Transport management in small and medium-sized enterprises in Brazil

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ABSTRACT: The research reported in this paper, looks at the internal processes of Brazilian small and medium-sized enterprises (SMEs) concerning the transport decision. SME represent over 99% of the formal enterprises in Brazil. The sample size was 400 industrial companies (with up to 100 employees) of Brazilian manufacturing sector. The results indicated that shippers do not use transportation as an opportunity to create competitive advantages. In addition, to get the needed services, Brazilian SMEs tend to buy transport services, readily available, without concerns for future transactions and more stringent and systematic criteria for the selection and evaluation of the service.

Keywords: Transport management, Operations strategy, Logistics strategy

1. INTRODUCTION

The management of transport in the organizations implies in decisions on how to move materials and finished products between different points of certain businesses' network. As a component of logistics, expectations about the performance of transport services have become more complex. The perception of a high level of service, which was tied to the efficient movement of raw materials and finished products between different geographical points, evolved to the search of efficiency of logistics processes, which meant that other attributes of the service were incorporated into the core of the decision-making about transport, such as the fulfillment of deadlines, the transparency of costs and the development of appropriate services which are integrated with suppliers and customers.

At the same time that adds place value to the product/service, the transport activity may represent from one to two-thirds of total logistics costs. Thus, an important part of business competitiveness is in the correct design and implementation of transport strategies, with greater or lesser impact, depending on the type of business. Additionally, such a strategy of operations should be aligned with corporate strategy, as highlighted by the seminal article by Skinner (1969). This means to decide on alternatives to service levels (frequency and pre-arranged time for loading and deliveries), ownership of the fleet (own transport or use of third parties') and how to consolidate loads (lots and location of operations).

The risk of transport compromising the quality of logistics and the strategy of the supply chain which involve the organizations increases as prevailing

management decisions focused directly on hiring transport for the value of the freight. In these cases, operational decisions are superimposed on the strategic factors, the shipper does not recognize or minimizes the logistics value, tends to treat it merely as a cost and, therefore, we have a conflict between shippers and carriers.

For small and medium-sized enterprises (SMEs), transport generally involves the largest logistics costs and challenges. Initially, the shippers offer small volumes to operators, which means, besides direct question of bargaining power in negotiations on price and service levels, higher unit operating costs to the operator.

Holter *et al*. (2008) highlighted the difference between the purchase of transport services and transport management. And this features of this process is interesting for our purpose. The process of acquisition of transport services is involved in the traditional trade-off between cost and quality, which is the result of the purchasing process itself. However, the management of transport implies in the monitoring of service desired and acquired, which transcends the boundaries of the company, implying a relationship management with the operator.

Thus, having as background the impact of transportation services in business competitive level. The objective of this study was to evaluate the internal processes of the enterprises concerning the decision taking to hire transport and the satisfaction of small size shippers in relation to transport services. Although the importance issue involving the transportation activity and its importance in the logistics of enterprises is developed in the aspects of the activity outsourcing and the hiring of operators, important gaps haven't been recorded yet regarding the definition of the internal processes which take to the shape of demand for transportation services, as well as their specifications for small and medium-sized enterprises (Holter *et al*., 2008). In the Brazilian context, SMEs have highlighted importance, as they represent 99.2% of the number of firms, generate 57.2% of formal employment and account for 20% of Gross Domestic Product (GDP) (SEBRAE, 2008).

After this introduction, the following section focuses on theoretical features of logistics and transportation management, and the next section presents details of the methodology used. After, the results are presented and discussed, which address behavioral aspects of transport demand. Finally, the conclusions,

the considerations and the recognition of limitations are provided.

2. LOGISTICS AND TRANSPORTATION MANAGEMENT AS COMPETITIVE FACTOR IN COMPANIES

According to Neuschel and Russell (1998), the demand for transport services has been undergoing transformations resulted from the competitive environment. For the service providers, such changes are perceived in the form of increased competition, the need for integration with service providers of other methods for handling a cargo, the market incentive to new entrants (reflexes of the low barriers to entry), deregulation of markets, which led to freedom for pricing and aggregate of services, and the severe pressure on price, cost and improving of service by shippers.

