

Lean 7S Management Improves the Site Management about Research of M High-Tech Manufacturing Enterprises

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Abstract: Toyota's lean production model plays a positive role in improving the level of corporate site management. 7S management, as the core lean tool of Toyota's site management, is an indispensable step in realizing lean production. This study takes 7S management as a perspective, analyzing the problems and causes of M Company's on-site management, and puts forward corresponding improvement strategies, which provides useful management insights for M Company's managers in the implementation of 7S on-site management. Production site management not only is an important part of enterprise management, but also the concentration of the level of corporate management, which directly affects the productivity of the enterprise. 7S site management is a simple and efficient site management method, including SEIRI, SEITON, SETKETSU, SEISO, SHITSUK, Safety, Save, safety and saving. This paper analyzes the meaning, content and interrelationship of 7S on-site management, combines the actual problems existing in the production site of high-tech manufacturing enterprises, summarizes the 7S management implementation methods applicable to high-tech manufacturing enterprises, and clarifies the value of 7S management to enhance the efficiency of manufacturing enterprises.

Keywords: Lean Manufacturing; 7S Improvement; Site Management

1. Introduction

In the modern enterprise management theory system, field management is the most core part. Lean production site management around the

quality, cost, delivery, safety, tandem enterprise production on-site operational activities, its core concept is through full participation, continuous improvement, through visualization of the 7S management, to create a clean working environment and a good working atmosphere, to eliminate unnecessary waste, optimize the workflow, improve staff quality and production efficiency, to achieve excellent production quality and faster delivery speed.

In Toyota's lean production method, 7S is a method to effectively manage production factors such as people, machines, materials, methods, environment and measurement at the production site, and is regarded by Toyota as the preferred aspect of site management. This study firstly outlines 7S management, examines the problems and causes of on-site management in the high-tech manufacturing industry of Company M, and improves on-site management based on 7S management requirements.

2. 7S Management Overview

7S management plays a key role in improving the overall management level and overall competitiveness of the enterprise site. 7S management concept mainly contains seven elements, namely, SEIRI, SEITON, SETKETSU, SEISO, SHITSUK, Safety, Save [1,2], and is also known as "7S management" (see Figure 1). Therefore, it is also called "7S management" (see Figure 1).

Seiri is the first step of 5S, the meaning of Seiri is to integrate and summarize all kinds of elements in the production site, mainly distinguishing between useful and useless items in the workplace, clearing out the useless items so as to free up space, preventing misdelivery and misuse, reducing the amount

of inventory, improving the utilization rate of the space, and creating an orderly working environment for the employees [3]. The main work of organizing is to comprehensively inspect the production site, differentiate between essential and non-essential items according to the frequency of use of the items, remove non-essential items in a timely manner, and formulate corresponding disposal methods. Figure 2 shows the categorization and disposal of different items according to their frequency

of use.



