

INNOVATIVE TRAFFIC MANAGEMENT TECHNOLOGIES

Natalia Gavrilina

Astrakhan State Technical University, Russia

Nowadays the Astrakhan region is the southern outpost of Russia and situated on the crossing of the international transport corridors "North-South" and "West-East". Today we need to use transit territory potential for development of region transport center. The program of traffic formatting is developed by taking into account world scientific and practical experience. We need to realize which type of cargo we can work with, how we can attract their flow, where we need to use technologies or preference. Exactly in the traffic sphere there are great technical financial and organization opportunities for implementation of new technologies, innovation transformation, powerful logistic structure creation which meet our region requirements. Maritime port of Olya is of our special consideration in the sphere of the Astrakhan region traffic scheme. The port is situated in Limansky district. Land resources of this district, engineering and transport communications imply the creation of modern powerful multifunctional transport center in the Astrakhan region. Different figures of the future port Olya traffic are sounded during federal officials speeches and they reach up to 30 millions t/y.

For the last 5 years cargo traffic of all terminals of consolidating Astrakhan water and transport center is about 4-5 millions ton. We can suppose that with the development of dwelling and social objects, the great part of port industries will be moved to the port. The structure of the cargo traffic is stable. However, there are a lot of problems in port management and efficiency of the cargo transportation organization. The main problems are the use of the out-of-date equipment and primitive port technologies, lack of innovation. Therefore there are nomenclature of goods: rolling of black metals, saw-timbers. The value of exports to imports is 90/10. During the formation of cargo traffic in Astrakhan there weren't special port complexes, ready to take grain, dry bulk, chemical, refrigeration, perishable goods. The lack of heavy equipment Carrying capacity and warehouses have not given the opportunity to develop container transport.

Today, for the development of the transport component of the region, the use of transit potential of the territory, we need the formation of cargo. We need to understand what goods we can turn to us what and how we can attract, for any necessary technology for any preferences. An active innovation, and development of modern technologies for enterprise-level is not the goal, but the result need to comply with these and be ready for meeting future customer concerns, the investigation need to be stable in competition and development. Need to develop effective investment and innovation strategy, which is calculated on the rapid results by implementing the latest management concepts or production technologies, in exchange for expensive investments. However, the development of effective models of innovation in the port of Olya, of great importance in the economy of the region should use world experience in creating efficient businesses.

From this point of view of great interest to experience the largest transport companies of Japan Toyota. A crucial component in the management of this company are the resources that companies can get for free, simply by changing their attitude to work with the existing raw material and personnel. This will be so necessary tools to adapt the innovation and transformation to give internal strength to continue this expansion of "ladder" of economic development.

Toyota Company, having made a rapid breakout and become one of the leaders in the global automotive industry, has proven that a strong organizational culture is necessary that the airbag is not only a competitive environment, but especially in a volatile external environment. It is a company with so extraordinary a philosophy of doing business in the 80 years forced the vice-president of one of the largest U.S. firms in response to a question about the future of the U.S. economy to say: "The new phase of technology, investment, control inflation, the decisive importance have not. Everything will depend on how we apprehend the fact that Japan can manage better than us". Subsequently, the American experts, having studied the production system, the company Toyota, have adapted to it, and along with the Japanese concept of "change for the better" (Kaizen) hit American counterpart concept of "Lean production".

The advantages of this approach is above all an opportunity to increase profits at almost no cost, by optimizing the company. However, such a radical restructuring of confronting various constraints. The organizational culture of the company is one of the most inertial of its elements, which can have a negative impact on the sustainability of the company. Change the organizational culture is possible, but must begin with the basic principles of the company. It must be remembered that in this process can not be quick fixes, the restructuring of the organization can implement only a great and patient work.

The core of this approach is the organization of the production process, which eliminates most operations, actions and states which do not create additional value for the consumer, and most importantly minimizes the loss of the precious resource - time.

The concept of "Kaizen" does not only mean "do better", this mechanism of action, embodied in the specific methods, technologies and appeal to people. So as a management technology - a transportable image, you can identify several basic principles that should guide the "thrifty" company:

1. Philosophy of long-term prospects. First, because "Kaizen" - is primarily a philosophy, then the main goal which is moving company should be considered not only from a position of financial results. Management decisions should be focused on the long term, even if it is detrimental short-term financial goals. The main task of the head and "thrifty" the company should be creating value for the consumer, society and economy. Do not profit as such, but as an opportunity to gain further development in the future, as a result of anticipating and meeting customer needs should be the goal of the company.

2. Correct the process - gives the correct result. Naturally, in the era of lean production, adherence to the principles of mass production quite profitable. The manufacturing process of a company should be organized in such a way as to timely detect defects in parts and components, to minimize the time that unfinished work is no movement, and reduce the amount of stocks in warehouses. Traditional business processes, on the contrary, they hide a substantial inefficiency, but no one notices. However, the mentality of employees in their relation to the working process is difficult to change and the organization of the production process requires them to respond quickly enough dynamic rhythm of mental activity, even when performing technical work, the leadership will face this problem quite inertial.

3. Removal of loss - one of the conditions for success in lean manufacturing company, but not unique. Eliminate the overload of people and equipment and smoothing uneven production schedule is no less important. The unevenness of the production process - the main source of education stocks, as in this work the company does not know how many parts ordered from suppliers, and will be forced to keep a huge stock of what the consumer may need, just when receiving large orders would be necessary to work overtime. Smooth production process, based on the constant analysis of demand for products will not only reduce inventory in warehouses, but also the duration of the production cycle.

4. Visual control - another important factor in increasing efficiency and can be used here as a modern computer technologies to obtain information on the implementation of standard operating procedures to cut staff, branches or departments in general, to magnetic boards in the workplace, which is reflected, for example, hourly task in the context of each employee. All these factors have little importance in the organization of efficient port management and shipping. New modern technology can not always be effectively implemented in the activities of ports. New technologies should be introduced only after the pilot test, involving a wide range of specialists from different functional units, which means that technology must undergo a comprehensive assessment and review and confirm its suitability for creating added value. Creating cross-functional teams in the "thrifty" companies fairly widespread phenomenon, both at the stage of acquiring new equipment, and stage new product development, technology of its production. This helps to identify and describe the whole range of issues that may arise during production or application, and as a consequence to avoid them.

5. Organization adds value by developing its staff. People - this is the most flexible resource for the company. Management "thrifty" the company is constantly working with people and creates a culture that encourages continuous improvement. It is with the company's employees, their training should begin any changes, these investments will pay off in the long term. Should serve to educate the leaders

of the company, which not only thoroughly know their business, profess the philosophy of the company, but can teach it to others, setting a personal example to the case.

In conclusion we would like to mention another important principle: In order to understand the situation, you should see for himself. Solving problems and improving processes, sector manager, department, enterprise as a whole should see what is happening with my own eyes and personally verify the data and not theorize, listening to other people or looking at a computer monitor. Even representatives of senior management and heads of departments should see the problem with my own eyes, only then will a true understanding of the situation, rather than superficial.

In the words of Lao-tzu (4-3 century BC. E.): "... Seeking to small, attain much ...». Managers must start from their jobs, an example to his subordinates, and gradually transforming the production process on the ground, so you can gradually build up their stable and efficient production system based on the principle of continuous improvement.