For shippers, transport services are, in general, the backbone of the distribution, for they directly impact on customer satisfaction. In a situation of a certain organization with competitive products, logistics (delivery) may negatively impact the overall evaluation (products and added services) made by the client, for example, may involve loss of fidelity or non-repetition of purchase, as the performance of the delivery costs, level of damage, deadline and general consistency of the services (Ballou, 2006).

The decisions of transport keep direct and significant interfaces with the financial, production and marketing (customer satisfaction) areas of companies. In the financial perspective, according to Mason *et al*. (2003), empirical studies have shown that the cost of transport reach 2% to 4% of revenues and 30% to 60% of total logistics costs of companies. As pointed out by Holter *et al.* (2008), in addition to direct costs, transport decisions also involve others, such as the formation of inventories, the level of service and production planning.

Decisions of transport interact with the production for both the availability of materials and the finished products. With regard to materials, the efficiency of transport can ensure that the planned production is carried out, with the availability of materials to ensure the implementation of the process. Moreover, compliance with the deadlines agreed with clients will also depend on transport services contracted and executed (Holter *et al.* 2008).

In order to harmonize transport services with the strategies of logistics and marketing, according to

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Holter *et al.* (2008), the shippers base the transport management process on the aspects transport costs, transit time, cargo traceability, delivery management and total internal cost to manage the activity.

Transport management in the business environment of smaller size has some peculiarities. Initially, it is worth noting that the management of small businesses have a strong family component and centralized management. The company owner is involved directly in the management of functional activities, transportation among them. According to Gasse (1982), this close contact with all the activities and the fact that the company's vision is heavily concentrated in the owner produces some effects in the management, mainly because entrepreneurs require independence and autonomy.

Gasse (1982) points out that the results of this process are the difficulties to delegate, consult and share activities with others, with the focus directed more toward efficacy than efficiency and an excessive preference on using opportunities rather than planning. That is, one cannot expect a specialized management of transport.

Moreover, it's a process repeated many times in the daily routine of businesses, not only in the purchase of materials but also in the distribution of their products (Ng, Ferrin and Pearson, 1997). This context makes critical the transportation management for smaller enterprises, because at the same time as there isn't usually a specialized transport management, SMEs have little bargaining power in the market, given the volume of their operations (Holter *et al.*, 2008).

According to Holter *et al.* (2008), transport for small businesses also has its specificities. Initially, the shippers offer small volumes to operators, which means, besides direct question of bargaining power in negotiations on price and service levels, higher unit operating costs to the operator, according to McCann (2001). Moreover, the factor "scale" also creates difficulties for building a more harmonious and balanced relationship with transport operators, to allow businesses to internalize the external competences and turn them into competitive strength of their businesses (Grant, 2005).

On the other hand, according to Pappu, Mundy and Paswan (2001), the financial conditions of smaller size businesses hamper investment in technological tools that enable the management of transport in the concept elucidated by Holter *et al.* (2008).

3. METHODOLOGY

This study is an empirical, exploratory research that sought to characterize the needs and expectations of shippers regarding services of road transport enterprises in the specific context of the Brazilian context. According to Malhotra (2001), the exploratory research is appropriate in areas of little accumulated knowledge, while the understanding of the phenomena is still insufficient or even nonexistent.

The sample size was 400 industrial companies. The unit of analysis refers to the enterprises in manufacturing sector of state of Minas Gerais, with up to 100 employees, having as base the "Record of Employer Establishments" (CEE) of the Brazilian Ministry of Labor. The units of observation were the entrepreneurs and managers involved in planning and transport management.

The enterprises surveyed, the sample components, were characterized by sector of activity within the manufacturing industry. According to the National Classification of Economic Activities (CNAE), developed by National Council of Classification. The sectors and their economic activities covered were: Food; Clothing and Footwear; Chemicals, Pharmaceutical and Medicinal; Furniture; Metallurgy; Technology; Intermediate Industrialized Goods; and Others.

