

Methods of measuring the level of logistics serving in international business

Simona BĂLĂŞESCU¹

Abstract: *This paper raise the issue of logistics service of customers in international markets. The study aims optimizing logistics serving using the case of a company in Romania which has several foreign customers. The main objectives of the investigation are related to the measurement of logistic service level for the company's foreign clients and to an evaluation of the present potential of the logistic serving strategy of this company. The instruments used for the analysis are the economic outputs, information from foreign customers and the theory about the level of logistic serving. The results of the analysis are used for making a proposal of a set of projects aiming the improvement of the serving quality of foreign customers.*

Key-words: *supply chain management, logistic service, international business.*

1. Introduction

While the importance of customer service is recognized and any manager, the concept defining is difficult due to the complexity of the involved issues.

Academics agree that logistics serving has become an essential component in implementing strategies for creating value-added, total quality for customers and company objectives. The companies approach regarding this concept is imperative due to the tendency of shortening products life cycle and the "more educated" and increasingly demanding customers.

Bălan C. (2004, p.24) considers that the level of customer service is the result of the whole system of logistics activities. Its direct impact on sales and profits should establish the logistics service level as an objective of the company's logistics strategy. Logistics service is a part of customer service, as a result of all company activities.

Christopher M. (1990, p. 66) considers that customer service ensure the availability of products for customers. It assumes that the potential value of the product becomes effective only when the customer takes possession of the product.

¹ Transilvania University of Braşov, simona_balasescu@yahoo.com.

The concept of customer service can be analysed from different perspectives: activity, level of performance or management philosophy (LaLonde, B. and Zinszer, H, 1976, p. 117). The activity-based approach emphasizes customer service management. The level of performance is focused on the measurement possibilities. Regarded as management philosophy, customer service reflects the importance for marketing of meeting customer needs. The effectiveness of the concept of customer service requires simultaneous consideration of three dimensions for the definition process.

According to Blanding W. (1974, p.3) customer service is a chain of sales activities and customer satisfaction requirements, which begins with the receipt of orders and ends with products delivery to customers, in some cases continuing with equipment maintenance services and other forms of technical support.

Other famous academics (foreign and Romanian) who contributed to the definition of the customer service process: Costea, C. (2004, p.51), Kotler, Ph. (2008, p. 145), Gattorna, J. (1999, p.67), Hines, T. (2004, p.113).

2. Measurement of logistic service level of foreign customers

In this part will be measured the logistic service level for the foreign customers of a so called Company “X”, in order to examine its capacities and limitations, and to identify the problems which could raise in serving certain categories of customers or certain markets. The company faced in 2009 with a reduction in demand from customers in foreign markets. The number of foreign orders decreased by 10% in 2009 compared to the value in 2008, while the customers number stayed the same.

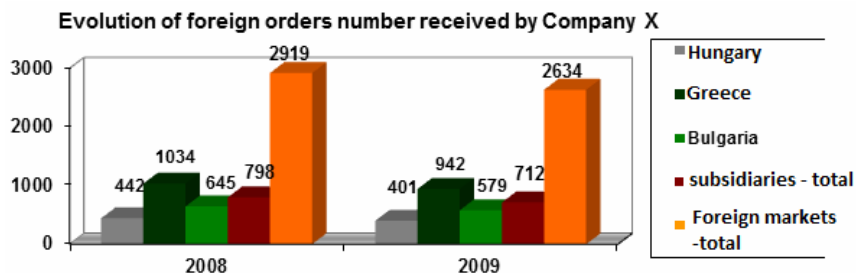


Fig. 1. *Evolution of foreign orders number received by Company X*

Analysing the evolution of demand in each export market, we can see the reduction tendency manifested in all three markets. The number of customer orders both from Hungary and Bulgaria has decreased by 9% in 2009 compared to 2008, while the number of customer orders from Greece decreased by 11% in 2009 compared to the previous year.

This trend can be justified by reduction of operational activity of firms due to the crisis from recent years the international economic context. Reducing the number of orders can also be an indication of the decrease of the logistic service level for foreign customers.

