

Optimization in the Warehouse Area Through the 5s Methodology

Optimización en el Área de Almacén Mediante la Metodología 5s

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Abstract

Goals: Optimize the company's warehouse area using the 5S methodology; Reduce to the maximum, the time wasted in search of the necessary tools when carrying out any type of work; Increase the space or useful area in the company's warehouse; Keep existing material and the right tools in the right place. Methodology: The qualitative approach of the 5S method involves the observation and detailed analysis of processes and work spaces to identify opportunities for improvement in terms of organization and cleanliness. It is a methodology that seeks to understand the user experience and how it relates to their work environment, in order to design solutions that suit their needs. The qualitative approach of the 5S method seeks to improve the quality of life and satisfaction of workers, which in turn can have a positive impact on productivity. Investigation: What is the 5S methodology?; What is the impact of good warehouse management within a company?. Contribution: It was possible to organize and assign a space for each tool, obtaining with this the reduction of time in the search for tools and materials in the warehouse area.

5s methodology, Warehouse, Quality

Resumen

Objetivos: Optimizar el área de almacén de la empresa mediante la metodología 5S; Reducir al máximo, el tiempo desperdiciado en busca de las herramientas necesarias al momento de realizar cualquier tipo de trabajo. Aumentar el espacio o área útil en el almacén de la empresa; Mantener el material existente y las herramientas correctas en el lugar adecuado; Metodología: El enfoque cualitativo del método 5S implica la observación y análisis detallado de los procesos y espacios de trabajo para identificar oportunidades de mejora en términos de organización y limpieza. Se trata de una metodología que busca entender la experiencia del usuario y cómo se relaciona con su entorno de trabajo, para poder diseñar soluciones que se adapten a sus necesidades. El enfoque cualitativo del método 5S busca mejorar la calidad de vida y la satisfacción de los trabajadores, lo que a su vez puede tener un impacto positivo en la productividad. Investigación: ¿En qué consiste la metodología 5S?; ¿Cuál es el impacto de una buena gestión del almacén dentro una empresa?. Contribución: Se logró organizar y asignar un espacio para cada herramienta obteniendo con esta la reducción del tiempo en la búsqueda de herramientas y materiales en el área de almacén.

Metodología 5s, Almacén, Calidad

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Introduction

The 5s methodology is important because it contributes to improving efficiency and productivity in the workplace by promoting organization, cleanliness, and standardization. In addition, it can also help improve workplace safety and reduce production times. (Hirano, H. 1995)

The 5S are the methodological basis of lean manufacturing, being the starting tool for the set of lean tools: TPM, SMED, OEE, Kaizen, Kamba.

The existing problem in the company is the lack of a tool distribution layout, causing the great loss of time in the search for these.

The central hypothesis is focused on reducing the search time for tools to increase efficiency and productivity in the organization.

Development of Sections and Sections of the Article with subsequent numbering

History of the origin of the 5S methodology.

- 1960s: The 5s methodology was developed by the Toyota company as part of its lean production system.
- 1970s: The implementation of 5S spread to other Japanese companies, and it became known as "Japanese housekeeping."
- 1980s: 5s became popular in the West and became an essential tool for quality and productivity management.
- 1990s: Several books on 5s were published, including "5S for Operators" by Hiroyuki Hirano.

Decade of 2000: The 5S are consolidated as a key tool in the continuous improvement of processes and the reduction of costs. It is beginning to be applied in other sectors, such as services and health.

2010s: 5s is integrated into other continuous improvement methodologies, such as Lean Six Sigma and Kaizen. In addition, technological tools are developed to facilitate its implementation and monitoring. (Talbot, D. 2011)

5s methodology

The name of the 5S methodology comes from the Japanese terms for the five basic elements of the system:

1st s – Classification (Seiri)

It consists of identifying and classifying the essential materials for the execution of process. The rest will be considered unnecessary material and will therefore be removed or separated. From that moment on, a standard inventory of each job will be carried out.

In this way, the worker has the tools he really needs and There will no longer be other elements that could hinder your work.

2nd s – Organization (Seiton)

Secondly, the essential materials are ordered, facilitating the tasks of finding, using and replacing these supplies.

With this, it is possible to eliminate non-productive times associated with the search for materials and unnecessary displacements. The location of each material, component or tool must be marked, for this we use labels, molds, drawings, signs, etc.

3rd s – Cleaning (Seiso)

It is essential to locate and remove dirt from the workplace, as well as its correct maintenance. Having an adequate standard of cleanliness and organization has a direct impact on staff motivation, as well as greatly reducing accidents and injuries.

4th s – Standardize (Seiketsu)

The standardization process tries to easily distinguish a "normal" from an "abnormal" situation, that is, the staff must be able to discern when the three previous s's are being applied correctly and when they are not.

It is essential that all plant personnel have adequate training to identify this type of situation. In this way, staff feel more valued and their motivation increases. In turn, the operators are more versatile and are capable of detecting small faults in their post, which could later trigger more serious problems.

5th s – Keep improving (Shitsuke)

The 5S does not have a defined purpose. It is a cycle that is repeated continuously and in which discipline must be available to maintain an orderly and clean workplace.

The success in the implementation of the 5S, generates a much more pleasant work space, stocks and accidents are reduced and the productivity and satisfaction of the company's personnel are increased. Therefore, the priority is to maintain this Discipline rigorously and consistently.

The application of 5S can provide the following advantages:

Helps reduce accidents.

Allows visual identification of work tools. Improves the work environment, working conditions and staff motivation.

It allows better use of work spaces, in such a way that unnecessary movements are reduced. As a consequence of the previous benefits, other aspects such as quality, productivity and competitiveness are improved. Helps create a work culture. (Del Castillo, R. 2012)

1. The implementation of the 5S is based on teamwork. It allows workers to be involved in the improvement process from their knowledge of the job position. The workers are engaged. Their contributions and knowledge are valued; continuous improvement becomes everyone's task.
2. By regularly maintaining and improving the 5s level, there is an impact on greater productivity, which translates into: fewer defective products, fewer breakdowns, fewer accidents, a lower level of stocks or inventories, less movement and useless transfers, less time for tool change.

3. Through organization, order and cleanliness, a better workplace is achieved for everyone.

Results

A result that most impacts the organization Construcciones Industriales Torres S.A. de C.V. It was the optimization of the warehouse area, since the layout of location and transit of materials was redesigned, due to the dynamism of the company. With this, productivity was increased in the operations of supplies and tools for all the processes that are developed in the business.

The reduction of idle or waiting time to locate the necessary tools when carrying out any type of work.

Greater use of spaces within the company's warehouse. Easy location of materials and tools in accordance with management processes.

Gratitude

We thank the company Construcciones Industriales Torres S.A de C.V., for providing its facilities to carry out the development of this project.

Financing

The organization had the resources for the development and implementation of the 5s methodology, providing labor, the availability of warehouse spaces, as well as the peripheral materials that guaranteed its execution success. As a linked project, the University signs an agreement for the assignment of one teacher or more according to the needs

Conclusions

The implementation of the 5s method was achieved, with this we improved working conditions, safety, work environment, personal motivation and efficiency and consequently quality.

Responsibilities, commitments and duties were assigned to all members of the warehouse area, the members of the warehouse were trained on how to maintain the 5s methodology as a process of continuous improvement for the organization Construcciones Torres S.a de C.V. It was a great achievement to have Developed and implemented this tool in the warehouse area since great results were obtained and thereby mitigate wasted time and have a better work environment.

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