

## EVALUATION OF LOGISTIC SERVICES FROM THE RETAIL PERCEPTION: An Empirical Study

**Leonardo Caixeta de Castro Maia** (Corresponding author)  
(UFU/FAGEN)

Avenida João Naves de Ávila, 2121, bloco 5M, sala 100  
Uberlândia, MG, Brazil. CEP 38408-100  
E-mail: [leonardocaixeta@fagen.ufu.br](mailto:leonardocaixeta@fagen.ufu.br)

**Tânia Regina Brasileiro Azevedo Teixeira**  
(UFU/FAGEN)

E-mail: [taniateixeirabr@yahoo.com.br](mailto:taniateixeirabr@yahoo.com.br)

### ABSTRACT

*In a context where organizations do not compete with each other, but supply chain against supply chain, the objective of this study is to evaluate logistic services from the perception of retail. The work shows that measuring logistics performance from the customer perception is a mechanism to determine whether the level of service that is offered to the market is valued, to overcome the gaps, to make more accurate decisions and establish action plans. The methodology used for data collection was a pre-structured questionnaire. To show the results we used the matrixes: performance vs. importance vs. competitive positioning and operational importance. The survey results confirm that an efficient logistics system can raise the level of service offered by the sponsor of the network and generate value for the end consumer of the supply chain of consumer goods.*

**Keywords:** *business logistics, retail, wholesale, supply chain management*

### 1. INTRODUCTION

In Brazil, as of 1990, trade liberalization and reduced levels of inflation have imposed new control and management rules on the organizations to meet market demands and face global competitors (Fleury et al., 2000).

These changes reflected directly in place adopted by consumers for shopping. Dal Colleto; Lanfranchi (2005) state that consumers are gradually going to small neighborhood stores and traditional channels, such as bakeries, grocery stores, convenience stores and supermarkets with up to four checkout counters, to the detriment of hypermarkets.

In this context, the entities that make up the supply chain for supermarket consumer, manufacturing, wholesale and retail goods modified the criteria to assess the logistics of distribution of products and services. Lavalle (2005a) and (2005b) emphasizes the tendency of increased relevance given by supermarket retailers to the logistics service level during the period from 1995 to 2005, which had an increase of 30% over the price parameter, which had an important reduction in the order of 24%.

Thus, this research covers the following issues with regard to the logistic service carried out by the entity evaluated, specifically, a wholesaler that sponsors a retail network: (1) does the voluntary network of supermarket retailers receive a differentiated logistic service based on the partnership and the strategic alliance established with wholesaler? (2) Are the operational elements of the wholesale logistics perceived as competitive differentiators by supermarket retailers? (3) What is the impact of logistics as a tool for the achievement and maintenance of partnerships and alliances between wholesale and retail?

### 2. INTRODUCTION

The following topics will be discussed in the literature review to meet the overall objective: to evaluate the logistic function as an essential process within organizations, the integration of the logistics and marketing functions, how the services provided by handling and storage area are assessed and what criteria are considered important for customer management. Finally, we discuss the process of integration of commercial and moving and storage processes, termed as supply chain management.

### 2.1 *Logistics as an essential process*

The use of logistics concepts applies from the moment man ceased to be nomadic and needed to develop activities of handling and storage of food and materials to survive.

In view of the current panorama of society: globalization of markets, increase in the number of competitors, shortage of human and material resources, improving transport infrastructure, development of information technology and, in the case of Brazil, high costs for obtaining financial resources, the logistics function is used in business as a tool to beat the "adversary" and obtain sustainable competitive advantages for organizations, as defined in the next topic. The concept of logistics, directed to organizations, is exposed as follows:

Business logistics deals with all handling and storage activities that facilitate the flow of products from the point of acquisition of raw material to the point of final consumption, as well as information that put the products on the move, with the purpose of providing adequate service levels to customers at a reasonable cost (Ballou, 1993, p. 24).

This highlights the innovativeness of the logistical system to reduce order cycles, raise the level of customer service, increase revenue, diagnose lost sales and eliminate superfluous transport, loading and unloading costs (Kobayashi, 2000).

Bowersox and Closs (2001) and Hammer (2002) also mention that the elimination of activities carried out twice in the supply chain is the last frontier to be overcome for the reduction of costs in organizations and elimination of waste.

Novaes (2001) also exemplifies that companies that provide an efficient distribution logistics are more competitive, because they know exactly the costs related to distribution and storage, as well as the impact of these on the final price of the product.