Modest values achieved in 2008 by the three indicators measuring the logistic service level show the low efficiency of foreign customer service in that year. The negative evolution variation that characterizes the variation of the three indicators in 2008-2009, indicates the inefficiency of foreign customer service during 2009.

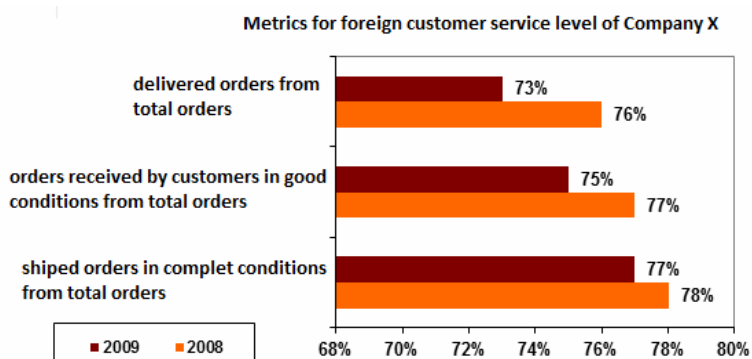


Fig. 2. *Metrics for foreign customer service level of Company X*

In 2008, the foreign client received the orders in complete state in 78 cases out of 100, while in 75 cases out of 100, orders reached the customer in good conditions, and in only 73 cases out of 100 orders were received from client on time. In 2009 compared to 2008, the foreign client received, on average, one order less in complete state, two orders less in good conditions, and three orders less on time.

The main problems faced by foreign customer service in 2008-2009 were the delayed date of delivery and a wrong state of orders on the receipt moment.

The lowest performance for foreign customer service level was recorded on complying with the date of delivery. The share of orders delivered on time in total orders dropped in Semester I of 2009 by 3% compared to the semester I of 2008. In semester II of 2009, the value of the same variable was 4% smaller compared to semester II of 2008. The second problem of customer service was a wrongly state of orders on reception time. This wrongly state of orders refers to the wrong quality of orders and the unsatisfying state of orders: damaged packaging, damaged labels/lipsă, incorrect invoices or lack of documents.

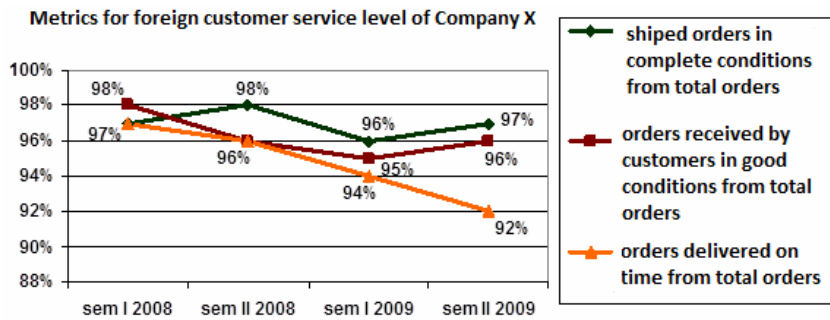


Fig. 3. Evolution of variables for foreign customer service level of Company X

The share of orders delivered to customers in good conditions in total orders on the first semester of 2009 decreased by 3% compared to the same period in 2008, while in the second half of 2009, the indicator dropped of 2% compared to the second half of 2008.

In both semesters of 2009, the share of orders shipped in incomplete state form total orders increased with 1% compared to the values achieved in 2008.

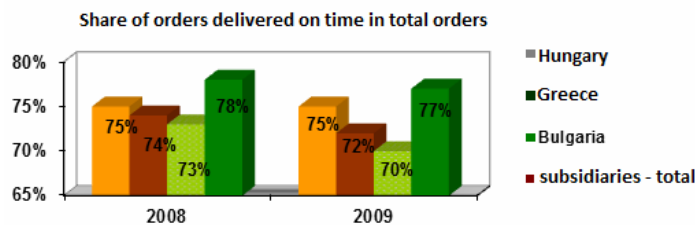


Fig. 4. Share of orders delivered on time in total orders

Regarding the share of orders delivered on time in total orders, it can be noticed that in 2009 the level of service has decreased compared to 2008 for 2 markets and for the company subsidiaries. The foreign market less served both in 2008 and 2009 was Bulgaria, while the subsidiaries were best served. If we consider the evolution of orders on customers' categories, we see that the dropping trend is present in almost all categories except the industrial manufacturers from Hungary and logistics operators in Bulgaria, where sales recorded in 2009 an increase of 17% and 5%, compared to 2008 values.