Figure 1. 7S Management

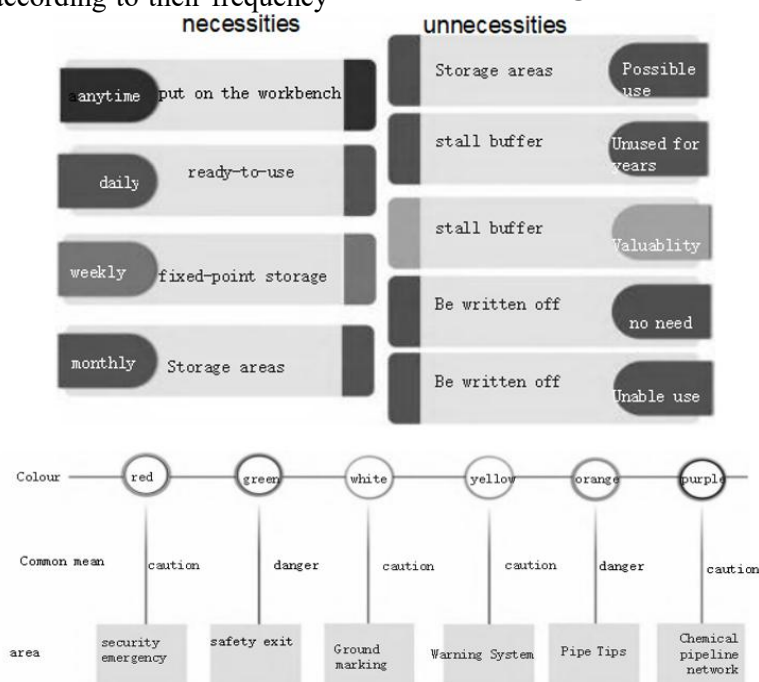


Figure 2. Classification and Disposal Chart for Frequency of Use of Items

SEITON is to organize the useful items and production of raw materials and finished products after the rational arrangement and marking, so that to make the workplace at a glance, reducing the time to find items, thereby improving work efficiency. The key to reorganization lies in the implementation of the three principles: fixing, locating, quantifying, and clearly marking.

SEISO is regular cleaning of the office environment, items in the area of responsibility, daily maintenance of production elements, equipment and tools, standardized overhaul and maintenance [4], preventing and detecting relevant failures in advance, in order to ensure production efficiency and reduce safety risks. Cleaning can not only maintain the accuracy of instruments and equipment and reduce the occurrence of failures, but also create a clean working environment for employees. In the process of cleaning, attention should be paid to difficult problems and sources of occurrence,

and corresponding countermeasures should be formulated.

SEIKETSU is to make equipment, raw materials, semi-finished products, finished products etc in a clean state which are used in the workplace, and it is on the basis of organizing, reorganizing, and sweeping that we continue to carry out these activities to make them standardized and institutionalized. The purpose of cleaning is to keep the place and equipment clean, so that employees develop the habit of “daily clean, always clean”. When implementing cleaning, we should focus on standardizing activities, clarifying responsibilities, and paying attention to standardization, as well as combining it with a monitoring and evaluation system to support it.

SHITSUK, the core of 7S, aims to cultivate the self-discipline of employees, through education and training of employees' professional skills and professionalism, and

detailed to the specific aspects of production, so that employees can spontaneously comply with and maintain the management system, and regulate and manage their own work behaviors, cultivate the good habit of civilization among employees, and enhance their dedication and cultural literacy. Make them develop the behavior of observing rules and regulations and maintaining good working habits. Employee literacy enhancement requires a long cycle of cultivation, but it is also an important step to help enterprises improve productivity [5], achieve high quality and sustainable development, and a guarantee to carry out all kinds of work. Therefore, enterprises should not only strengthen the induction education and career training of new employees, but also pay more attention to the enhancement of employees' spiritual literacy [6], and integrate the development of corresponding activities into daily life. By improving employee self-management, it makes employee communication more harmonious and the working environment more comfortable.

Safety is to create a production of zero failure, safety and accident-free workplace, not only to maintain the personal safety of employees, but also to protect the company's property from being infringed upon, so we must pay attention to employee safety education, improve the safety awareness of employees, build a solid employee safety line of defense [7], to prevent before it is too late, plug the loopholes, and eliminate potential safety hazards in a timely manner.

Saving is the rational use of time, the full layout of space, energy saving, reduce waste, create a high-performance, make the best use of the workplace, but to improve employee productivity.

Modern enterprises continue to implement 7S management, through the cultivation of 7S habits of employees, strengthen education and training, as well as strengthen communication, to create a standardized, clean, safe, economical and civilized office environment, improve the overall quality of employees, thereby improving the quality of products and the overall image of the enterprise, can create a team spirit, and improve the competitiveness of enterprises. Let the enterprise realize further leap and development.