In view of the importance of the logistics function for organizations, the fulfillment of actions proposed by the marketing function interact with the function responsible for the activity of moving and storing viewed below:

### 2.2 *Logistics integrated to marketing*

From the viability of the commercial transactions between customer and vendor, the distance covered by the goods, from the producer to the final consumer, involves multiple entities related to a supply chain. Oliveira and Machado (2003, p. 4) state that, "relations between organizations can be seen as a set of vertical relationships established by formal or informal contracts."

According to Fleury et al. (2000, p. 40), the distribution channel is the "set of organizational units, institutions and agents, internal and external, that perform the functions that give support to the marketing of products and services of a particular company." According to the authors, the activities that support marketing include purchases, sales, information, transport, storage, stock, production scheduling and financing.

To reach the final consumer, it can be affirmed that there are basically two forms: the direct supply channel, without intermediaries, connecting the producer directly to the consumer; and the indirect supply channel, with intermediaries between the retailer and the producer of the goods.

In this context, from 1980 on, there was a greater need to integrate the logistics chain to enable a continuous flow, from the entry of raw materials (supplies) for the manufacture of the goods (production) and finally to the output of a finished product to the point of sale (distribution), since it was essential to reduce the levels of stocks, as well as promoting flexibility and reliability (Bowersox & Closs, 2001; Ching, 2001). The concept of integrated logistics chain or supply chain then emerges.

### 2.3 *Integrated logistics chain or supply chain*

According to Ching (2001) and Pires (2004), from the mid-80s, the globalization of markets imposed on companies the need to reorganize their methods of negotiation and re-evaluate the links of consumers and suppliers in the supply chain.

The supply chain refers to the effort spent by the entities in the chain in different business processes and activities which create value in the form of products and services to the final consumer (Ching, 2001; ECR, 1998; Pires, 2004).

In short, the supply chain exists with only one purpose: to cater to the final customer. The systemic vision of the entities involved contributes to the customer being served with less effort, enabling the product to be available at the right time, in the appropriate quality and at compatible costs.

In this panorama, Stock and Lambert (2001, p. 86) state that, "[...] Logistics should be seen as a marketing tool, able to add value through services". Thus, the marketing function must set the means to reach the end customer, that is, the direct or indirect distribution channel, assessing the advantages and disadvantages of each model.

The logistic function, by means of a systemic view of its relevant activities, must perform the planning, realization and the ongoing judgment of its activities aiming at the lowest total cost. The lowest total cost is obtained by analyzing the logistic *trade-off*, or law of compensation of logistical activities. That is, to highlight an activity to the detriment of another, aiming at the lowest total cost.

Considerations about the service level are relevant, because as Christopher (2002, p. 132) states, "there is a direct relationship between the length of the logistics flow and the stock in it." Therefore, the knowledge of the processes relevant to the order cycle and appropriate mechanisms for evaluating the logistics service can direct the infrastructure necessary to continuous improvement activities, ensuring appropriate service levels for the standard term for customers and reducing levels of safety stocks along the chain.

#### 2.4 *Level of service*

The logistical activities considered major, order processing, inventory maintenance and transport, have as their mission to provide value of "time" and "place" for products of the organization.

In this panorama, the commitment of the logistics system provides customer services and affects the ability to generate profit or loss from the revenue generated by sales of the organization. Thus, additional services beyond the basics can represent a competitive advantage and/or expenditure above the allowed. For logistics professionals, the knowledge of appropriate service levels for specific clients is critical to the success of the organization.

According to Ballou (2001, p. 77) and Fleury et al. (2000, p. 56), "customer service represents all the logistical effort." Agreeing with these authors, the company must evaluate what, to whom, when, how much should be provided. These questions are necessary to establish a service policy that is profitable for the Corporation and that at the same time meets the "place" and "time" required by customers.

Bowersox and Closs (2001, p. 71) claim the customer service "is a process whose goal is to efficiently provide significant value-added benefits to the supply chain in terms of cost".

For Stock and Lambert (2001), the definition of customer service is related to any activity of exchange between client and supplier, as long as there is a value addition to the product or service performed. We point out the fact that high service levels provided to customers may be the form of obtaining a competitive advantage in the market and this enables not only the maintenance of existing customers, but also the assessment of how many potential customers can become assets to the organization.

In this way, the service level can and should be used as a mechanism for managing the related activities under the request cycle. In agreement with Bowersox and Closs (2001), there are three factors that are considered basic customer service: availability, performance, and reliability, detailed in the next item:

#### 2.5 *Fundamental factors of customer service*

Bowersox and Closs (2001) state that organizations seek mechanisms to provide sustainable competitive advantage. This differentiation can be achieved through customer service attributes that add value, which are product availability, operational efficiency and reliability of the processes.