The factor that contributed to the decrease of foreign orders received by company X in 2009 was the massive reduction of orders from logistics operators from Hungary. This category has the most massive reduction of orders (43%), followed by distributors from Bulgaria, with a reduction of orders by 16%, and the category distributors in Greece, with a reduction of 13% of orders.

The significant differences in the level of demand from one customer category to another, and even opposite trends expression (17% increase of industrial manufacturers orders in Hungary, a decrease of orders by 43% in Hungarian logistics operators) can have as major cause the problems faced by the company in serving certain categories of customers.

To discover if certain foreign customers are less served than others, it is necessary that the measurement process of the service level to be applied independently for each class of customer. Both in 2008 and in 2009, logistics firms in Hungary and Greece were the worst served compared to other categories of customers.

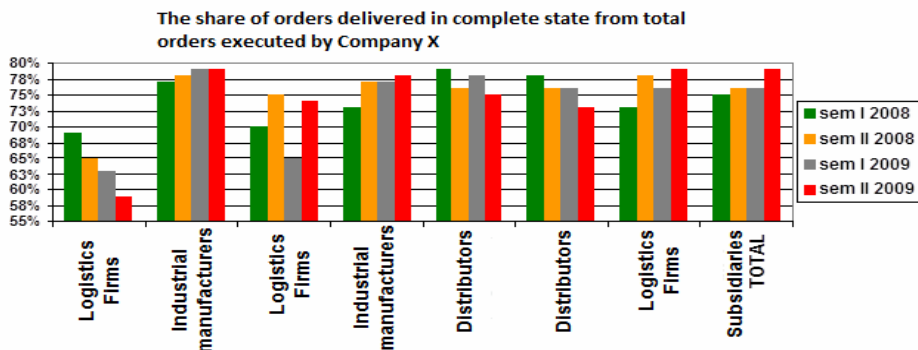


Fig. 5. *The share of orders delivered in complete state from total orders executed by Company X*

In the first half of 2008, for the logistic companies in Hungary, from the total orders, 31% have been received in incomplete state. In the second half this share increased to 35%. Logistic firms from Greece received in incomplete state 30% of orders placed in the first half of 2008, while the share of orders in incomplete received in the second half of 2008 was reduced to 25%. Customers least affected in 2008 by incomplete orders were industrial manufacturers from Hungary, wholesalers from Greece and logistics operators in Bulgaria.

In the first half of 2008, the share of orders received in incomplete state in total orders was 23% for industrial manufacturers in Hungary, 21% for wholesalers in Greece, and 27% for logistics operators in Bulgaria. In the second semester of 2008, the share value has been changed to 22% for the first group of customers, and to 24% for the second group customers, and 22% for the third category of customers.

Regarding the temporal change of the indicator measuring orders delivered in incomplete state in total orders, we can notice important discrepancies of service between the categories of customers. The share of orders received in incomplete

state in total orders of industrial manufacturers from Hungary has declined by 2% in 2009 compared to 2008. For wholesalers in Greece, the share of orders delivered in incomplete state in total orders increased by 1% in 2009 compared to 2008. These opposite evolutions reflect the company's negligence in serving certain categories of customers. This indicates considerable improvements of serving quality for certain customers, and reduction of quality for other clients, manifested from one year to another. In this context, it can be seen that compared with 2008, in 2009 it has been improved the service quality for 4 categories of customers and decreased for the other 4 categories of customers.

If the issue of orders delivery in incomplete state seriously affected only 2 categories of customers, the serving inefficiency expressed through damaged orders seriously affected a higher number of categories of customers.