In the 7S on-site management, “organizing,

reorganizing, cleaning, cleaning, safety, literacy and saving” seven elements of the relationship is interconnected and mutually reinforcing. Among them, organizing laid the foundation for rectification, rectification for cleaning provides the conditions, cleanliness provides a guarantee for safety, literacy provides a spiritual support for saving. Therefore, organizing is the starting point of 7S, rectification is built on top of rectification, cleaning shows the effect of rectification, cleaning consolidates the results of cleaning, safety is the effect of cleaning, literacy is the sublimation of the first six steps of the summary, designed to help enterprises and employees to establish a long-term enhancement of the mechanism. 7S on-site management of the interrelationship between the 7S site management, see Figure 3. 7S is to promote each other, each other's influence, which is the core of the staff literacy of the 7S, staff literacy to improve, will promote the other work, the staff literacy to improve, will promote other work. Improvement of quality will promote the smooth implementation of other work.

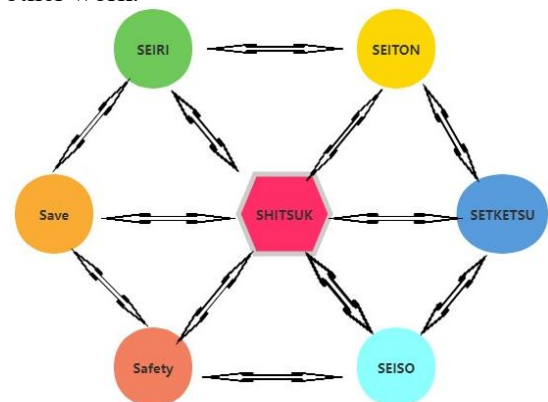


Figure 3. 7S Site Management Interrelationships

3. Analysis of the Current Situation of M Company's On-site Management

According to the on-site investigation of M Company, it is found that the following problems mainly exist in the company at present.

3.1 Lack of Effective Leadership

Due to the 7S site management to promote slow results, investment, all enterprises in the leadership level did not pay enough attention, mainly in the following areas: first of all, there is no person in charge of 7S management, so it

cannot continue to promote the work. Secondly, there is no effective feedback mechanism, resulting in the work does not form a closed loop.

3.2 Lack of 7S Management System

Company M has accumulated standards and norms for on-site management, but the various norms and standards have not been fully implemented, and the work procedures are superficial but not really implemented on the ground. Such work attitudes and practices have a great impact on the efficiency and quality of on-site management. On the other hand, some on-site managers pay too much attention to the realization of indicators, but ignore the scientific on-site management methods. When dealing with on-site problems, they often focus only on the immediate, for example, in order to safeguard output and efficiency, they will pile up semi-finished products randomly and occupy the passageway, leading to the logistics of post-processes being in a difficult situation.

3.3 Lack of 7S Training

In the process of promoting 5S management training, Company M lacks the appropriate training system and trainers, resulting in the lack of 7S site management system training for employees, so they are also unable to properly understand and implement the principles and methods of 5S management. Even though the management will take corresponding measures to promote 7S management every year, the duration is not long, so the final effect is not good.

At present, the safety inspection mechanism of Company M is lacking, and there is a lack of cyclical hidden danger investigation mechanism. Although a lot of people and materials have been invested, the effect of rectification is poor. It is mainly because, after the discovery of site management problems, the problem rectification does not form a good closed loop, there are inspections, but there is no supervision and result feedback.

3.4 Insufficient Understanding and Awareness of Site Management at All Levels

For the quality of on-site management to improve, the attention of the leadership is essential. The degree of importance attached to site management by senior leaders is the basis

for site management quality improvement. However, in the actual management, the management of M company, in the training of field management knowledge and the implementation of field management work, the idea and funds are not enough to pay attention to the equipment, the focus is not much, not deep enough efforts. In their concepts, that site management is the basic responsibility of the grass-roots managers, they only need to do a good job of the company's performance, the company can grow and develop, they only need to be responsible for the order on the line. Therefore, the lack of attention from the leadership is the crux of the problem of little improvement in the field management of Company M. On the other hand, most of the grassroots managers are the employees of the company.

On the other hand, most of the grass-roots managers are selected from the grass-roots level of the company, their knowledge reserves are not particularly rich, and long-term in the production line, management thinking is relatively single, lack of new thinking and self-improvement motivation. At the same time, they have a misunderstanding of 5S on-site management, thinking that on-site management is not only formalism, but also can't produce any benefits for the company, so they don't have much motivation to think about solutions and improvements. Employee awareness of 5S site management has not reached the level it deserves.