In this sense, the logistics professionals should continuously meet the needs of customers. We ratify that, "offering services outside the reality of the company decreases the ability to satisfy the requests of high potential customers." (Bowersox & Closs, 2001).

For the retail of consumer goods, the stock becomes available for the end customer. The identification of points of rupture in stock, "off-shelf", is essential to carry out the measurement of the level of service.

From the establishment of indicators of customer service level, organizations must establish strategies to achieve the level of service expected by the client. The establishment of mechanisms to facilitate the anticipated service level is as important as the choice of goals to be achieved, because only in this way logistics activities will be important for the client.

The concept of supply chain management estimates this possibility, since the effort of organizations in the distribution channel can be managed in order to generate value for the end customer. The concepts, main tools and applications of this of business management tool will be exposed in the next topic.

### 2.6 *The supply chain management*

As a result of increased competition and the need for increasingly innovative product placement and services, control and/or knowledge of the entities in the supply channel has become a requirement in the market (Cooper et al., 1997). We call this effort management “supply chain management”.

Fleury et al (2000) state that supply chain management, *SCM*, is an integrated way to plan and control the flow of goods, information and resources, from the suppliers to the end customer, managing supply chain relationships cooperatively for the benefit of everyone involved. For Pires (2004), *SCM* is defined as follows:

A managerial model that seeks to achieve synergies by integrating key business processes along the supply chain. The main objective is to cater to the final consumer and other *stakeholders* in the most effective and efficient way possible, i.e. with products and/or services of greatest perceived value by the final customer and obtained through the lowest possible cost (Pires, 2004, p. 70).

Stock and Lambert (2001) give evidence that the complexity of markets, suppliers and customers has forced companies to create chain management mechanisms with the following objectives: add value to the end client, ensure competitiveness, reduce costs and inventory levels throughout the supply chain. To this end, the realization of *trade-offs* – Law of compensation – among the organizations involved in the supply chain, allowing greater interactivity and proximity of complex systems depends on the coordination of processes considered key for the business. From these facts, we have:

Supply chain management is the integration of the processes considered essential to the business, from the final consumer to the supplier of raw materials that provides products, services and information that add value for consumers and *stakeholders* (Stock & Lambert, 2001, p. 54).

In short, *SCM* represents the effort of integrating the various entities of the distribution channel that, through shared administration of key business processes, aims to provide and extend the tangible and intangible benefits and reduce transaction costs for the final consumer.

## 3. RESEARCH METHODOLOGY

This work adopted the methodology for external evaluation of logistics activities related to the order cycle, as this is considered the starting point in any customer service study. For supermarket retailers of consumer goods, according to Bowersox and Closs (2000), Christopher (2001) and Stock and Lambert (2001), the logistics service attributes are: (1) product availability; (2) order cycle time; (3) consistency of delivery time; (4) frequency of delivery; (5) flexibility of the distribution system; (6) support information system; (7) failure remediation system; (8) support in physical delivery; and (9) post-delivery support.

According to Stock and Lambert (2001), the evaluation of customer service is comprised of four distinct stages: (1°) an external evaluation of customer service; (2°) an internal customer service evaluation; (3°) identification of potential solution; and, finally, (4°) establishment of the level of customer service.

In the proposed questionnaire, the evaluation took place in three dimensions, all under the perception of the supermarket retailer, namely: the minimum expectation of the retailers regarding the attribute, the sponsor of the network practice and best practice among suppliers. As important as the choice of the research methodology, is the selection of the sample, defined below.

### 3.1 *The companies involved*

The collection of data occurred, from one side, at the wholesale company named as X and, on the other, in supermarket retailers belonging to network Y. The relevance of the topic is in the size of the wholesaler-

distributor, which was classified, in the “Maiores e Melhores” (Largest and Best) Yearbook of Exame Magazine of July 2004, in 104<sup>th</sup> place in the largest Brazilian company ranking, with annual sales of 958.1 million dollars. It is considered the largest distribution wholesaler in Brazil, and is located in the municipality of Uberlândia, in the State of Minas Gerais.

On the other side, the supermarket chain named Y, was created in August 2000 with the purpose of approaching the wholesale company to its major clients, the small and mid-sized retailers. In the period of the research, the network of retailers had more than 500 members.

### 3.2 Selection of the sample

For the selection of the sample we used the non-probabilistic method, the "convenience" type, being that the criterion adopted was the geographical area where the volunteer supermarket retailer network is located. (Parente, 2000, Stevenson, 1981). For the selection of this geographical area, the research was based on the same segmentation of the population by area established by the wholesaler-distributor, which is the network sponsor.

