MANAGERIAL STRATEGIES AND ORGANISATIONAL CULTURE

THE IMPACT OF DECREASED ORDERS BY CUSTOMERS IN THE AUTOMOTIVE INDUSTRY

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Abstract: *In any industry, manufacturers must be able to adapt quickly to customer requirements, regardless of whether orders increase or decrease drastically. Especially in productions that are based on customer-specific orders, adaptability is a keyword to be sustainable. The impact produced by a drastic loss of orders must be pursued, especially from an economic point of view, finding solutions that can keep the company profitable as long as the order curve is decreasing.*
Keywords*: decreased orders, adaptability, customer-specific orders, automotive*

INTRODUCTION

The car wiring industry is one of the most affected industries because it relies heavily on specific customer orders. Given the global level of the automotive market, automotive wiring manufacturers face the great challenge of adapting to the increase or decrease of the OEMs (Original Equipment Manufacturer) orders due to the global market. In the current context, the world car market decreased by 4 million units in 2019, to 90.3 million units, amid declines in countries such as China and India according, to the analysis of LMC Automotive (Barza, HotNews.ro, 2020).

According to a Coface study, in a bleak global economic environment, the automotive sector faces a number of challenges, including stronger and stricter environmental regulations, and car sales are experiencing a negative trend that has not been seen before the 2008 recession, marking the entire sector by uncertainty. Forced to comply with this new technological situation and consumer desires, carmakers are investing heavily in redesigning cars, increasing production costs and having a significant impact on the car wiring industry. (Coface, 2019)

In Romania, a ranking of new car sales shows that the market has decreased by up to 44% compared to 2019, reaching a drastic decrease in the units sold, reflecting in the wiring manufacturing orders for these car models.

Table 1: Ranking by car brands, January - December 2020 (Barza, 2021)

Car brands	Units sold	Compared to 2019
DACIA	39,919 units	Decrease of 20%
SKODA	10,288 units	Decrease of 16%
RENAULT	10,273 units	Decrease of 24%
VOLKSWAGEN	9,422 units	Decrease of 11%
FORD	6,938 units	Decrease of 44%

TYPES OF PRODUCTION

The management and organization of the companies production activity are in direct dependence on the type of production.

By type of production is meant an organizational and functional state of the company determined by the group of manufactured products, the volume of output executed on each position in the manufactured products, the degree of specialization of the company, of their sections, jobs and the manner of moving different raw materials, materials and semi-finished products from one job to another.

Table 2 : Types of production (Frățilă, 2019)

Type of production	Annual quantity of products, Q
Small or unique series production	1 - 100 pieces
Series production	100 – 1000 pieces
Mass production	10.000 per million pieces

According to table 1, there are three production types:

Mass production type

This type of production can be found in factories that produce a small range of product types, and every type of product is made in very large quantities, i.e., in bulk. In this type of production, the movement of products from one workplace to another is done continuously, usually piece by piece, using for this purpose primarily mechanized and automated means of transport. The type of mass production creates excellent conditions for the widespread use of automated production processes, increasing the companies economic efficiency.

Series production type

It characterizes the factories that manufacture a wider range of products in large, medium, or small quantities. The movement of products

from one workplace to another is done by means of transport with a continuous operation in the case of large series and transport with discontinuous operation in the case of small manufacturing series. In the companies with this type of series production, the workflow is achieved by placement of different machines and equipment on homogeneous groups or on production flow lines.

Small or unique series production

This type of production can be found in factories that execute an extensive range of products, each kind of product being unique or being executed in very small quantities. Another characteristic of this type of production is the fact that the products or parts move from one workplace to another piece by piece or in small batches, using discontinuous means of transport.

This type of production is now growing due to the very high diversification of consumer demand.

The first type of basic production organization in the manufacturing process adopted by the wiring harness industry is flow production, also known as line production. It is used in industries where continuous production is required and typically focuses on specialization. It is characterized by specific methods and techniques such as organization on automatic production lines where multiple workstations are installed.

Flow production organization is characterized by:

- dividing the technological process into equal or multiple operations in terms of workload and specifying the most rational sequence of their execution;
- the distribution of the execution of an operation or of a small group of operations on a certain workplace;
- placement of jobs in the order imposed by operations;
- the passage of different raw materials, parts, and semi-finished products from one workplace to another by appropriate means of transport;
- synchronization of the execution of technological operations;
- simultaneous execution of operations at all workplaces within the production line;

For producing various types of individual products, the different sections, workshops, and jobs are organized according to the technological principle, using machines, equipment, and universal labor force to be quickly adapted to the execution of various kinds of products in conditions of economic efficiency.

ASPECTS OF COST REDUCTION THROUGH REORGANIZATION OF A WORKSTATION IN A SERIES PRODUCTION TYPE

In a car wiring company, having a series production, based on specific orders received from the customer, the impact of their decrease is significant because the production must be adapted with significant efforts. Since the production for the manufacture of car wiring is organized in flow, it is necessary to study and analyze the areas that can be most easily reduced and adapted to the new demands from the customer.

Production lines are characterised by continuous production and specialization. Since multiple workstations are installed and sequenced in order to finish one order, the possibility of reducing one workstation can be done neither quickly nor easily.

In order to reduce costs associated to this kind of production, other areas of production must be analyzed. Decreasing orders means less raw material, less workload, but the same amount of workstations to be executed.

A decrease in orders affects the entire production chain, but this must be analyzed primarily from a logistical point of view: (Arun Kumar Sharma, 2019)

- Identification of waste produced by transport, waiting, overproduction, stocks, unnecessary movements, or reprocessing
- Elimination steps from the process that do not add value or are not necessary
- Making sure the steps flow in an efficient sequential flow
- Continuing to improve processes

EXAMPLE OF IMPROVING EFFICIENCY AND ACHIEVING COST REDUCTION ON A WORKSTATION

Since the workstations in the production assembly line are hard to modify, there can be considered the workstations for semi-finished goods that deliver the products to the assembly line for cost reductions.

Because orders have decreased, the budget for human resources is diminished, meaning that the same products have to be done with less personnel. The production assembly line has to be fully occupied in order to deliver the products, and personnel can't be cut here, but a workstation for semi-finished goods, i.e., module production, can be optimized.

According to the budget cut, indirect personnel has to be diminished by 20%, because orders have decreased. The logistics department, which is supplying the production lines with raw materials and modules is affected by the diminished quantities of raw material and parts supplied and can be reorganized. By analyzing a module producing workplace, which also has to

be supplied with materials, there have been detected several opportunities for improvement:

- reducing the number of operators for material supply by organizing the part supply shelves in such a manner that the production operators can load the material themselves
- raw materials that don't need processing, such as cable channels, clips, and other mountable elements, can be organized in a separate area, in the middle of static workplaces, so production operators can supply themselves when needed

Involving the production operators more in supplying their own workplace means that logistics activities can be reorganized, achieving the 20% cut in indirect labor and adapting the current production to the decreased orders by the customer.

CONCLUSION

Car wiring companies must continually reinvent themselves to cope with a constantly changing and insecure market. They must analyze and prevent situations of market fluctuations so that they are prepared for the increase in production, but also for their decrease. They must have the ability to increase or decrease production volumes without significant impact on the company. Fluctuation scenarios and continuous improvement of production processes are the keys to success in such a changing market.

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