3.5 Lack of Effective Incentive Mechanism

The company has not developed a clear incentive mechanism for 7S management, employees generally believe that doing well and doing poorly on their own pay does not have much impact, so the promotion of 7S on-site management work is not highly motivated.

4. M Company 7S Site Management Improvement Strategy

4.1 Establish a Leadership Organization

7S on-site management in order to effectively promote, the first step must be to establish a reasonable structure, scientific management of the leadership organization, in the top-level design to coordinate the 7S on-site management, from the macro level to promote

the 5S on-site management system plans and implementation, so as to ensure the smooth implementation of 7S on-site management activities.

4.2 Improve the 7S Site Management System

First of all, sound 7S management rules and regulations. Only with good rules and regulations can 7S site management activities be carried out effectively. Therefore, it must refine the work standards in 7S management and form a standardized system. At the same time, it is necessary to formulate 7S site management guidelines and objectives that match the actual situation of the enterprise. This will allow employees to more clearly understand the 7S site management system, and at the same time can constantly amend the plan and objectives, and finally effectively promote 7S management. Secondly, sound 7S site management reward and punishment system. According to the principle of equal responsibilities and equal rewards, we should develop a reasonable assessment method [8] and reward and punishment system to create a fair, just and reasonable growth environment for the employees, strictly implement the assessment system, and fully mobilize the enthusiasm of the employees.

4.3 Strengthen the Site Management Education and Publicity

Ideology determines what employees will do, education is one of the effective ways to change the ideology of employees [9], is an important prerequisite for the smooth implementation of 7S site management system. So to ensure the smooth implementation of 7S site management, should be from the ideological level of comprehensive publicity and in-depth education of employees, to enhance their understanding of the connotation and ideology of the 7S site management system, so that employees can be able to experience the good site management, personal growth and improve corporate efficiency have a positive role, employees will seriously learn the knowledge of the 5S site management in order to give full play to the work of the 7S management Role. Therefore, the 7S publicity and education to the end. Increased publicity will help guide employees to understand and recognize the corporate

culture and values, and unify their thinking. Vigorously publicize the staff in the 5S management of excellent methods, using a variety of publicity and education methods, such as video education, on-site visits to learn, case studies, 5S management knowledge quiz and so on, in order to meet the different levels and backgrounds of the staff's learning needs, and at the same time, listen to a wide range of employees on the 7S site management recommendations. At the same time, education cannot be achieved overnight, and need to continue to promote, in order to change the staff's cognition, eliminate the staff's cognitive misconceptions about the 5S management approach, and improve the level of 7S management.

4.4 Improve the Quality of Employees

The overall quality of employees directly affects the development of enterprises, so to improve the quality of employees, should take into account both hard and soft indicators. In the soft indicators, the first focus on the company's cultural construction [10], you can hold a book club, cultural and artistic activities and other activities on the staff's mental outlook for subtle changes; secondly, to encourage employees to comply with the company's code of conduct, to do love the company, help each other. In terms of hard indicators, it is necessary to standardize the dress code to give the impression of cleanliness and neatness [11], to enhance the working appearance of employees. Develop the habit of daily cleaning, before leaving work every day, all items are returned to their places, and the workplace is cleaned neatly and cleanly.

4.5 Make System of Effective Incentive Programs, Rewards and Penalties are Clear

Regularly carry out 7S summary meeting, the departments in the development of 7S management in the excellent cases and failures in the case of sharing out, so that employees learn from experience and promote the leadership at all levels of 7S management work focused on promoting leadership to take the lead to grasp the 7S management, and at the same time, the top ranked departments and individuals awarded the mobile red flag and bonuses to the promotion of ineffective departments and individuals to give corrective

action notification and notification processing. There are rewards and penalties, open and transparent, in order to achieve the purpose of common improvement and overall improvement. Such adjustments and improvements help us to better promote 7S management, thus realizing the overall improvement of productivity and quality.

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