

«5S» AS A TOOL OF LEAN PRODUCTION

Abrosimova E.S.

Tomsk Polytechnic University, Tomsk

Supervisor: Vasendina EA, associate professor of physical methods and quality control devices

Language advisor: Ulyanova U.A., senior lecturer

«All of what we do - it keeps track of time between placing an order the customer and give the money for the work performed. We shorten this period of time, eliminating the losses that do not add value». Taiichi Ohno.

Tool «5S» was developed in post-war Japan, in the mid 50-ies of the XX century. Japanese companies were forced to work in conditions of lack of productive resources at that time. Therefore, the method which takes into account all, and there was no room for any loss, has been developed [1].

The question that has to be answered is what «5S» means? Why is this tool called like «5S»?

The tool consists of five steps:

1S - sort. It is translated from the Japanese «Seiri»;

2S - creation of their seats (Seiton);

3S - keep clean (Seiso);

4S - standardization (Seiketsu);

5S - improvement (Shitsuke).

The system has got the name of «5S» because the primary phases start with the letter «S».- The «5S» tool is considered as the simplest tool of lean production system. However, many companies are experiencing great difficulties in its implementation.

The first practical experience of using the tool «5S», as a rule, makes anyone think that the concept of «simple» which is applied to «5S» is a joke of Japanese managers. The implementation of the tool «5S» simultaneously rises a lot of questions which are impossible to answer at a glance.

«5S» is a system of the organization a work space for efficiency and effectiveness by identifying and storing the items used, maintaining the area and items, and sustaining the new order.

Broadly speaking «5S» can be represented as an increase of workplace ergonomics. This tool is the basic one of lean production. Its implementation provides a foundation for further change. In fact, the successful launch of the «5S» tool gives a signal of readiness for change, which defines the system of lean production [3].

Lean production system is aimed at permanent removal of all types of losses. The «5S» tool, primarily eliminates the following seven types of losses the production can face: overproduction, waiting and downtime, movement, manufacturing defect, improvement of defects.

Why should companies implement the «5S» methodology?

The «5S» allows to work better, but not more, as well as visualize the problem [2]. The «5S» tool is widely used in foreign and domestic enterprises. Based on the results of the work experience internship we can say that JSC «Ulan-Ude Aviation Plant» has implemented the «5S» tool into practice. The factory has been implementing the concept of enterprise management, Lean manufacturing since 2011. The concept of enterprise management consists of the following tools for practical application:

- A system of TPM (Total Productive Maintenance) - universal care equipment;
- Map the value stream of the product;
- the «5S» system;
- Kaizen - continuous improvement;
- Visualization;
- «Bye Yoqa» - a method of prevention;
- JIT (just in time) - just in time.

The observations have shown that the company is utilizing just one tool - the «5S». Because the staff is against of implementing the concept of enterprise management. They do not realize the benefits of utilizing this concept of enterprise management.

According to the second Step «2S» (the creation of their seats) storage locations of tools and items which are necessary in the manufacturing process are marked by the method of «shadows», labels, tags, labels.

The «5S» tool allows to reduce the search time for work tools and not to clutter up the work area. The audit list of 5S implementation which is filled in weekly and put up on the board has been developed at the company. So the staffs are always aware of the results of «5S».

To sum up, practical application of this tool has allowed to reduce lead times and non-conforming product release by 5%, which has led to a decrease of economic losses.

Finally, the implementation of the «5S» tool allows the organization to: increase productivity, reduce the number of non-conforming product, to meet the deadline of production, to observe safety precautions. The events at the root of the «5S» tool are absolutely logical. These are the basic rules for managing any working smart office. However, it is just a systematic approach that the system «5S» applies to these events, makes it unique [1].

References

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