The sampling process was non-probabilistic judgmental sample. Data collection, by questionnaires, after pretested, occurred between February and April 2009, with visits of prepaired researchers in 400 enterprises to interview those responsible for each one. Due to the characteristics of the sample, it is worth noting that the missing data (non-response bias) were treated by the mean-substitution criterion, which is the best single value for replacement (HAIR, 2005).

These questionnaires were based on the experience of previous studies that have already dealt with the relevant dimensions to evaluating the transport in the Brazilian reality, such as ANTT (2005), and IBRD/ANTT (2006).

The attributes used were that suggested by Bowersox, Closs and Cooper (2002). The authors point out that the management of transport may to be performed by the evaluation of transport services based on attributes which allow to demonstrate the performance in:

- Speed: time spent in transit;
- Availability: The ability to serve any origin and destination;

- Reliability: Potential for variation in the service delivery total time;
- Capacity: Condition to handle any cargo and any amount;
- Frequency: The ability to serve at any time.

For others questions, we used a scale (from 1 to 6) horizontal linear unstructured, in order to avoid central tendency, what is usual in choices involving an odd number of interval. This scale was composed of two anchors at the ends – I strongly disagree and I agree completely - so that respondents would give the degree of agreement with the sentences. The advantage of using unstructured linear scale is the absence of a numeric value along the scale, aiming at higher exemption to responses (Stone and Sidel, 1993).

To evaluate possible differences in the behavior of businesses, keeping the particularities of their products, customers and market segments, service standards were defined, prioritizing constructs and attributes of transport, through the use of Exploratory Factor Analysis (EFA). Factor analysis can be defined as multivariate statistical technique used to study the interrelationship of observed variables, in order to define a set of common latent dimensions, called factors (Hair *et al.*, 2005).

4. RESULTS

Next, we present the results, starting by groups formed based on the behavior of shippers. Later, the aspects of transport management are analyzed, according to groups formed from similar behaviors, discussed as strategic logistics process.

First of all, it is important to say that among the companies surveyed, it was found that 49.6% have as their primary role the domestic market, 20.9% have local customers as their main market, 12% have the state, 11.5% have the regional market (up to 100 km).

4.1 Groups of shippers, according to identified behavior in transport management

Factor analysis of the used variables was validated by the test of sphericity of Bartlett and the Kaiser-Meyer-Olkin (KMO) index. The first tests the probability of the correlation matrix being an identity matrix, which would indicate the inadequacy of factor analysis. The index of KMO measures the adequacy of the sample regarding the correlation of variables. Hair *et al.* (2005) alert for the need of the KMO index to be higher than 0.5. For this study, there was a KMO index of 0.797, which indicates the adequacy of the sample. For the test of sphericity Bartlett, it was checked the significance level of 0.000, which allows to reject the hypothesis of the identity matrix for correlations between variables.

Regarding the definition of the number of factors to be extracted from the variables, we used the latent root criterion, so that each factor could explain, at least, its own variance. Thus, seven (7) factors were found. Each of the seven factors is composed of a set of variables, each one unique to a single factor.

The importance of grouping attributes is due to the possibility of creating dimensions - which here are called factors - which may prove to be important in providing the service. As an example, it is worth mentioning the possibility of having a dimension or factor "Price. This factor could be composed of several variables, not only the price itself, as a discount policy, deadlines, payment methods etc. The technique of factor analysis can then group these elements that will constitute the dimension or factor 'price'. The set of dimensions explains the whole phenomenon, in this case, what respondents believe to be important in the transport service.

The found factors or dimensions of the model together explain 62.415% of the total variance model, based on the latent root criterion, in which only one factor will constitute such a case the very least explain the variance, and from the orthogonal rotation VARIMAX.

According to Table 1, the found factors or dimensions of the model together explain 62.415% of the total variance model. This means that factors formed can explain more than half of what would be considered by companies as important in transport, and this result is statistically significant.