Data collection was performed in accredited retail units in the Triangulo Mineiro region, in the State of Minas Gerais. Data was obtained by means of visits to the premises, or by electronic mail and/or letter addressed to the owner of the commercial establishment.

### 3.3 Data collection: questionnaire

In this study, respondents were asked to fill in a Likert-type scale, from 1 to 5, what number best expressed the importance of each attribute of the logistics service. By assigning a score 5, the highest, the supermarket retailer gives greatest relevance to the attribute, while the least important and/or not related to the activity, received a score 1. (MATTAR, 2001).

The questionnaire also defines the performance of the logistical attributes of the suppliers' order cycle. The answers will make it possible for the network sponsor wholesaler to compare, from the retailer's point of view, its performance in the order cycle against other wholesalers.

## 4. DATA PRESENTATION

Data collection was performed during visits by researchers to the retail supermarket accredited in the network in the municipalities of Uberlândia, Araguari, Monte Carmelo, Patrocínio and Perdizes, all in the State of Minas Gerais.

At the end of the fieldwork eighteen retail supermarkets were reached, representing 47% of the shops registered in the Triangulo Mineiro. Table 1 exposes the sample data:

TABLE 1: Profile of the retail supermarket interviewed

Variables	Area available for sales[m <sup>2</sup> ]	Number of check-outs [units]	Number of employees	Monthly income * [\$/Month]
Sum	6,740.00	76	617	4,350,000.00
Average	374.44	4.22	34.28	310,714.29
Standard Deviation	146.90	1.66	17.56	189,998.55
Greater	700.00	8	70	900,000.00
Minor	156.00	2	15	140,000.00

Source: fieldwork, 2005.

\* Regarding 14 stores, since four units did not answer that question, due to professional secrecy.

For the representation of the data obtained, Stock and Lambert (2001) propose two arrays that are used in conjunction, because only one, by itself, can introduce incorrect conclusions about the activities developed in the order cycle. The first is called performance and operational importance matrix, and the second, competitive positioning matrix, exposed in the next topic.

### 4.1 Performance and operational importance assessment matrix

After retrieving the data, it was possible to prepare the performance and operational importance assessment matrix and, subsequently, the competitive positioning matrix (Stock & Lambert, 2001). It should be noted that both

matrixes are exposed simultaneously, identifying opportunities at a strategic, tactical and operational level.

The performance and operational importance assessment matrix allows the identification of which attributes are important to retailers and, in addition, the performance evaluation of the sponsor of the network from the perspective of the retail supermarket.

From the field research, we identified that each store is serviced by a logistics distribution team from the wholesaler. This is due to the fact that every retail supermarket belongs to a route, pre-defined by the wholesale distributor, depending on the rout of cargo vehicles, volume, value of the products marketed and level of service agreed. Therefore, these factors can interfere very much on the importance of the attribute for each retail supermarket and, consequently, in the performance evaluation of the logistic service provided. The data are available in Appendix A.

