

# Express distribution for Spare parts

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**Abstract**—The goal of every company is to reach the best possible consumer service, at the lowest price. All of them are made to guarantee the best possible relationship with the customer. The distribution of the product becomes crucial when it is of high importance for the production of the customer, such as spare parts. Trying to have a fast and accurate distribution is a big challenge for the distributors.

**Keywords**—Distribution, transport, spare parts.

Distribution within a company is like a chain of links, from production to the customer, through warehouses and transportation. All are connected with each other, governed by the law of cause and effect. This means that any decision taken on one side affects the rest. As if it were domino pieces, if one of the links falls, the rest will suffer the consequences. Referring to the example of a construction company, if there are not enough bricks in the warehouse that the carrier can pick up, the carrier will have to wait until there are enough, increasing the time of provisioning to the clients, at the risk of losing them. At the same time, if we ask why there was not enough inventory level, this might be because, there was not enough production because the demand forecast was wrong. Or because there was not enough material in the production because the material supplier did not give enough material. Or perhaps, it was not directly thought of putting a higher level of inventories in that specific warehouse. The question can lead to many answers, being clear that in the end, everything will lead to the same impact, a poor customer service, loosing the customer.

More risk may happen when companies try to fix the distribution piecemeal. If there is a distribution problem as described, and company decides, for example, just to improve the transportation service, making it faster, but without improving the back of the chain, the losses will come in two parts. The loss of customers because the distribution will not improve, and the loss in the investment of faster transport channels. These losses increase for the specific transport path, taking into account that although the transport is the last phase of the distribution, according to Figure 1. it gets to involve 50% of the supply chain costs. The percentage of customers who do not repeat for a shortage is very high. This percentage may be even higher depending on the type of products that the client demands and their urgency. There are products that may not be crucial for a supermarket, for instance if one day the shipment of chicken does not arrive, because the supermarket can use what it is in the inventory, and if it does not have enough, the losses will not be really great. However, if the supermarket does not have electricity because the supplier fails, it cannot open and also may lose a percentage of its product stored in fridges. The same happens for the rest of the companies. There

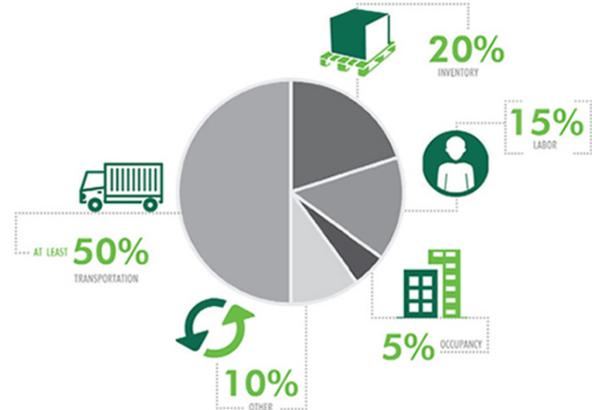


Fig. 1. Importance of transportation costs in the distribution. Source: CBRE Supply Chain Services, November 2014.

are certain products that suppliers can take with a more calm distribution than others. This is the case for spare parts. These are pieces that may not seem important or in certain cases with lack material value, however, if they fail, in some cases, the production chain has to stop producing huge losses. Besides, depending on the type of industry, when a part will fail and its replacement will be necessary is sometimes difficult to predict. Due to all this, customers do not usually have warehouses for them. These are the cases when companies need a distribution as dynamic and, at the same time, as fast as possible, expecting the greater customer service of their supplier.

Sometimes, the origin of the distribution problem is not in the elements that compose it, it is in the company strategy. Each type of parts or products supplied must have a strategy according to the customers requirements. If a supermarket wants to have 10 kg of pears per week, the strategy may be to have a transport line that arrives once a week with that order. However, when the demand is not clear, nor is it predictable, as is the case of spare parts, the strategy might be several. Having a storage center near the customer can be an option, allowing when the customer places an order, the product arrives in time for the proximity. Or, you can have only one storage center and send when an order using a fast track, as, due to the distance, this Express transportation will make necessary. However, in many cases the clarity in the chosen strategy causes these two to be mixed, causing the inefficiency of the distribution.

A good example of how they affect the relations of the distribution in its different links in the specific case of the spare parts, besides how a change in the transport alone can produce losses if the problem comes from other places is included in the thesis *"Express distribution for Spare parts"*.