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Lean production as the road to success of modern industry

This article describes the necessity of applying the lean production concept by organizations that want to «stay afloat» in an ever-changing competitive environment. Author has examined the specificity of the concept for Russian enterprises and possible risks.

Keywords: lean production, concept, quality, workforce productivity.

Factories are like living organisms which are in continuous interaction with the environment.

In the business world, customer needs are constantly changing. Some of the technologies are giving way to another technology, there are more and more new products. At all accounts, companies tend to produce more sophisticated products at a lower price. In this case, competition is increasing every year.

These trends are forcing factories to look for ways to survive. In order to adapt to changing business conditions, it is necessary to discard outdated traditions and learn modern techniques relevant to the new needs.

Applying the lean production concept is the starting point for changes aimed at improving and ensuring the prosperity of any company. The staff will keep their jobs if the organization is resistant to external changes [1].

Lean Production – is a concept of enterprise management, based on a constant quest to eliminate all kinds of losses. It is supposed involvement in the process of optimization each employee and maximum customer orientation. The main goals are, firstly, the minimization of labor contribution and timing of new product development, secondly, guarantee of delivery product to the customer.

In the implementation projects of lean manufacturing in Russia, we can talk about the unwillingness to pay attention to the development of ideas and people. But for the sustainable development of production systems, we should give only 20 percent of the effort, and 80 percent on the transformation in the minds and feelings of employees [2].

The aim of the research is to reflect the specifics of the implementation of the lean production concept at Russian enterprises, and estimate the possible risks.

Available Internet sources don't provide the ability to fully assess the state of the production systems in Russia, because it has no official statistics on the managerial innovations. Recent large researches for identifying the prevalence of the lean production concept in Russia have carried out only in 2008 by the Institute for Complex Strategic Studies. This Institute is one of the leading Russian research centers in the field of economic policy. A survey have conducted among 767 domestic enterprises, most of which relate to the manufacturing industries. Two-thirds of respondents are the enterprises with number of employees about 100–2000 people. The majority of respondents (70 percent) are senior management. The results of the survey are shown in fig. 1.

According to the results of this diagram it can be concluded that:

- 26 % – the number of enterprises using lean methods,
- 53 % – the number of companies, which don't make an effort to improve the organization of manufacturing,
- 21 % – companies that use other methods to improve the organization of manufacturing.

In 2008, the most popular tools of lean production were «5S» (51 % of enterprises), flow management (TFM) – 36 %, kanban – 23 %.

Nowadays, interest for using of the lean production concept is growing by enterprises that in the branch of engineering industry, defense industry, iron industry. It is caused that this companies are represented in the global market of medium and large businesses. Lean production concept is

well developed in Russia in the Republic of Tatarstan, Irkutsk region and the Central Federal District. The most popular tools of lean production are:

- Value stream mapping,
- 5S,
- Pull.

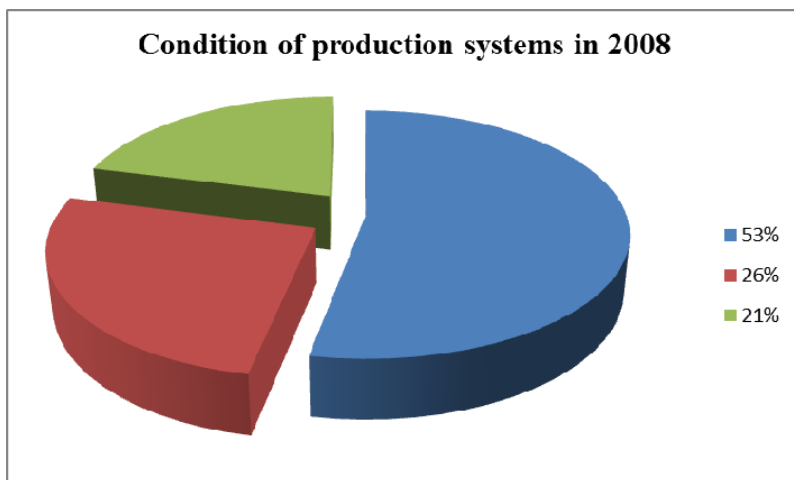


Fig. 1. Condition of production systems in 2008

Top managers of enterprises, which adopt lean production concept, should remember about the peculiarities of Russian mentality and estimate the possible risks of using the concept.

The main feature of the Russian mentality is «Russian maybe». It means that in an unpredictable developments man hopes for a favorable outcome without considering the risks of adverse outcome.

The head of organization must protect their workers and consumers from the consequences of «Russian maybe». To do this, you must estimate in advance the risks that worker loses sight of, and prevent them using various techniques:

- Analysis of critical failure mode and effects (FMEA),
- Evaluation of the risks existing in the work area,
- OHSAS 18000 series of standards.

After this analyze, risks should be eliminated or visualized. An excellent method to eliminate the risk is «poka-yoka». It is a structural change in equipment or processes that do not allow the employee to perform the operation is not the way it is written in the instructions.

All concepts of modern management mean the same, but differ in their emphasis, terminology, and the degree of orientation on the various aspects of management. In this regard, it is clear that the concept of lean production is focused on the fight against the loss of all kinds. It is very important to understand that «the devil is in the details».

Do not think that lean production has only advantages and no disadvantages. Of course, it can't be. A number of special researches showed the following. Lean production makes such high demands on the labor intensity of the people so a number of absenteeism due to temporary disability is growing.

Anyone unfamiliar path initially fright. But if you have a clear plan that you will achieve the goal, you are unlikely to get lost.

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