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Standardization - one of the tools of continuous improvement

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Abstract

Standardization is one of the tools that can be applied in the continuous improvement of the organization. Standardized work is one of the most powerful but least used lean tools. By documenting the current best practice, standardized work forms the baseline for kaizen or continuous improvement. As the standard is improved, the new standard becomes the baseline for further improvements, and so on. Improving standardized work is a never-ending process. It reduces the variations of the process and improves the quality of products and processes. In this contribution is described 5S method, which is used in organizations to eliminate, respectively elimination of waste in the workplace through five steps. 5S method to include in the standardization of processes and lean workplace.

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Keywords: standardization, continuous improvement, 5S method.

1. Introduction

If an organization wants to succeed and be competitive, must be customer oriented, must flexibly respond to all the needs and requirements as well as the rapid and unexpected changes in the market. Basically put, the organization must provide its customers with high quality products. Quality has thus become one of the key means of competitive struggle. One of the ways to ensure the quality of products respectively. services is to introduce quality management system standards of ISO 9000. As part of this international standard is also continuous improvement. Today we can say that if the organization does not improve, as non-existent.

Quality Management System uses a number of tools and methods to improve their operations. In this article we will discuss the selected tool and standardization. The benefits of standardized work include documentation of the current process for all shifts, reductions in variability, easier training of new operators, reductions in injuries and strain, and a baseline for improvement activities. Standardizing the work adds discipline to the culture, an element that is frequently neglected but essential for lean to take root. Standardized work is also a learning tool that supports audits, promotes problem solving, and involves team members in developing poka-yokes.

2. The definition of standardization

Standardization is characterized as the sum of inter-conditional actions and measures that lead to a rational unification of recurring solutions.

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Standardization is the way in which businesses can reduce their costs (whether financial or time). It is the way an organization which aims to ensure clear, visualized and safe working environment. With proper implementation of standards prevents defects in production and at the same time constitute procedures to prevent the occurrence of other errors that could have an impact on production. It is therefore desirable to standardize all processes carried out in the manufacturing sector.

Standardization is a key element of lean manufacturing. The standardization process is considered the basis for continuous improvement (Kaizen). Improving standardized work is a never ending process.

Every improvement and change in the manufacturing process is completed the development of standards. Without standards, there is improvement and management. The standards define best practices for the implementation of the work. The aim is to do the job right the first time without error, without negative effects on humans and the surroundings [2]. If you improve the standard, the new standard becomes the basis for further improvements etc.

The standards are used to [3]:

- ✓ the reduction of variation and error correction,
- ✓ improved safety,
- ✓ facilitate communication,
- ✓ visibility problems,
- ✓ assistance in training and education,
- ✓ increasing labor discipline,
- ✓ facilitating the response to the challenges,
- ✓ clarification of the working procedures.

The intention of the standard is to carry out actions without mistakes, the first time around, efficiently and without waste. In the standards are a precisely described how it is necessary to perform the job, ie it describes the each step sequence.

The standard must have the following characteristics [2]:

- ✓ maximum brevity - only contains the necessary instructions to the operator process,
- ✓ simplicity and visualization, the worker immediately easily found and understood the necessary instructions,
- ✓ the possibility of rapid changes in process parameters,
- ✓ clarity which ensures that every worker has all relevant activities in the process as well,
- ✓ the ability to monitor the implementation of standards and their impact on the process parameters.

There are two types of standards [4]:

1. *management standards* - that are necessary for the management of staff and administrative purposes - come here, for example administrative regulations
2. *operating standards* - which looks at how employees carry out their work.

Operating standards are structured, visual process standards in the workplace with the definition of potential process risks and predefined solutions for the worker.

Standards in the company have a role to minimize the three main areas of weaknesses including:

- ✓ overloading, exertion (MURI),
- ✓ imbalances, deviations (MURA),
- ✓ losses and wastage (MUDA).

