

THE LOGISTICS OF PRODUCTION MANAGEMENT AND THE TRANSFORMATIONS IN THE BUSINESS ENVIRONMENT

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The prompt production chains are strongly integrated in the company along its functions and outside it, towards the providers and customers. The transition from vertical to horizontal imposes an organizational change. To help this process, it is useful that 'the best practice' be set through «benchmarking». We seem to enter an era when the competition rules will differ greatly from those existing in the past. If a company aims at obtaining such an advantage, it is crucial for the organization to revise the manner in which it grants values for the customers and decide whether it is time to reconfigure the chain in order to use the power of the other players in the production chain.

Keywords: logistics, business environment, production chain

1. General issues

They suggest that a new business model is necessary in order to cope with the radically changing business environment.

They describe the appearance of network organizations and explore their implications for the management of the production chain.

They underline seven major transformations in the business environment that need to be taken over to administer the chain production in the future.

They discuss the need to organize the chain production and propose means through which complex networks can be better coordinated.

However, there is a large number of organizations where the use of logistics may be easily traced with a significant strategic variable. Companies such as Xerox, Dell, Nokia, Benetton and 3M have massively invested in developing logistic systems. Although their market success is due to several factors, it is obvious that logistics, too, has played an important role in achieving such results.

A study carried out in North America for the Logistic Management Board tried to identify the features of companies that used logistics, the elementary characteristics of these organizations being as follows:

- they display an increased interest in customers;
- they comprise a wide array of mixed control from the functional viewpoint;
- they create alliances with their suppliers;
- they have a greatly formalized logistic process;
- they lay accent on operational flexibility;
- they use performance assessment;
- they invest in information technology;

2. The new organizational model

It may seem that, in order to be successful in all sectors of activity, we need significant changes within the company. There is the need for a change that exceeds the re-sketch of the internal organization scheme and involves a cultural change starting at the top. In fact, the fundamental principles that have traditionally lead the company have to be considered, since what is required is a radical change of the models that hindered the development of industrial organizations for so long.

2.1. The need of new models in the business environment

Most of us work in hierarchical, vertical and functionally defined organizations. The typical organizational scheme of these companies resembles a pyramid and provides a clear image of subordination and the relationship-building ability of each employee. In fact, the organizational structure has changed very little since the Romanians have developed the pyramid model.

Although it is a clear fact that these models were very helpful in the past, now there are serious problems, since they are no longer suitable for the changed conditions of our times. Perhaps the most significant change of all is speed. Due to the short life cycle of products, time on the market has a growing importance.

Similarly, the dramatic growth of 'just in time' (JIT) practices in production means have created an environment where companies develop systems able to answer more rapidly and in a flexible manner to customers' requests. Indeed, this is valid for all the markets nowadays, as organizations try to reduce their stocks and thus be able to answer orders more rapidly.

The challenge for any business is to become a prompt organization in all respects. It has to meet the changes of the market with products and services that provide innovating solutions to the customers' problems; it has to answer volatile requests and must be able to provide a high level of delivery flexibility.

Maybe one of the most important successes of management lately resides in the fact that it has noticed that individual organizations can no longer compete as entities in themselves, but as production chains. We undergo now through a stage of network competition, where the prizes will go to those organizations that can structure, coordinate and administer themselves better in their relationships with their customers in a network meant to provide them a higher market value.

The emergence of network organizations is a recent phenomenon that has led to many comments and analyses. These virtual organizations are characterized by a confederation of expert skills and abilities made available by the network members. It is debatable whether such collaboration arrangements are more effective in satisfying the customers than an independent company, which undertakes all the activities. The implications for management of such a network are generally considerable and, particularly the challenges for logistic management are also significant. In order to make the networks more effective in satisfying the end users, it is necessary to have a high level of collaboration within the network, adjacent to recognizing the need to make these relations mutually advantageous. The network success is due especially to the exchange of information among partners, so that the requests down the production chain are visible for all the members in its upper side. Creating transparency along this chain ensures a production and a product delivery that suits the real demand and not a forecast; thus, the parts of this chain operate much more effectively.

The management of the production chain aims at obtaining an effective cost satisfaction after integrating the buyer/supplier process. This integration is obtained through a greater transparency of the customers' requests by means of sharing information, assisted by the processes, seemingly insignificant, which link the identification of the customers' need to the 'on time' answer.

In the past, there were many cases in which the organizations were structured and organized so as to optimize their own operations with little care for the manner in which they interacted with their customers or their suppliers.

The business model is purely transactional, i.e. the products were bought and then sold and there was little enthusiasm for the concept of long-term coordination relations. The result mainly consisted of products with high costs and low quality for the consumers.

The new organizational model strongly contrasts the old one. It suggests that on the global markets of these days, the path to hold a competitive advantage lies in the administration of a complex network of relations that links the suppliers of specific elements of the final supply in an effective chain from the viewpoint of costs and the added value.

The key to success is given by the new competitive coordinates, in which the network of alliances and suppliers are linked together in a partnership in order to reach their objectives mutually and advantageously.

3. Administering the production chain as a network

The new model we have just described places the company at the core of this interdependent network – a confederation of complementary skills and abilities – that competes like a production chain integrated with other production chains.

In order to administer a radically modified competition structure you need skills and abilities different from those necessary in the traditional model.

To reach the top market in the world of competitive networks it is necessary to focus on the network management and on internal products. From among the many problems and challenges that the organization has to face while commuting to the new competitive environment, the following are the most important:

- Developing the collective strategy
- Strategy of the WIN – WIN type.