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Table 1 - Total variance explained in relation to the importance of attributes of the transport service

Factors	Autovalues			Sum of extracted load			Sum after rotation		
	Total	% of variance	Accumulated %	Total	% of variance	Accumulated %	Total	% of variance	Accumulated %
1	5,925	25,762	25,762	5,925	25,762	25,762	2,886	12,546	12,546
2	1,943	8,448	34,210	1,943	8,448	34,210	2,421	10,528	23,074
3	1,609	6,998	41,208	1,609	6,998	41,208	2,222	9,662	32,736
4	1,402	6,097	47,304	1,402	6,097	47,304	1,842	8,007	40,742
5	1,283	5,580	52,885	1,283	5,580	52,885	1,698	7,383	48,125
6	1,135	4,934	57,818	1,135	4,934	57,818	1,649	7,168	55,294
7	1,057	4,597	62,415	1,057	4,597	62,415	1,638	7,121	62,415

Source: Research findings

The grouped variables form the seven factors, as it can be seen in Table 2. The first factor is about the care with the cargo and may be motivated by its value and/or the need for strict compliance of contracts. In the second factor, there are two interrelated features, in this case, aspects of communication between the requester company and the carrier service, and responsiveness of the carrier in solving customers' problems, particularly regarding technical cooperation. The third factor concerns the payment for transportation service, i.e. freight rate, the methods or the need for companies to compete among each other with the purposes of reduction of freight rate. It represents primary concerns, as the costs of service for the shipper. The fourth factor relates to the necessity of cargo to be delivered without damage and in the right time. These are typical variables of relationships that are based on responsiveness, in which errors may be the stop of production or loss of customers. As for the fifth factor, the expressed concern is the priority regarding the regularity and operational flexibility. The sixth factor represents the possibility of control and security of cargo as agreed. Finally, the seventh factor is characterized by prioritizing the transparency and safety in the service delivery.

The specific objective of this analysis consists in the formation of clusters with characteristics of homogeneity within them and heterogeneity between them, or small variations inside the cluster in relation to the variations between clusters (Dillon and Goldstein, 1984). For purposes of analysis, we chose to limit in advance the number of clusters to five, although seven factors initially found. The choice of five clusters is justified by the possibility of balance between intra-cluster homogeneity and heterogeneity among clusters, since this equilibrium is crucial for the formation of clusters and can be used as criteria by the researcher because of their knowledge about the phenomenon studied (HAIR *et al.*, 2005).

Table 2 – Distribution of variables in the factors

Variables	Factors						
	1	2	3	4	5	6	7
(V1) Importance of theft prevention	,744						
(V2) Importance of preventing damage	,819						
(V3) Importance of trucks	,604						
(V4) Importance of accident prevention	,660						
(V5) Importance of compensation for loss	,682						
(V6) Importance of contract obedience						,632	
(V7) Importance of service regularity					,577		
(V8) Importance of ability to distribute trucks throughout the country					,742		
(V9) Importance of on-time delivery				,858			

(V10) Importance of cargo integrity		,876		
(V11) Importance of Carrier personnel				,799
(V12) Importance of operational characteristics			,342	
(V13) Importance of information availability				,617
(V14) Importance of the value of the freight rate	,555			
(V15) Importance of discount policy	,766			
(V16) Importance of payment deadlines	,774			
(V17) Importance of competitivity among competitors	,572			
(V18) Importance of ease of communication with the carrier	,691			
(V19) Importance of agility in service	,729			
(V20) Importance of the autonomy of the person in attendance	,622			
(V21) Importance of efficiency in solving problems	,683			
(V22) Importance of tracking systems via internet				,637
(V23) Importance of technical cooperation with customers	,408			

Source: Research findings

Table 1 indicates the relationship between the factors generated in the factor analysis and the clusters. The values at the intersections in the table represent the scores, so that features can be assigned to groups. Note that a factor in its nature is already composed of variables which express different characteristics.

Thus, to be allocated in a number of even smaller groups (five instead of seven), there is the possibility that a single factor is present in two or more groups, as well as a single group having characteristics of two or more factors, as it can be seen in Table 3, in terms of scores.