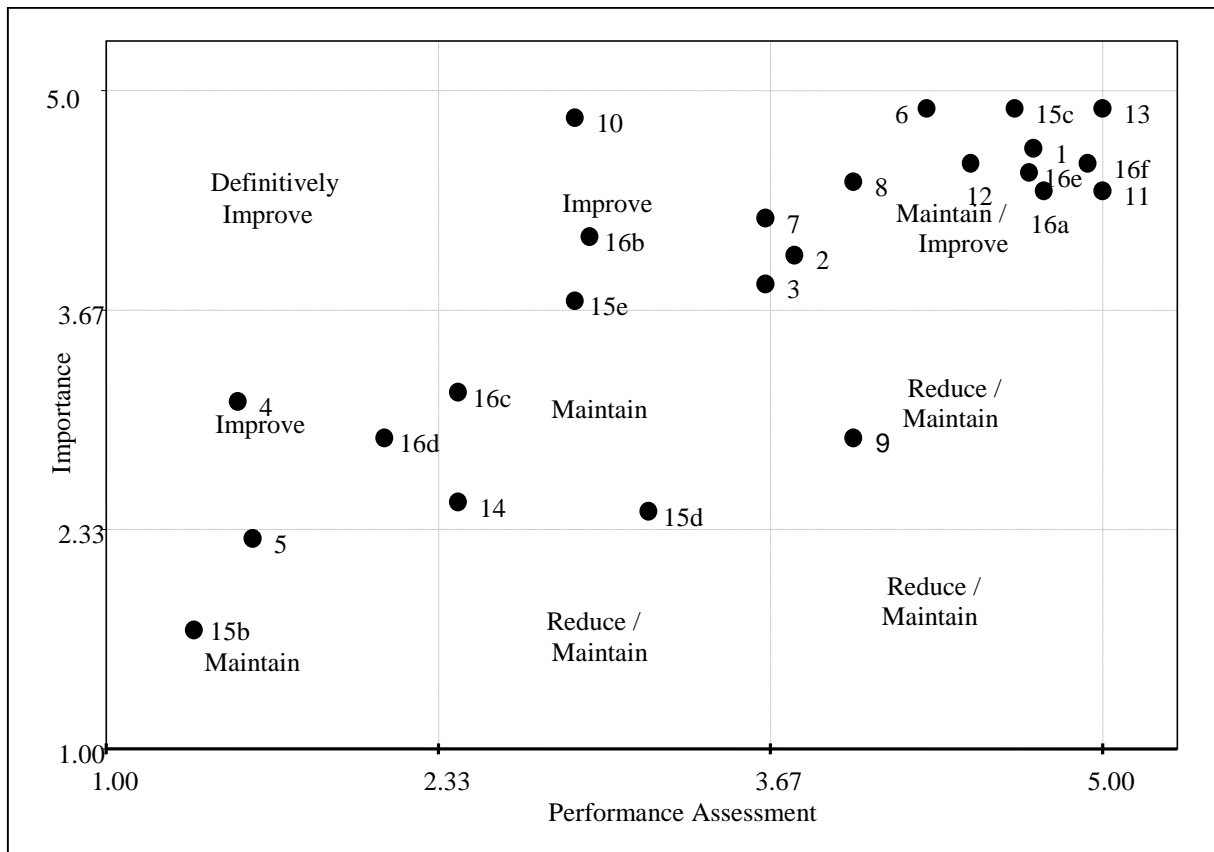


Figure 1: Performance assessment and operational importance matrix.  
 Source: Field survey, 2005.

The performance and operational importance assessment matrix, exposed in Figure 1 is divided into nine quadrants and each is identified with the actions, according to Stock and Lambert (2001), to be proposed to the sponsor of the network.

In the top right quadrant of the matrix, defined as high importance for supermarket retailers and high-performance assessment for the wholesaler, we have twelve of the logistical attributes, or 48.0% of the total. The logistical attributes located in this quadrant must be “maintained and/or enhanced”. This is despite the wholesaler performing them well, since these attributes are decisive for the selection and/or elimination of suppliers. If the sponsor of the network offers a low level of service in these attributes, this can represent the loss of customers.

Regarding the quadrant with high importance for the retailer and mid-performance for the network sponsor wholesaler, we can affirm that five attributes, or 20.0% of the total are located in this area. For Stock and Lambert (2001), the logistical attributes situated in that quadrant must be "improved". In this sense, this deficiency can provide, to the network sponsor wholesaler, a reduction in market share.

In the quadrant where the attributes are considered of average importance and the sponsor of the network has high performance, there is only one attribute, or 4.0% of the total. Stock and Lambert (2001) recommend that the company "reduce/maintain" the level of service provided. The question to the network sponsor wholesaler is: what should be the level of effort reduction aiming at implementing the *trade-off* between logistic handling and storage activities? What can be done to reduce total logistics costs and maintain the level of service provided?

In the sequence of evaluation of the matrixes, the quadrant with average importance and mid-performance of the wholesaler, we have three logistic attributes, or 12.0% of the total. The proposed action by Stock and Lambert (2001) is to "keep" it like that. The important thing is that these attributes do not become weaknesses vis-à-vis the client.

For the quadrant defined as medium importance and low performance, we can say that there are two logistical attributes, or 8.0% of the total.

In the bottom left quadrant of the array, we identify two attributes, or 8.0% of the total, of lesser importance to the supermarket retailer and also with poor performance for the network sponsor wholesaler. The authors suggest to "keep" the level of service provided.

The data tabulated in the performance assessment and operational importance matrix provide the corporate sponsor of the network a "comfort zone", on the basis that thirteen attributes, or 52.0% of the total, were evaluated as high performance in the view of supermarket retailers belonging to the network.

However, this is the reason to use the matrixes for performance and operational importance simultaneously, so that, from the perspective of the supermarket retailer, we can evaluate the most relevant attributes of logistics services, the operational performance of the sponsor of the network and additionally, get a performance review of wholesaler X against the other competitors. Thus, depending on the location of the attribute in the matrixes, actions in the long, medium and short term are justified, so we present the competitive positioning matrix.

#### 4.2 *The competitive positioning matrix*

The competitive positioning matrix allows the diagnosis of the performance of the corporate sponsor of the network vis-à-vis other competitors, which in this case, are distributor wholesalers and the importance of the attribute, in the perspective of supermarket retailers.