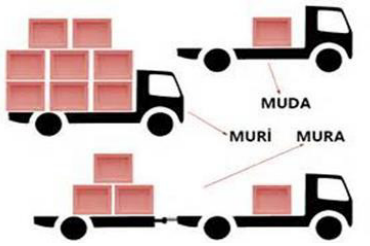

Fig. 1. The gist 3MU [7]

Within the framework of these areas are using different methods and tools. The basic methods using standardization include [1]:

- ✓ 5S,
- ✓ Standardisation of processes,
- ✓ Visual management.

The next section describes 5S method, the fourth step is to just standardization. That method has recently been applied often enough in Slovak organizations. To the above, we have reached based on years of experience in the analysis of individual organizations that are performed by the students' final papers and on the basis of a survey we conducted in resolving the research task.

Method of improving the 5S

5S method comes from Japan, where it was used to support Lean tools.
The 5S method is based on the assumption that the organization, order, cleanliness, standardization and discipline in the workplace are essential conditions for the production of high quality products and services. It is characterized by little or no waste and high productivity.

5S Methodology stands on several basic principles [5]:

- ✓ the cleaner a workplace is the sooner problems can be identified,
- ✓ a cleaner workplace is more safe,
- ✓ a frequent and well organized environment is more predictable,
- ✓ standardization and workplace organization enables faster responses,
- ✓ communication on the state of manufacturing is easier.

The 5S method is the application of the 5 steps following each other (see figure 2). [5]:

1. **Seiri (Sort)**: department of unnecessary things in the workplace and their removal,
2. **Seiton (Stabilize)**: the arrangement of all the things that remain in the workplace after the first step in a transparent manner,
3. **Seiso (Shine)**: maintaining a clean working environment,
4. **Seiketsu (Standardize)**: implementation of standards and the continuous implementation of the previous steps
5. **Shitsuke (Sustain)**: building self-discipline.

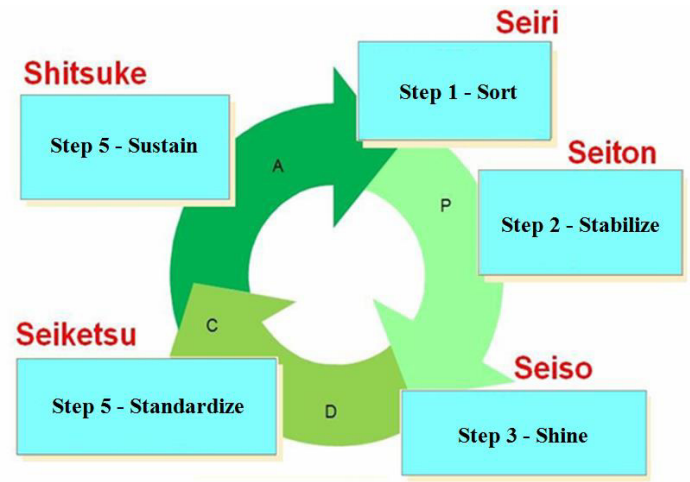

Fig.2. Sequence of steps during 5S method.

The introduction of the 5S method must always start the first step. As a first step defines items that are needed at the workplace, and to be removed from the workplace. In a second step defines the exact location of the items that were left in the workplace. In the third step they include actions that keep everything tidy and clean. One of the key objectives is to keep all cleaning equipment in such a state that they are always ready to use. The aim of the fourth step is to create a standardized arrangement of the workplace. The last step is focused on the constant use of 5S method and seeks to take root in the concept of working culture.

After applying the 5S method workplace is organized and standardized. Examples of applications of 5S are found in figure 3. Recently, the method was extended to other S - safety. The basic objective of this step is to achieve zero accidents in the workplace comply with all principles of safety.

Fig.3. Examples of applications of 5S in your organization.

3. Conclusion

The aim of the present paper was to highlight standardization as a tool useful in improving the organization. The benefits of standardized work include documentation of the current process for all shifts, reductions in variability, easier training of new operators, reductions in injuries and strain, and a baseline for improvement activities. Standardizing the work adds discipline to the culture, an element that is frequently neglected but essential for lean to take root. Standardized work is also a learning tool that supports audits, promotes problem solving, and involves team members in developing poka-yokes.

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