Table 3 - Scores of attractivity of clusters

Factors	Clusters				
	1	**2**	**3**	**4**	**5**
1	0,04927	-2,60505	0,18090	0,23385	0,38112
2	0,10171	-0,22129	0,09641	0,28091	-1,99906
3	0,27830	-0,09229	0,14112	0,04515	-0,49748
4	-4,29715	-0,09497	0,14320	0,14001	0,20755
5	-0,86519	-0,14295	-0,02540	0,02541	0,23545
6	-0,35918	0,21292	-2,06737	0,31094	0,06082
7	-0,29469	-0,00521	-,29370	0,10913	-0,35991

Source: Research findings

4.2 Characterization of the transport management according to groups

The identification of common factors that occurred from the Factor Analysis indicated the formation of clusters, according to similar business behavior regarding the needs of these features in transport services. Table 4 presents the characteristics of the clusters (number of enterprises and the respective sectors) that were formed, according to the K-means clustering.

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Table 4 – Clusters formed with the group of enterprises in the sample

Cluster	Number of enterprises	Sectors
1	11	Metallurgy and Technology
2	32	Clothing and Footwear
3	42	Food, Furniture and Intermediate Industrialized Goods
4	263	Food and Clothing and Footwear
5	36	Metallurgy and Technology
Total	**384**	

Source: Research findings

Table 5 presents a general characterization of the formed clusters, according to the grouping of the enterprises of the sample, with a special interest in the characteristics of their operations. In this conformation, the average orders to suppliers and customers show similar values, however, especially the high co-efficients of variation of customer orders in the cases of clusters 1, 2 and 3. Regarding directly to logistics and transport, it highlights the enormous variations in time schedules of cluster 2, typical enterprises in Clothing and Footwear sector that serve local customers, both for supplies, and delivery to clients.

Table 5 - Characterization of cluster – internal processes and served markets

Features	Cluster				
	1	2	3	4	5
Deadline Supplier service (days)	7,8	8,3	11,3	8	8,5
Coefficient of deadline variation sup. serv.*	7,7%	39,8%	19,5%	7,5%	17,6%
Deadline Customer service (days)	14,3	11,6	12,5	12,9	13,4
Coefficient of deadline variation cust. Serv.*	5,6%	40,5%	19,2%	7%	14,2%
Main customers (%)					
Wholesaler/Distributor	21,3	22	20,1	21,9	12,3
Large retail/Supermarket	0	5,7	6,1	10,8	7,7
Small retail	20,3	28	36,2	33	27,1
Industry	35	23,6	19,1	19,3	37,2
Final Consumer	11,6	16,7	12,5	11,4	7,5
Did not know/no answer	11,8	4	6	3,6	8,2

* The coefficient of variation is given by the ratio between standard deviation and the average (given in percentage), which indicates the consistency of the mean value. The lower the coefficient, the more consistent is the average value found.

Source: Research findings

Let´s summarize the characteristics of the clusters (Table 6). Cluster 1 consists of enterprises that have as typical clients the industrial and distribution customers, throughout the Brazilian territory. As for cluster 2, it consists of enterprises that serve the local retail market, while cluster 3 has as typical customers the local retailers and located anywhere in the country, the final consumer and industrial enterprises. In cluster 4, we find the enterprises which have as clients the retail customers throughout the country, and cluster 5, the main customers are wholesalers, large retail and national industries.

On the specific issue of customer segments, we have considered some scenarios regarding the differentials of service level. The first one concerns the investigation of the existence of a relationship with the period of service. As can be seen in Table 7, us-

ing the coefficients of correlation, we can observe that all clusters have a negative correlation between percentage of sales to industrial and service time, which indicates that as the relative importance of such customer increases, there is a reduction in the time of service. That is, the industry requires better level of service and this requirement is met by suppliers.