For the calculation of relative performance, we calculate the difference between the average rating obtained by network sponsor and the best average score obtained at that attribute by the supplier considered the *benchmark*.

In this sense, for the attributes in which the relative performance has positive values, it can be affirmed that the sponsor of the network has better performance than other suppliers and, according to Stock and Lambert (2001), wholesaler X should disclose to the supermarket retailers which activities and/or services are considered competitive differentiators in the market.

On the other hand, for relative performance with negative values, it is concluded that there are other vendors that perform logistical attributes more efficiently and effectively than the sponsor of the network, in the perspective of retailers. In this sense it is important to identify which attributes the retailer considers of the highest importance, and which are of low relevance.

For attributes that are located in the quadrant of high importance and negative relative performance, Stock and Lambert (2001) define that these factors are a competitive disadvantage from the sponsor of the network against other competitors, or a "greater weakness". Therefore, it should focus financial resources in these attributes to make them at least equally competitive.

The authors define the attributes of low importance and negative relative performance, as a "minor weakness" of the sponsor of the network in relation to other providers. In this case, wholesaler X should evaluate the possibility of these factors becoming a competitive advantage in the future. If the probability is low, financial resources should be redirected to other attributes, since it is a function of the logistics *trade-off*, to emphasis activities valued by the customer and reduce the total cost of logistics.

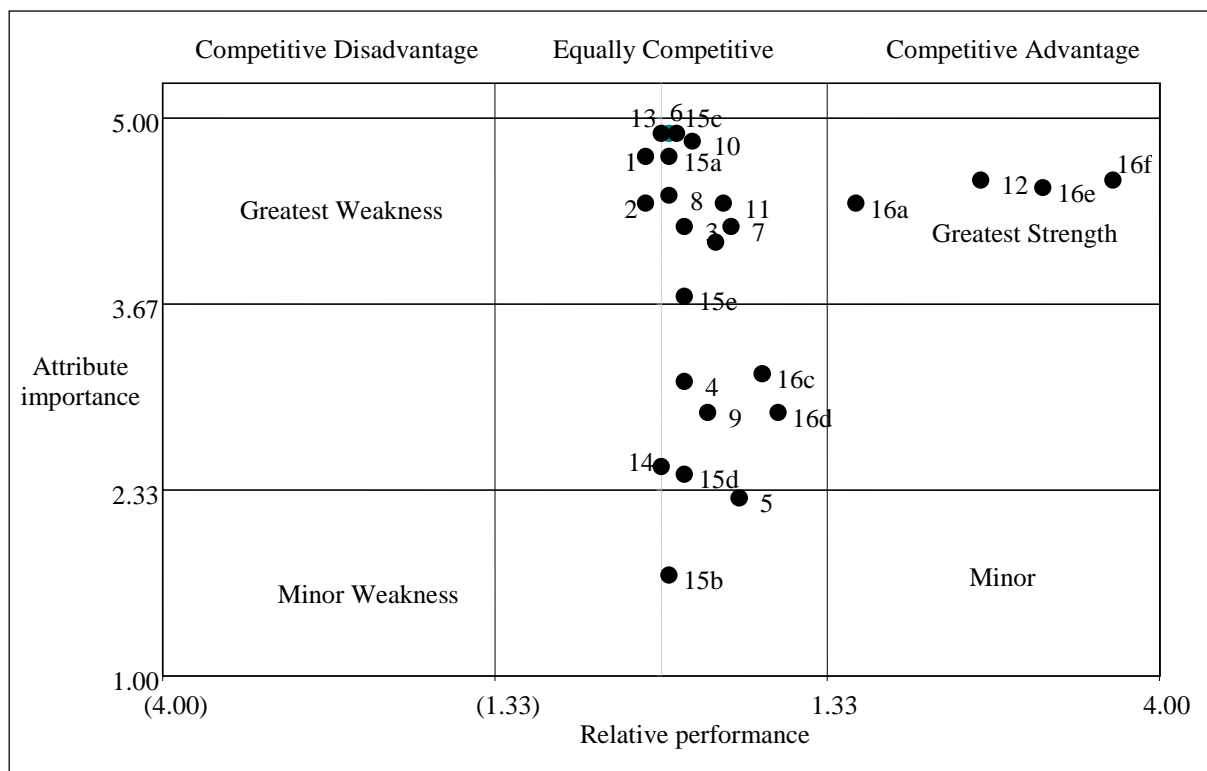


Figure 2: Competitive positioning matrix.  
 Source: Field survey, 2005.