4.The production chain of the future

It is obvious that the markets and the production chains are in a continuous stage of adjustment and adaptation. However, evidence shows that the change rate has accelerated so much, that the business models that have functioned until recently will not be able to operate in the future.

We moved from a business environment in which the supplier held the power – many times due to the ownership on the resources, technologies and brands – toward a situation in which the customer, or even the consumer, is in a leading position. Where before was the seller's market, today there is the buyer's market. Simultaneously, the prevalence of the marketing philosophy moved from the idea of mass markets served by the mass production to the idea of unit markets served by mass commerce.

Even if this fundamental change has been obvious for some time now, it did not reflect in any mass change of the production chain.

The traditional production chain is based on maximizing efficiency, especially by exploiting the balance economy. So it is that our factories were created to produce large amounts and maximize their production capacity. This business type operated well under the circumstances in which it was created; a relevant example is the production of standard products made for mass markets.

This change in the market environment is accompanied by a number of significant changes for the business environment with major implications for the production chain.

5.Seven significant changes of the business environment

- From supplier-oriented to customer-oriented
- From push to pull
- From inventory to information
- From transactions to relations
- From « Trunks and Sheds » management to the oriented one, of the « end-to-end » type
- From functions to processes
- From singular competition to network rivalry

6.The implications of the logistic system for the managers of tomorrow

The changes of the type indicated above have important implications on the profile of the type of skills that will characterize the logistic and production chain managers.

This is only an indicator, but what it suggests is that there is a real need for formal education and training in various fields such as information systems and change management. The specified skills cannot be obtained only through expertise; the basis for the use of such skills must be acquired through appropriate education programs.

They represent a challenge for the logistics teachers of our times: how to set programs that have the power and depth to create managers of the T type. The managers of the T type are so called due to the profile of their skills.

Even if they have a certain specialty, they also hold much knowledge with respect to the other company procedures. This comprehensive education is crucial for the managers of the production chain of the future due to the need to 'horizontally' think and manage.

7. The organization of the production chain

Together with the appearance of virtual organizations and enlarged enterprises there came the need to find a means to administer them. For instance, let us take into account the administration of the Ford group at the time of its founder and its current administration.

Henry Ford held an integrated production system because the entire company was his. Beside the production of the components used for the vehicles, the company also held steelworks, gum and mahogany plantations and forests. The Ford of our times is completely different. Most component businesses were externalized to other companies, Visteon and the steelworks were closed. In exchange, Ford is the center of the specialized supplier network.

7.1. From 3PL to 4PL

Another model for the coordination of complex networks was proposed under the form of the idea of 4 PL or Lead Logistic Service Provider (the main provider of logistic services).

3PL are companies that provide a certain variation of logistic services for customers. They may operate in distribution centers, may administer the product delivery along the transportation chain or may take over retail services.

The idea of a 4 PL resulted after consultations with Accenture. The principles at the basis of this idea are that the production networks become global and much more complex, and the ability to administer them cannot exist in a single company. In this situation, there is the need of another company – it is likely to have a merger through another company – that may use its knowledge in order to manage and integrate completely the production chain.

4PL would mean a coalition of the best service providers who, using their own information systems, would ensure an effective solution for the production chain.

In the particular model of this business an agreement was reached between the customer and the partner. The customer will send its logistic assets (distribution centers) to the partner. It is also likely that the personnel administering and leading these departments will be moved to the new company. The partner's contribution may include its information systems, its abilities of strategic development and of the engineering processes.

This partnership will identify then those providers of logistic services who will execute various activities in the production chain. Using its information systems, the partner will become now an orchestrator of the chain production for the said customer, offering him a complete network administration capacity, according to the services and objectives proposed.

If the 4PL model is a partnership or another type of association there are 4 key elements:

- the system architecture and integration skills;
- a control room on the production chain;
- the ability to capture and use information and knowledge in the entire network;
- access to the best service providers;

Such a partnership has advantageous results. A recent example in this respect are the companies General Motors and Menlo Logistics, which commonly invested \$6 billion, General Motors using the majority part in order to set up Vector SCM.

Vector SCM has become in charge with the administration of the entire internal and external logistics of General Motors and with the coordination of individual transports and storage. Placing all the operations within an information system, Vector Vision has given the opportunity of a higher level of synchronization in the entire GM Company from the viewpoint of the supply and demand network.

Conclusion

The prompt production chains are strongly integrated in the company along its functions and outside it, towards the providers and customers. Many companies cannot be prompt and effective because they have an outdated functional structure. They administer functions and not processes and approach the market in a fragmented manner. It is more difficult for them to conceive external integration since they do not have an internal one.

The transition from vertical to horizontal imposes an organizational change. To help this process, it is useful that 'the best practice' be set through « benchmarking ». It is also important to identify the major adequate

performance indicators in order to set that the entire organization be focused on those elements that will make possible a more effective production chain.

We seem to enter an era when the competition rules will differ greatly from those existing in the past. A new competitive model is emerging, because the production chain network will create a source of competitive advantages by creating an increased value for the customers.

If a company aims at obtaining such an advantage, it is crucial for the organization to revise the manner in which it grants values for the customers and decide whether it is time to reconfigure the chain in order to use the power of the other players in the production chain. One thing is certain; the companies which believe that they may continue to do business 'as usual' will find out that the forecasts for profit on the markets of tomorrow will rapidly face decline.

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