Table 6 – Clusters formed with the group of sample enterprises

Cluster	Typical customers
1	Industrial and distribution enterprises distribuição, throughout the territory
2	Local retail
3	General retail, final customer and industrial enterprises
4	Retail throughout the territory
5	Wholesalers, large retail and national industries

Source: Research findings

Table 7 - Correlation between segments of customers and average service deadline

Segments of customers	Cluster				
	1	2	3	4	5
Wholesalers/Distributors	-0,245	0,414	-0,147	-0,120	0,072
Large retail	-	0,081	0,420	0,044	0,151
Small retail	0,156	-0,138	-0,009	0,005	0,109
Industries	-0,333	-0,143	-0,134	-0,023	-0,158
Final customers	-0,435	-0,169	0,150	0,081	0,038

Source: Research findings

On the other hand, there were mostly positive correlations between the deadline of service and the percentage of customers to small retail and consumer final, which indicates an increase in the deadline of service as the percentage of clients classified as small retailers and final consumers increases. A possible explanation for this phenomenon is the possibility of fragmentation of these customers, with low volume of individual orders, impacting on the level of service, leading to a longer deadline of service as the percentage of these customers intensifies.

It also sought to verify the correlation between financial traded volume and deadline for the service of customers' order. Such investigation is justified by the hypothesis that there will be a reduction of service deadline as the order's volume increases. The correlation between the two variables indicates that there is an inversely proportional relationship between the order volume for purchase of supplies and the service deadline by the supplier. Thus, the higher the volume of the order, the lower is the time of delivery. That is, the level of service increases when higher financial volumes are being negotiated. The exception is cluster 3, in which the relationship is proportional (Table 8).

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Table 8- Correlation volume of order versus average deadline of service and general assessment

Correlation	Cluster				
	1	2	3	4	5
Ordered volume to Supplier x Supplier service deadline	-0,214	-0,28	0,561	-0,006	-0,049
Client's ordered volume x Client's service deadline	0,642	-0,118	0,684	0,175	0,304
Ordered volume to Supplier x General Assessment	-0,041	0,382	-0,251	0,004	-0,012
Client's ordered volume x General assessment	-0,25	0,17	-0,133	0,056	-0,033

Source: Research findings

As for the same relation to the deadline and volume of orders provided to the customers by the enterprises studied, the results do not follow the same trend. In this case, the deadline of service of the enterprises increase as the financial volume per order increases, which can be seen in the positive correlation between the variables.

4.3. Characteristics of the hiring of transportation services

The forms of relationship between the enterprises and the suppliers and customers in the market were investigated, via transportation needs. Enterprises often use the purchasing system FOB (Table 9), that is, they are responsible for paying the freight to receive raw materials and other materials and components purchased. This reality is more usual for enterprises in cluster 5.

Table 9 - Payment of supply freight, according to the cluster distribution

Payment of supply freight	Cluster (%)				
	1	2	3	4	5
The company, always	54,5	53,1	52,4	63,8	88,9
The company, when purchasing low financial volumes	9,1	18,8	7,1	15,4	5,6
Supplier, always	36,4	21,9	38,1	17,7	5,6
DK/NA*	0,0	6,3	2,4	3,1	0,0

Source: Research findings
* Don't know/No answer

As with the purchase of raw materials, the enterprises studied are responsible for paying for transportation in most cases (48,6%) in the sale of their products (Table 10). Although this feature is common to all clusters, it can be seen most strongly in the enterprises in cluster 3, in which 54,8% of the enterprises bear the costs of transport, regardless of the volume purchased. As for the enterprises which determine the liability of transport according to the financial volume of purchase, they are more present in cluster 1.

Table 10 – Payment for sale freight, according to cluster distribution

Payment for the sold products' freight	Cluster (%)				
	1	2	3	4	5
The company, always	36,4	50,0	54,8	47,9	47,2
The company, when purchasing low financial volumes	45,5	28,1	19,0	30,0	30,6
Client, always	18,2	12,5	16,7	14,4	11,1
DK/NA*	0,0	9,4	9,5	7,6	11,1

Source: Research findings
* Don't know/No answer

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That is, there is a predominance of FOB freight when purchasing and of CIF when selling, implying that the company usually pays double for the freight, which makes even more significant the transportation costs in relation to the final price.

In addition to responsibility for the cost of transport, we sought to also check the criteria used by enterprises in hiring the carrier. Most enterprises use the transport service on a daily basis. Of the enterprises that choose to contract carriers when there is the need for shipment of cargo, they are largely concentrated in cluster 2. Enterprises using as criteria the availability of carriers are strongly present in cluster 1. As for the enterprises that choose the carriers based on the background of relationships, they can be found in all groups, particularly in clusters 4 and 5 which are also those of higher frequency (Table 11).