We point out in Figure 2, that of twenty-five logistic attributes considered, only four, or 16.0% of the total, are evaluated as the "greatest competitive advantage", from the perspective of the supermarket retailer. These attributes should be publicized to the more than 150,000 supermarket retailers, as a differentiation of the wholesaler company against the competitors.

Thirteen other attributes, or 52.0% of the total are located in the quadrant identified as of high importance to the supermarket retailer and of competitive equality vis-à-vis other suppliers. It was observed that, in spite of the entire infrastructure provided by the sponsor of the network to carry out the logistics of distribution, supermarket retailers don't perceive differences regarding the level of logistical service provided by X compared to other wholesalers.

At this point, there is the opportunity, for wholesaler X, to create differentiated services for supermarket retailers, taking advantage of the available movement and storage infrastructure in the municipality of Uberlândia, the company's headquarters, and transforming these attributes into competitive advantages.

In the quadrant identified as average importance for retailers and equally competitive, there are six more attributes, 24.0% of the total. We should evaluate the possibility of these factors becoming a "competitive advantage" and not a "weakness" for the sponsor of the network.

According to the competitive positioning matrix, the attributes with the largest competitive advantages are: consulting services and advice on internal processes (number 12); the provision of credit services (number 16a) and credit management or providing shopping card for consumers (number 16f).

On the other hand, the attributes that represent competitive disadvantages are: attribute number 1 – issuing invoices free of errors –; attribute number 2 – providing exclusive service to correct shipping shortage, damages and errors–; and attribute number 6 – guaranteeing the delivery deadlines.

#### 4.3 Joint analysis of matrixes

At the end of this stage of presentation of results and identification of opportunities, we simultaneously analyze data from the two matrixes and establish considerations of the minimum expectation with regard to the logistic service, the network sponsor performance and the performance of other competing wholesalers in the perspective of retailers, which are:



– Attributes number 12 – providing consulting/advice for improvement; number 16a – providing assistance/services through credit; number 16e – providing improvements for the clients' business processes; and number 16f – making a shopping card for customers; are considered high importance attributes for supermarket retailers. The sponsor of the network – wholesaler X – has a high performance, and a positive relative performance compared to other suppliers.

In this context, we can affirm that wholesaler X is the *benchmark* in these attributes and this should be emphasized in the communication with the other retailers because, according to Stock and Lambert (2001), these are the company's competitive advantages in the market;

– *Attribute number 6 – guaranteeing the delivery deadline*: there is an opportunity for differentiation of wholesaler X against the other competitors. This is due to the fact that the score given to the importance of the attribute ( $Y = 4.89$ ) is above the performance score of the network sponsor and of the other competitors.

At another extreme are the attributes plotted in the "competitive weakness" quadrant, which must be improved and represent a competitive disadvantage. In these attributes, the corporate network sponsor shows intermediate and negative relative performance, and is evaluated as having low performance. In this sense these are the main attributes:

– *Attribute number 1 – issuing invoices free of errors* –; in this attribute, although the sponsor of the network presents a high performance, ( $X = 4.65$ ), this activity still has to be improved, because the competitors perform this attribute with a lower rate of errors. Excellence in this service is paramount for a good relationship with customers;

– *Attribute number 2 – providing exclusive service to correct shipping shortage, damages and errors* –, this service is considered very important to the retailer, the performance of X is intermediate and the relative performance is also intermediate. In this context, it is necessary to act at the heart of the problem, that is, eliminate the separation and shipping errors, avoiding in this way, the complaints concerning shortages and damages. They must also revise the policy of exchanging products, facilitating the communication channel.

## 5. FINAL CONSIDERATIONS

The alterations in the Brazilian economy promoted radical changes in the relationship between supply chain organizations, specifically, of consumer goods. According to Bowersox and Closs (2001, p. 43), "companies don't compete with each other anymore, but, within supply chains" and, in this sense, these companies will increasingly seek partnerships and strategic alliances in the distribution channel.

Under these circumstances, from the moment that the supply chain is analyzed for key business processes, the entities included in this context want logistics service levels that meet their expectations. To this end, they seek the creation of mechanisms to monitor the flow of materials and information, both directly and reversely, aiming to achieve the mission of the logistic function: deliver the right product, at the right time, in the right quantity, to the right customer and the lowest total cost.

Thus, through the methodology proposed by Bowersox and Closs (2000), Christopher (2001) and Stock and Lambert (2001), the objective of this research was to evaluate the logistic service from the point of view of retailers in a network sponsored by a wholesaler. To this end, we used the nine dimensions on customer service, important for the control of the activities of the order cycle, as well as for the planning of the architecture of a logistics system.

