collection for the research was done according to Jones, Adams and Ellis (2013) apud Motta and Barros (2015), through the auto ethnography, based on memories and professional experience lived by the authors, who were employees of the company object of study of this research. One of the authors worked in the area of Customer Attendance Service (SAC), responsible for the said area for six years, and the other author worked in
the operational sector of the company, specifically in the reception of customs charges, for a period of three years.

In order to study the quality of the services of this logistics company, conceptual aspects of logistics services were addressed, with particular emphasis on the use of a quality services assessment, a questionnaire, which was adapted to company proposes, aiming to measure the satisfaction of its main customers in relation to its service delivery.

4. CASE ANALYSIS

The company that is the object of the case analysis, whose fictitious name is DP, was founded in 1971, totally national, which in the 90s was granted authorization by Federal Customs Office, to operate as an EADI (Inner Customs Station), with its facilities currently operating in the city of Guarulhos - SP. It is today the main link between the markets of the United States, Europe, Africa, Mercosul and the markets of São Paulo metropolitan area and southeast region of Brazil.

It acts in the rendering of services of logistics operations of handling and storage of bonded cargoes. Its scope of services also includes the tracking of cargoes in customs transit until delivery to the customer (door-to-door services), area segregation services for health products, with temperature control: air-conditioned, refrigerated and frozen, with a full-time pharmacist responsible for monitoring, control of the processes of receipt and storage, and follow-up of the inspection of organs that are aware of said charges.

The company DP has a store yard and equipment for handling containers, as well as a structure offered to customs brokers and a post of Federal Customs Office for the clearance of import and export cargoes. They count with property security to guarantee the security in the entrance and exit of vehicles, storage of loads and control of access of employees and visitors.

Since 2001, DP has obtained, ISO 9002/1994 Quality System Certification. After this stage, between 2003 and 2009, the management system was adjusted and certified according to the revisions 2000 and 2008 of the NBR ISO 9001.

Considering these processes of quality management and customer service as a procedure contemplated by ISO, the company DP provides the Customer Attendance Service (SAC), through this channel, its customers can solve doubts
about their in-process logistics operations in the company. This service channel is also used to conduct customer satisfaction surveys.

The same is done quarterly with the top ten clients of the company and is composed of 8 questions with a score of 1 to 4 for the answers in which the number 1 corresponds to the result of very dissatisfied, 2 dissatisfied, 3 satisfied, 4 very satisfied. It consists of the following questions:

I- How do you evaluate the company's service?
II- In general, how do you consider the service provided by the company?
III- Does SAC provide the necessary support and response at the appropriate time?
IV- Are employees competent to answer questions?
V- Do the employees provide personalized service?
VI- Do goods arrive in perfect condition and customs clearance takes place within the promised time?
VII- Do the employees have a good personal presentation?
VIII- Does the company work with adequate facilities and equipment?

Through the survey, the customer satisfaction indicators were checked, so when these were bad, the survey referring to the indicators was sent to the Commercial Management, which generated a visit of one of the commercial advisors to the dissatisfied customers. Correlating these indicators can be inferred that the highest index of dissatisfaction resided in question VI.

Specifically regarding the time of customs clearing of cargoes, this process depended exclusively on the tax auditors of the Customs Office, which generated a problem of difficult solution, since the agility of this process was evidenced as differential of services provided by the company DP. According to Neto and Santana (2015, p. 106), "differentiation improves the quality of the logistics service offered, and, in this way, gains advantages over competitors".

Another important aspect to highlight is that when assessing customer satisfaction, about the services provided by logistics companies, efficiency in processes becomes a central point. According to Iañez (2002), indicating that the
logistics services incorporate several processes such as storage and transportation, so that the effectiveness of each stage will constitute the quality of the service delivered to the consumer.

The problem resided in the process of feedback to customers, since to solve the question of delay in customs clearance was necessary to establish a relationship bridge between the customer and Federal Customs Office through the DP Company. Starting from the point that generally and in any case, every company should:

- Measuring customer satisfaction and quality of service;
- Identify critical gaps;
- Understand and find the reasons for the gaps;
- Define an appropriate action plan and close the gaps.

Through this study it was possible to evaluate that the satisfaction survey performed by the DP company with its clients, using a questionnaire method, inspired by the SERVQUAL model, did not meet two of the dimensions that make up the bases of said scale, which according to Parasuraman, Berry and Zeithaml (1988), independent of the service under study, are the most important:

- Reliability, as cargo were not released within the agreed time limit;
- Promptness, translated in the non-use of the figure of the faithful custodian, as a facilitator of relationship between the needs of the client and the Federal Customs Office in the processes of customs clearance.

In addition, the measurement of expectations, which the SERVQUAL model advocates, for later comparison with the one observed by the client, is impracticable, since data collection becomes prejudiced, because clients do not have the time to provide the necessary data for the complete analysis. The post-service evaluation, comparing historical data and desired pattern of behavior, as employed by DP, seems to be a more parsimonious model.

Thus, the proposal of this article was a review of the model used by the DP Company, through a smaller questionnaire, which approached delivery problems and that was done periodically and without previous evaluation. This proposal of revision
arises in the sense of contributing to the improvement in the processes of the logistics company, object of this case analysis.

5. FINAL THOUGHTS

Through this article, it was possible to reach the objective of studying the service quality evaluation of a logistics company, called DP, evidencing that the questionnaire in use is quite different of models such as the SERVQUAL model, for instance, did not meet the main dimensions of the structural basis of the SERVQUAL model, cited as the most important of the point of perception of the clients in the provision of any service.

According to the theoretical references of this article, being the reliability, since the loads were not released within the agreed period with the clients and the readiness, translated in the non-use of the figure of the faithful custodian, as a facilitator of relationship between the needs of the client and the Customs Office in the processes of customs clearance. In this way, compromising the agility of these processes and resulting in problems in customer feedback, what could harm services quality index and perception. In other words, a longer questionnaire could harm quality perception.

Among differences between SERVQUAL model and what is in use by the DP Company, are: it is a smaller questionnaire (just 8 questions, adapted for services characteristics), but done just periodically and without previous evaluation about expectations.

In other hand, it is possible to argue that this questionnaire is more effective than a model such SERVQUAL, what is complex and too long. Previous evaluation of quality can be difficult to measure, because clients can considered waste of time respond an entire SERVQUAL twice – after and before.

This revision proposal aims to contribute to the improvement of the quality of the evaluation of the service rendering of the company under study, as well as that of logistics companies in general.

It should be noted that the SERVQUAL tool was designed for potential application in a wide range of services, because it provides the basic structure of customer expectations and perceptions, through statements that refer to the five dimensions of quality in services. However, the SERVQUAL model presents
difficulties, such as previous filling, weight allocation for the constructs, comparison with the one observed by the respondent, besides the extension of the questionnaire and the need for adaptation for each type of service.

Although there are a number of studies addressing the quality of logistics service providers and service assessment tools, this article corroborates the importance of using more effective ways to provide service providers to measure the quality of services provided.

For future research, we suggest new studies that develop new quality measurement tools in logistics services. Another study could be done considering the satisfaction of different publics of interest and their mediation, because companies such as DP, in addition to serving customers who store their materials, must deal with customs office as an important interest group, which needs to be satisfied.

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