Table 12 – Cluster's distribution by selection criteria of carriers and transport use frequency

Criteria for carrier selection (%)	Cluster				
	1	2	3	4	5
At the moment of closing the purchasing/sale	0,0	17,6	14,8	9,5	10,0
At the moment of shipping	9,1	29,4	21,4	17,2	19,7
There is a contract	0,0	0,0	0,0	3,0	5,9
By availability of Carrier	63,6	34,3	33,4	25,3	29,4
By relationship background	27,3	18,7	30,4	45,0	35,0
Frequency of transport use(%), according to cluster					
Daily	36,4	25,0	31,0	38,1	44,4
More than once a week	27,3	37,5	11,9	25,8	25,0
Weekly	18,2	15,6	35,7	20,4	13,9
Fortnightly	9,1	15,6	16,7	11,9	13,9
DK/NR	9,1	6,3	4,8	3,8	2,8

Source: Research findings

Regardless of the difference between groups, it should be highlighted that it is possible that enterprises will tend to select carriers based on the background of relationship, indicating a tracking of performance and preference for already known carriers, and on the availability of the carrier, which indicates the underestimate on the importance of transport in the process of business, as the need for transport has been known since the sale, but the shipping planning is not done, then one must be satisfied with the service that is available when needed.

The strong concentration of enterprises that use the service daily transport in cluster 5 is highlighted. The concentration of enterprises that use the transport service more than once a week, in cluster 2, and finally, enterprises that use the transport service weekly, being significant in cluster 3 (35,7%).

5. CONCLUSIONS

The objective of this study was to evaluate the internal processes of the enterprises concerning the decision taking to hire transport and the satisfaction of small size shippers in relation to transport services.

The investigation of the relationship between the level of service associated to the client, it was characterized that as the relative importance of industrial customers increases, there is a reduction in service time. That is, the industry requires better level of service and this requirement is met by suppliers.

On the other hand, there is increase in the deadline of service when customers are small retail and final customer. A possible explanation for this phenomenon would be the fact that these customers demand fractional cargo service and they are very spread geographically. However, there have been no such proof when crossing the variables financial volume of order and deadline of service.

In other words, the results indicate that the leadership and coordination capacity of the focal enterprises dictate the level of service in the business chain. And this is not a matter of volume. The sampled enterprises showed that when they serve the industrial customers they use a higher level of transport service, as required by the customers who follow the perfor-

mance of suppliers in several aspects, including the alignment of logistics with business strategies.

Thus, it is understood that the shippers manage the transportation from the level of service prevailing in the chain in which the company operates, and there is less impact in this management issues such as frequency of demand, financial volume of goods to be moved and other factors. Enterprises tend to respond only to the level of demand and, therefore, do not use transportation as an opportunity to create competitive advantages.

In other words, enterprises do not recognize the possibilities of differentiation before the competitors and customers through logistics, in general, and transport, in particular. This way, to get the needed services, they tend to buy transport services, readily available, without concerns for future transactions and more stringent and systematic criteria for the selection and evaluation of the service. It is typically the case in management of SMEs, in which managers tend to keep the focus of management more oriented to enough efficiency than to the real efficiency and excessive preference for using the opportunities rather than planning.

Regardless of the format of the transport negotiation, CIF or FOB, service levels tend to balance, which suggests that regardless of who pays the freight, services behave as commodities, with no opportunity to obtain a differentiated service by responsibility for prevailing paying.

This indicates that the more impacting strategic actions on the development of the contribution of transport to the competitive level of enterprises must come from a new situation. The actions will be more effective as enterprises recognize concrete possibilities of differentiation before the competitors arising in the transport and logistics.

Thus, enterprises could manage the transport in a planned way and prioritize collaborative actions and partnerships with carriers, with evaluation of the gains to be earned from this better relationship. Initiatives aimed at management development, with training and awareness-themed work in logistics can promote these results, which should be cut across the functional areas in their sub-systems (supply, production and distribution) and their primary activities (transportation, inventory, information and location).

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