For the operationalization of these concepts, we assessed the retailer's perception using three references: the minimum expectation of customers, market practice and the best practice among suppliers, enabling us to identify who are the *benchmark* companies.

It was concluded that the overall objective proposed in this work was reached, because the logistics service, from the perspective of the supermarket retailers belonging to a voluntary network, was measured in three dimensions.

As regards the specific objectives, the research paper also achieved the results, because:

- It demonstrated what the supermarket retailers network sponsored by a wholesaler is, the organizational structure created by the wholesaler to meet the needs of "new" customers and the form of segmenting by area;
- It assisted in the understanding of the relationship between wholesale and retail supermarket, demonstrating the advantages, difficulties and opportunities arising with their association;
- It identified the main operational elements of logistics and the relative performances in the provision of distribution services between the wholesaler and the retail supermarket.

Finally, the processing of data by means of the performance assessment and operational significance matrixes and, subsequently, the competitive positioning matrix allowed the identification of the following conclusions:

- *As for the level of service*: The logistical service offered by wholesaler X to the retailers in the network does not have a differentiation vis-à-vis other competitors, from the perspective of members of the network. Fitting a distribution architecture for the voluntary retailer network members could mean opportunities for differentiation of the sponsor of the network to its main clients;
- *New services added to wholesale*: The attributes considered as differentials in the relationship between wholesaler X and supermarket retailers – belonging to the network –, are related to wholesale credit service for retail and consultancy for the improvement of internal processes. The maintenance of these attributes as a source of differentiation will require the sponsor of the network to evaluate the benefits perceived by retailers;
- *Interaction*: The communication channel between wholesale and retail, specifically when there are divergences and non-conformances in the delivery, has serious shortcomings which need to be analyzed.

In short, the existence of the network already is a breach of the supply chain paradigm. However, finding opportunities and deficiencies in the relationship between wholesale and retail shows that changes still must be carried out, at an operational, tactical and strategic level, and also at a cultural level for those involved. Participation in a network is sharing not only the advantages but also the difficulties of everyday life.

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## Appendix A

TABLE 1: Data for the competitive positioning matrix

Attribute number	Attributes considered important for the retailer to select or eliminate suppliers	Network sponsor average	Competitor average	Relative performance average	Attribute importance average
1	Issue Invoices free of errors.	4.63	4.75	(0.12)	4.72
2	Provide exclusive service for correction of dispatch shortages, damages and errors.	3.88	4.00	(0.12)	4.39
3	Guarantee supplies at any time.	3.69	3.50	0.18	4.22
4	Absorb material handling costs (Example: provide labor for replacement of shelves)	1.50	1.31	0.18	3.11
5	Communicate via EDI - from computer to computer, avoiding re-work.	1.63	1.00	0.62	2.28
6	Ensure the delivery deadline	4.44	4.38	0.06	4.89
7	Change the delivery deadline when prompted.	3.69	3.13	0.56	4.22
8	Offer minimum orders of products in a manner befitting the expiry date and/or product turnover.	4.06	4.00	0.06	4.44
9	Provide distribution infrastructure near the premises of the supermarket.	4.13	3.75	0.37	2.89
10	Ensure the exchange the whole lot when there is evidence of damaged goods	2.94	2.69	0.25	4.83
11	Make improvements in the purchase order process, delivery, other. (Example: palm-top)	5.00	4.50	0.50	4.39
12	Provide consulting/advice for improvement of internal processes	4.63	2.06	2.56	4.56
13	Offer shipment paid by the supplier.	5.00	5.00	-	4.89
14	Use barcodes on packages to facilitate movement in the warehouse	2.50	2.50	-	2.50
15	The sales representative can provide information about:				
15A	stocks available	4.44	4.38	0.06	4.72
15B	projection of the loading date at the Distribution Center	1.38	1.31	0.06	1.72
15C	projected date of arrival	4.69	4.56	0.12	4.89
15D	availability of substitutes	3.19	3.00	0.18	2.44
15E	Ability to absorb the costs due to damage or products shipped incorrectly	2.88	2.69	0.18	3.72
16	The supplier may provide assistance/services through:				
16A	Credit	4.75	3.19	1.56	4.39
16B	Stock management	2.94	2.50	0.43	4.11
16C	Technical Assistance	2.50	1.69	0.81	3.17
16D	Managing the clients' customer data	2.06	1.13	0.93	2.89
16E	Improvements in clients' business processes	4.81	1.75	3.06	4.50
16F	Shopping card for customers	4.94	1.31	3.62	4.56

Source: Field survey, 2005.