In the second half of 2008, from 100 orders made, wholesalers of Bulgaria received 28 damaged orders; logistics operators in Greece have received 27, while logistics operators in Hungary received 26 and the subsidiaries of company X received only 24 damaged orders. The worst served customers category are wholesalers of Bulgaria. In their case, the number of orders received damaged declined in the first half of 2009 to just 26 orders of 100 made, while in the case of Hungarian logistics operators and the subsidiaries, the number of damaged orders was reduced to 25 and 21 orders of 100.



Fig.6. *Share of orders received in good state, in total orders performed by Company X*

Customers least affected by this service limit were the wholesalers in Greece. The share of orders delivered in incomplete state in total orders, took the lowest values, respectively 21% in the first semester of 2008 and 22% in the second half of the year. Compared with 2008, the Hungarian logistics operators were affected in 2009 by an increase of 4% of damaged orders in total orders, while industrial

manufacturers in Hungary benefited in 2009 from a reduction of 2%. Compared to 2008, the logistics operators in Hungary in 2009 were affected by an increase of 4% of damaged orders share in total orders, while the industrial manufacturers in Hungary in 2009 benefited from a reduction 2% of the same indicator.

The negative impact of not delivering on time the orders affected only 2 categories of customers: wholesalers from Greece and logistics operators in Bulgaria. Wholesalers in Greece were the worst served both 2008 and 2009. In the first half of 2008 only 67 cases out of 100 received the orders on time, while in the second half of 2008 and first half 2009 orders have been delivered on time in 72 cases out of 100. In the second half of 2009 orders were delivered on time in 76 cases out of 100.

Bad serving, meaning late delivery of orders, raised less problems for logistics operators in Bulgaria, where the share of orders delivered in time in total orders reached values of 71% in first half 2008 and 69% in the first half of 2009, while in the second half of both years the achieved values were 73% and 72%. Customers best served were the company subsidiaries. Of the total orders, the share of late delivery was 22% in the first half of 2008 and 21% in the second half of 2008. In 2009, the service quality for subsidiaries was reduced but, from total orders, the share delayed orders raised to a value of 23% for both semesters of 2009.

The indicator variation for the period 2008-2009 was favourable for certain categories of customers, disadvantaging others in the same time. While logistics operators in Hungary received in 2009 by 2% more delayed orders compared to 2008, industrial manufacturers in Greece received with 1% fewer delayed orders compared to the previous year. Compared to 2008, the issue of delayed orders in 2009 improved for only 3 groups of customers, while for 5 groups of customers intensified. We can see again the differences in quality serving from one category of customers to another.

3. Conclusions

The analysis for measuring the level of logistic service for foreign clients of the company X indicated a low efficiency of serving, while reducing the level of logistic service. In order of decreasing negative impact, the main obstacles encountered by the firm in serving foreign clients were delayed delivery and incompleteness of orders.

In terms of export markets, the market worst served both 2008 and 2009 was Bulgaria, followed by Greece and Hungary, markets which have reached higher values of serving. Analysing the situation on categories of customers, was concluded that, in terms of respecting the delivery deadline, the worst served customers were distributors in Greece. In terms of damaged orders received, the most affected

category were the distributors in Bulgaria and in terms of incompleteness of orders, customers most affected were the logistics operators in Hungary and Greece.

As the information given by Company X showed traffic congestion in the factory as major cause for failure deadline, the proposed solution refers to traffic fluidization through **optimizing traffic the collecting times of orders by carriers**.

The proposed solution offers to logistics processes the capacity of controlling and reducing the bottlenecks between arriving and departing of loaded trucks from the factory reducing unnecessary waiting time. The solution also improves the service availability through the company's ability to manage seasonal variations in demand.

Due to different requirements of foreign customers, the company is required to realize in terms of order cycle duration a **division of foreign markets into segments that will be addressed by distinct strategies, based on the customer activity type criteria**.

The cycle duration is not the only component of service for whom the company need to adopt different strategies from a customer category to another. Failure to meet customer expectations in terms of logistics service has negative repercussions both on sales and company image. The level of service should be a priority for logisticians. The impact of service on sales and company profits justify its importance.

4. References

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